

**IGES Fifth Phase**  
**Integrative Strategic Research**  
**Programme: Final Report**

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April 2010 – March 2013



Institute for Global Environmental Strategies (IGES)

Institute for Global Environmental Strategies (IGES)

# **Fifth Phase Integrative Strategic Research**

## **Final Report**

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**Chapter 1**  
**Overviews of the Fifth Phase**  
**Integrative Strategic Research Programme**



### Overviews of the Fifth Phase Integrated Strategic Research Programme

#### 1. Foreword

The Institute for Global Environmental Strategies (IGES), established in 1998 with the support of the Japanese government and Kanagawa Prefecture, has been conducting practical strategic research with the aim of realising sustainable development on a global scale, and particularly in the Asia-Pacific region.

IGES strategic research is conducted based on a three-year research programme using a project method whereby researchers work as a team to conduct collaborative studies on practical research issues.

This report summarises the results of three years of research activities during the Integrative Strategic Research Programme of IGES for the Fifth Phase (ISRP5: FY2010-2012).

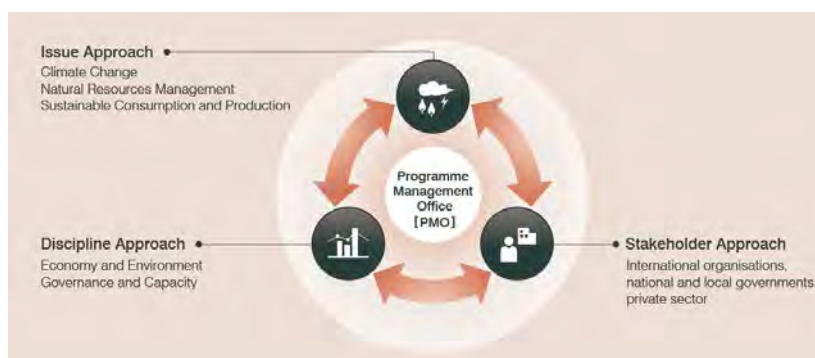
#### 2. IGES Fifth Phase Integrative Strategic Research Programme (ISRP5)

The ISRP5 was examined by IGES Directors and Trustees as well as by the Advisory Group (AG), which is mainly composed of domestic members of the IGES boards. The implementation of the Programme was then approved at the 27th Board of Directors meeting held in February 2010, and research activities were initiated in April of the same year.

To implement strategic research and to be flexible enough to cover a broad range of issues for integration of environment protection and sustainable development in the Asia-Pacific region, the ISRP5 introduced four criteria (“relevance”, “value added”, “influence generation” and “appropriate resource allocation”) and proposed research projects based on these criteria.

ISRP5 categorised IGES strategic research as 1) Issue Cluster, 2) Discipline Cluster, and 3) Stakeholder Cluster, within which there were five research groups, namely, Climate Change, Natural Resources Management, Sustainable Consumption and Production, Economy and Environment, Governance and Capacity, as well as the Programme Management Office (PMO) and four satellite offices, all conducting research on their own initiative. The PMO coordinated the research activities of these research groups and promoted cross-cutting research including disaster-related research after the Great East Japan Earthquake in March 2011 and research towards the UN Conference on Sustainable Development 2012 (Rio+20) in June 2012, working steadily to ensure the achievement of anticipated outcomes.

#### Research Approach for ISRP5



## Organisational Chart



While continuing to conduct various international/local networks in its fifth phase research, IGES began providing support to new networks/initiatives, for example, “Asia Pacific Adaptation Network (APAN)” and “Asian Co-benefits Partnership (ACP)” in FY2010 and “Low Carbon Asia Research Network (LoCARNet)” and “Global Research Forum on Sustainable Production and Consumption” in FY2012. IGES also organised various meetings as a secretariat etc., by providing opportunities for discussion for governments, companies, NGO/NPO and researchers as well as contribution to policymaking.

In the aspect of institutional structure, IGES also strengthen the basis for the activities of satellite offices. Kitakyushu Office was renamed the Kitakyushu Urban Centre in 2010, and the former Bangkok office was re-launched as the IGES Regional Centre in June 2011 and became a local incorporation in February 2012. In April 2012, IGES made the transition to a Public Interest Incorporated Foundation and moved ahead with highly reliable research activities and projects that better serve the public interest.

Through such activities, IGES has disseminated its research results to a broad range of stakeholders, such as policy makers in national governments, businesses, NGOs, citizens and experts. IGES has also provided highly effective policy recommendations and been actively involved in policy formation on sustainable development and the environment.

**Chapter 2**  
**Report by each Group/Team**





## II. Report by each Group/Team

### A. Climate Change Group

#### A. Climate Change Group

##### 1. Overview as Group/Team

###### (1) Objectives and Goals / Targets

The Climate Change (CC) group aims to conduct research with an action-oriented mind-set and to strengthen the knowledge base of Asian region on climate change governance. In the Fifth Phase, CC group implemented various research activities as follows and sent various messages through the Climate Edge, the CC group's original newsletter, etc. to reduce GHG emissions in Asia.

###### (2) Research Structure /Outline of Activities Conducted

###### ● Component 1: Sustainable low-carbon development in Asia

CC group analysed the GHG emissions reduction commitments, negotiation positions and domestic policies in Asian countries to understand the appropriateness of the commitments as well as to find out possible ways to increase the commitments.

###### *Major Research Outputs/Activities*

CC group conducted research on domestic policies in Asian countries, especially China, India and Indonesia in terms of efficiency and effectiveness. As for China, CC group analyzed the GHG emissions reduction target and domestic task allocation system to understand the mechanism in detail. As for India, CC group analysed the effectiveness of the energy efficiency certificate system which may lead to the development of market mechanisms. CC group also held policy dialogue with China and India every year and discussed the future regime for international climate governance, development process of market mechanisms in Asia, and possible collaboration with governments as well as research institutes in each country.

###### ● Component 2: Future climate regime

CC group conducted research on the options of the future climate regime after 2013 or 2020 with concrete proposals on new protocol and UNFCCC COP decisions.

###### *Major Research Outputs/Activities*

CC group clarified the different negotiating positions of each country on elements of the future climate regime. In addition, CC group identified the development process of the negotiation position of each party. Following this analysis, CC group provided concrete recommendations on the regime such as the "Hayama Proposal". In addition, CC group analysed the possible contents of the new protocol and UNFCCC COP decisions considering both the Cancun and Durban agreements which will facilitate consensus-building. Moreover CC group analysed qualitatively and quantitatively the present status of climate finance which is an important negotiation point.

###### ● Component 3 : Development of the MRV system

CC group analysed the negotiating positions of each country on Nationally Appropriate Mitigation Actions (NAMA) and investigated how to develop the MRV system in developing countries in Asia.

## II. Report by each Group/Team

### A. Climate Change Group

#### ***Major Research Outputs/Activities***

CC group analysed and evaluated the NAMA of major Asian countries. Especially, CC group compared the MRV system of China, India and Indonesia and discussed practical ways to progress after 2013 to facilitate the development of the NAMA system.

#### ● **Component 4 : Co-benefits approach in Asia**

CC group conducted research on how to maximise the additional benefits generated by climate policies (Kansai research centre conducted research on the technology aspect)

#### ***Major Research Outputs/Activities***

CC group analysed the various discussions on Short-lived Climate Pollutants (SLCP) to shed the light on the importance of SLCP in the context of climate change as well as air pollution. In addition, CC group served as secretariat for the Asia Co-benefit Partnership (ACP). CC group also investigated the MRV system to evaluate co-benefits in the transportation and building sectors, and introduced new concepts such as gender into the discussion on co-benefits. CC group also collaborated with Tohoku University on the development of an integrated economic model on Air pollution and Climate change.

#### ● **Component 5 : Low Carbon system research network (LCS-RNet)**

CC group supported the activities of LCS-RNet which shares information and enhances joint research for low-carbon policies.

#### ***Major Research Outputs/Activities***

As secretariat, CC group facilitated research collaboration among participating institutes through the annual meeting for information exchange, and analysed common issues for low-carbon development. At the same time, CC group also established LoCARNet to enhance research and collaboration on low-carbon development in Asia. IGES aims to become the information hub among research institutes in Asia. (Apr. 2011) .

#### ● **Component 6 : Carbon constraint and its impacts on business activities**

CC group analysed qualitatively as well as quantitatively the concern on the loss of international competitiveness of private companies and carbon leakage by introducing carbon constraints such as emissions trading.

#### ***Major Research Outputs/Activities***

CC group identified industries which may have possible loss of competitiveness by calculating carbon and trade intensity. In addition, CC compared the various policies such as free allocation and border tax adjustment. Moreover, by using the methodology such as productivity analysis, CC group calculated the marginal emissions reduction cost with data on profits and emissions. In this research topic, CC group collaborated with external institutes such as the Climate Strategies group and Tohoku University.

## II. Report by each Group/Team

### A. Climate Change Group

- **Component 7 : Long-term energy and GHG scenario analysis (in collaboration with EE)**

EE group analysed Japan's energy and climate policy by using the TIMES model which is an end-use model and is being utilised by many researchers. CC group mainly provided the data and suggested the structure of this research.

#### ***Major Research Outputs/Activities***

CC group analysed the various scenarios on Japan's energy mix through perspectives on GHG emissions reduction and cost. In addition, CC group re-calculated the mid-term GHG emissions reduction potential for 2020 and 2030 made by the Japanese government by changing various assumptions.

### **(3) Major Outputs in the Context of Policy Impact**

- **Component 1. Sustainable low-carbon development in Asia**

Various analysis of the climate policies in China, India, Republic of Korea, Indonesia (Discussion papers, Fact sheets, Climate Edge, etc.), peer-reviewed papers, reports for the MOEJ, etc. resulting in more accurate understanding of the policy-makers in these countries.

- **Component 2. Future climate regimes**

"Hayama Proposal" (Oct, 2011), "The Japanese Fast-Start Finance Contribution" (Nov., 2012), "Climate negotiation handbook" "Database on the climate policies", presentations at COP side event and Commentary on COP negotiations, participation in the Japanese delegation, Policy dialogues in China and India, Reports to the MOEJ, Climate Edge (news-letter), etc. In particular, the Hayama Proposal proposed concrete options and raised the discussion on Japan's position on the Kyoto Protocol. In addition, analysis of the climate finance paper explained the real picture of climate finance by Japanese government, which had enhance the comparability of the countries which provide climate finance.

- **Component 3. Development of the MRV system**

Policy brief "From NAMAs to Low Carbon Development in Southeast Asia: Technical, Mainstreaming, and Institutional Dimensions" (Oct., 2012), Policy report: "Measurement, Reporting and Verification (MRV) for low-carbon development: Learning from Experience in Asia" (March, 2013), Reports to the MOEJ, etc. These reports successfully showed a concrete picture of the MRV system in Asia to the international community and have helped to introduce more effective and efficient ways of supporting NAMA development in Asia.

- **Component 4. Co-benefits approach in Asia**

Report to the ADB "Harnessing Climate Change Mitigation Initiatives to Benefit Women"(March 2013), a chapter on Air pollution in GEO5, Reports to the MOEJ, peer-reviewed paper, etc.

These reports enhanced the understanding of the international society on these important but rather new topics related climate change.

## II. Report by each Group/Team

### A. Climate Change Group

- **Component 5. Low Carbon system research network**

Newsletter of the LCS-RNet and LoCARNet and its annual reports. Presentation at the COP side event, Commentary at COP, report to the MOEJ, etc. These activities helped to exchange ideas among researchers and facilitate consensus-building not only by researchers but by policy makers.

- **Component 6. Carbon constrain and its impacts on the business activities**

Policy report “Japan’s industry and environment by the top analysts”, IGES Working paper “Carbon constrain and competitiveness of the companies”, Reports to MOEJ, etc. These papers provided policy makers with concrete, quantitative information on the impacts of carbon constraints and ensured the fruitful outcome of the debate on their introduction.

- **Component 7. Long-term energy and GHG scenario analysis**

IGES policy report “Lessons Learnt from the Triple Disaster in East Japan (chapter 2: Balancing Japan’s Energy and Climate Goals: Exploring Post-Fukushima Energy Supply Options)”, working paper on Japan’s mid-term energy mix and GHG emissions reduction target, etc.

These reports provided concrete and quantitative info on the potential for more ambitious numerical targets (e.g. GHG emissions), which helped to ensure that Japan had a more positive role in the international society on climate change mitigation.

#### **(4) Self Evaluation**

The transition from the Fourth to the Fifth Phase went smoothly despite a change of director. In Fifth Phase as a whole, CC covered the main research topics which were important to discuss climate change issues and delivered various messages in good time through working papers and our newsletter (Climate Edge), etc. In addition, in Fifth Phase, CC group successfully collaborated with other groups at IGES such as EE, to conduct quantitative analysis. Moreover, CC group expanded and deepened its connections with the various stakeholders inside and outside of Japan, such as MOFA, WRI, Japanese news media, politicians, etc. All these activities provided the international and domestic society with fresh look at various sticking points related to policies on climate change and energy.

## **2. Reports by Research Component**

### **a. Sustainable low-carbon development in Asia**

#### **(1) Outline (Objectives/Goals / Targets/ Methodologies)**

This research focused on several specific key points such as: 1) Development patterns, 2) Mechanisms for technology leapfrogging and 3) Traditional values and practices in Asia. More specific objectives were as follows:

- To determine how domestic institutions and policies promote or inhibit sustainable low-carbon development
- To analyse enabling conditions which promote low-carbon technology leapfrogging

## II. Report by each Group/Team

### A. Climate Change Group

- To review and identify traditional values and practices in Asia, which promote low-carbon and sustainable development
- To provide international and domestic policy recommendations related to domestic institutions, technology leapfrogging, and consumption patterns (values and practices) and options for strengthening developing countries' capacities to overcome barriers and take low-carbon and sustainable development pathways

In the second half of the project phase, research focused on selected developing Asian countries, namely China, India and Indonesia. Specific policy development such as market mechanism in these countries are also investigated closely. Domestic low-carbon measures in the Republic of Korea were also addressed because of that country's strong emphasis on green growth.

#### (2) Major Findings / Results

Various issues to strengthen capacity in selected Asian countries were examined in order for those countries to realise opportunities for achieving sustainable low-carbon development in key GHG mitigation sectors. Policy-specific recommendations for each countries were also made. For example, for China, numerical GHG emissions reduction target and task allocation methodology among domestic regions were examined closely. As a result, it was clarified that the evaluation of the Chinese GHG emissions reduction target depends on assumptions such as GDP growth rate. As for the task allocation method, we recommended the establishment of a methodology and governance scheme for allocation to avoid inequity and inefficiency within the region.

In case of India, the PAT (energy efficiency programme for industry) scheme was investigated in terms of its efficiency and effectiveness. As a result, PAT is expected to be the first market-based climate/energy policy in India and is expected to be connected to the international market depending on the governmental policy on international commitment and domestic climate policy. Specific policy options for the future climate regime including Kyoto Protocol second commitment (KP2) are also recommended (e.g. Hayama Proposal) so that it can support sustainable low-carbon development in Asia.

#### (3) Major Impact Created

IGES published a couple of papers on China and India, such as on China's GHG emissions reduction target and on the task allocation among regions in China. As for Indonesia, various recommendations were made in the process of the Bilateral Climate Change Program Loan (CCPL) operation, implemented by the Government of Japan with Indonesian government. These research outputs were disseminated widely through the IGES newsletter and contributed to the following specific policy processes in which IGES plays a major role.

- Annual meetings of the Low Carbon Society Research Network (LCS-RNet), for which IGES acts as the international secretariat, would be used as a forum to exchange findings made by researchers in the region on this topic.
- Asia Pacific Consultation on Future Climate Regime
- US-Japan workshop on Climate Change between MOEJ and US EPA

## II. Report by each Group/Team

### A. Climate Change Group

Research outputs were also useful for major policy processes including International negotiations under the auspices of UNFCCC, Global Environmental Outlook (GEO) and the MoEJ working group on future climate regime. In the Fifth Phase, networking among researchers was expanded and strengthened significantly through collaboration with internationally-established institutes such as the WRI (US), ERI (China), Qinghua Univ. (China) and TERI (India).

#### (4) Major External Fund

- MOEJ(S-6: Low-carbon Asia Roadmap): FY2010 -FY2012 total JPY92 million
- MOEJ(MRV): FY2010 -FY2012 total JPY67 million (\*as a part of MRV component)

### b. Future climate regime

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This component aimed to contribute to the policy process of a post-2013 climate regime at the international and domestic levels. It consisted of the following contents: 1) analysis of the legal form of the future regime and the application of equity and CBDR&RC (common but differentiated responsibilities and respective capabilities) principles; 2) the analysis of a financial mechanism which encourages participation of developing countries; 3) the analysis of domestic factors which affected climate policies in China and India; 4) contribution to the international and domestic policy process by disseminating the research outputs at international conferences, workshops and events held by international organisations such as the Asian Development Bank as well as domestic committees and working groups.

#### (2) Major Findings / Results

Following the development since the Copenhagen Accord of 2009, we developed and analysed four options of the post-2013 regime in terms of the number of framework and legal form.

- Option A: single Protocol; option B-1: the Kyoto Protocol's 2nd Commitment Period and another new protocol; option B-2: the Kyoto Protocol's 2nd Commitment Period and COP decisions; Option C: COP decisions only
- Based upon the option analysis, we proposed an approach towards Option A through finding compromises between developed and developing countries (Hayama Proposal)
- Examining the domestic policy-making processes in China and India, we identified common points in the two countries: changes in perceptions over climate policy and the progress in mainstreaming energy efficiency and another mitigation policies in development policies.
- We analysed China and India's preferences toward a future climate regime in terms of "multilateral vs bi-/plurilateral" and "binding vs non-binding." With regard to the structure, both countries prefer a multilateral framework in principle, while pragmatically being involved in bi-/plurilateral technology cooperation as long as they are beneficial. With regard to the bindingness of commitments, they request binding commitments for developed countries, and non-binding commitments for developing countries in accordance with the current binary structure of differentiation.
- We analysed the direction of climate finance in the future climate regime in terms of "multilateral vs bi- and plurilateral" and "binding vs non-binding." We concluded that the

## II. Report by each Group/Team

### A. Climate Change Group

multilateral approach and the bi-/plurilateral approach were not mutually exclusive, but have been developed mutually affected. This trend is likely to continue, and it is important to find out the way through which various initiatives would be coordinated.

- We reviewed the challenges associated with “measurement, reporting and verification (MRV)” of developing countries assistance, and made several proposals for creating an effective MRV system.

#### (3) Major Impact Created

Research outputs were widely disseminated through various channels including the IGES newsletter, and also presented at various committees, working groups and conferences.

- Part of this research was presented at MOEJ Committee on Post-2020 Climate Regime (FY2012), MOEJ Working Group on Future Climate Regime (FY2010-2012) and contributed to the policy making process.
- Part of this research was presented at the UNFCCC process, ADB/WRI Regional Workshop on Climate Finance (September 2011), and ADB/ADBI “Climate Change and Green Asia Book Discussion Forum” (December 2012), and contributed to international discussion.
- Research staff members made presentations at MOFA JENESYS and JICA training workshops, and contributed to capacity building of policy-makers in developing countries.
- Part of this research was used for a briefing on climate finance for Ambassador Mutsuyoshi Nishimura (Cabinet Advisor).
- Part of this research was presented at Diet Members’ Association for Global Warming Policy and Economic Growth of the Democratic Party.

In the Fifth Phase, we produced a reasonable number of research outputs and were engaged in various policy processes at both domestic and international levels. In this sense, we think we could generate a certain level of impacts such as awareness raising, albeit not tangible. However, it is important to produce more solid “flagship” research outputs with more strategic collaboration within IGES and outside IGES in the Sixth Phase.

#### (4) Major External Fund

- “Commissioned work on future climate regime” /Ministry of the Environment, Japan (FY2010-FY2012: Total JPY134 million )
- “Decision-making process of the major countries in the future regime negotiation”(E0901) National Institute for Environmental Studies (FY2010-FY2011: Total JPY23.5 million)
- “Decision-making process of the major countries in the future regime negotiation”(E1201) National Institute for Environmental Studies (FY2012: Total JPY11 million yen)

### c. Development of the MRV system

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This study aimed to understand the negotiating positions of different countries on a MRV system, and identify how a MRV system could be operationalised in Asian developing countries (including possible synergies with GHG inventories). Moreover, existing NAMA and Low Carbon

## II. Report by each Group/Team

### A. Climate Change Group

Development Planning formation in each country were investigated and discussions focused on the potential for further reform. More specific objectives were as follows:

- To analyse the specific operational aspects of an MRV system in each country, and recommend how to implement an MRV system at international, national, and local levels, with special reference to Asian developing countries
- To analyse the way through which GHG inventories can support and facilitate mitigation actions in developing countries
- To identify the areas of convergence and divergence in international negotiations over an MRV system, as well as questions that remain unaddressed, and recommend next steps for negotiators
- To understand the various type of NAMA and Low Carbon Development Planning formation and identify the differences among the countries and various barriers to implementation.

### (2) Major Findings / Results

Major findings and recommendations made through our research in Asia were as follows:

- Delineation of negotiation positions on an MRV system differ among countries.
- Operational and implementation aspects of an MRV system are still in early stage in many countries
- Role of inventories in an MRV system is extremely important
- Fulfilling technical, mainstreaming and institutional dimensions of NAMAs formulation is essential for low-carbon development. These dimensions provide a systematic framework to assess the preparedness for NAMAs in developing countries.
- To address areas for improvement for these three dimensions of NAMAs formulation, it is crucial that policy-makers in developing countries devote resources to expanding in-house technical capacity; create clear incentives and increase awareness level among domestic stakeholders; and strengthen coordination between agencies involved in NAMA formulation.
- International donors could further facilitate the NAMAs formulation process by incorporating in-house technical capacity development into their strategic priorities, facilitate mutual learning and promote South-South-North collaboration within the region, and streamline and harmonise NAMA-related support.

### (3) Major Impact Created

We published various policy reports with regards to “MRV and NAMA formation in Asian countries”, “Transport MRV in China and India (part of the commissioned report on MRV submitted to MOEJ)”, and “Evaluation of Voluntary Climate Mitigation Actions and the development of MRV system/framework (India & China)”. These papers have also contributed to the discussion on components of All IGES MRV study and to the CC chapters of the IGES White Paper IV 2012.

The outputs of this research are disseminated widely through IGES newsletter “Climate Edge” and have contributed to the following policy process in which IGES plays a major role.

- Asia Pacific Consultations on Future Climate Regime
- US-Japan workshop on Climate Change between MOEJ and US EPA

The major policy processes to which the outputs of this research are useful include the following:

- International negotiations under the auspices of UNFCCC



## II. Report by each Group/Team

### A. Climate Change Group

- Inventory capacity-building programs under the Kobe Initiatives.

This newly-launched project focusing on the MRV provided good opportunities to strengthen the existing networks with other institutions inside and outside Japan, which influenced the policy of the Japanese government as well as aid agencies' strategy formulation. To deepen such collaboration further, more substantial research inputs from our side would be required. Since this issue overlaps with other research topics, it would be important to consider better coordination not only in the CC group but with other groups in IGES. Current collaboration with the World Resources Institute also includes the MRV topic (e.g. climate finance, which may result in the international standardization of the MRV system)

#### (4) Major External Fund

- MOEJ • MRV: FY2010 -FY2012 / Total JPY67 million (with Component 1: Sustainable low-carbon development in Asia)

#### d. Co-benefit approach in Asia

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The co-benefits component aimed to provide strategic policy recommendations and capacity building inputs to strengthen institutional structures/processes to achieve climate change and developmental co-benefits. The research focused on informing international climate change negotiations as well as sectoral/air pollution policies at multiple levels. During the Fifth Phase, the research activity was broken up into: a) urban co-benefits, b) short-lived climate pollutant (SLCP) co-benefits, c) gender co-benefits; and d) the Asian Co-benefits Partnership.

##### (2) Major Findings / Results

###### Urban Co-benefits

- A suite of low-carbon transport policies promoting fuel-efficient vehicles, reliable and efficient public transport, and compact urban planning will be important. A critical need in this regard is accurate and reliable data. Frequently it is the absence of data—not methodologies—that poses the biggest barriers to MRVing GHGs in the transport sector.
- A similar problem applies to other urban sectors such as buildings. In many cases, there will be a tradeoff between practicality and accuracy of MRV in different urban sectors. This trade-off will become even more apparent as systems boundaries of projects in cities are expanded across multiple sectors.

###### SLCP Co-benefits

- Research demonstrates that, more than any other region, Asia stands to accrue more air quality, climate protection, public health co-benefits from mitigating short-lived climate pollutants (SLCPs) such as black carbon and tropospheric ozone (O<sub>3</sub>)<sup>x</sup>.
- In many countries in Asia, realising co-benefits will require bringing air pollution and climate change under a single division; and granting communities incentives to adapt clean cook-stoves and diesel to diverse implementing contexts.

## II. Report by each Group/Team

### A. Climate Change Group

- The recently launched Climate Change and Clean Air Coalition (CCAC) can help support this institutional coordination and community based solutions.

#### Gender Co-benefits

- Women are disproportionately susceptible to the risks of climate change, but lack equal access to the benefits of climate finance. This imbalance represents a missed opportunity: given the right incentives and proper training, women can steer communities down sustainable, low-carbon development paths.
- Rectifying this imbalance will require a suite of reforms that explicitly value women in local projects, national policies, and international support mechanisms. While these reforms can increase supplies of carbon finance, equipping women with the tools and knowledge to shape demands for carbon finance will be equally crucial.

#### Asian Co-benefits Partnership

- Asia has been home to numerous actions capable of generating co-benefits. Yet these actions only scratch the surface of the region's potential for aligning development and climate.
- At the most fundamental level, realising this potential requires basing a range of decisions on climate concerns and other developmental priorities.

### (3) Major Impact Created

We published several books such as one on Low Carbon Transport that is now being used in preparation for the IPCC fifth assessment report (AR5) and the reports for the High Level Panel on the Post-2015 Development Agenda. We have also created a manual for MRVing the Co-benefits of Transport Projects. This manual has been circulated at the Environmentally Sustainable Transport Meeting in 2011.

More specific impacts are as follows:

- Contributed to a series of UNEP reports on SLCPs that led to the creation of the CCAC.
- Presented results of research at COP 18 in Doha (covered by NHK).
- Presented and organised a series of meetings with IIASA on SLCP co-benefits, especially bridging science and policy.
- Launched ACP at the Better Air Quality Workshop in 2010.
- Created ACP website and posted three newsletters and four fact sheets.
- Held regularly scheduled set of ACP advisory group meetings.

IGES became an observer member of the CACC in 2012, which will become an important step for IGES to play more proactive role in the formulation of the international air and climate policy. Recent severe air pollution in China also highlighted the activity of the IGES co-benefits group which has a profound collaboration with Chinese policy makers as well as researchers on this issue.

The co-benefits team gradually began to broaden the scope of research to include new types of co-benefits (gender and air pollution). We also published a book and contributed to high-profile reports. We will need to develop our research skills to quantify co-benefits, and strengthen the operations of the Asian Co-benefits Partnership.

## II. Report by each Group/Team

### A. Climate Change Group

#### (4) Major External Fund

- ADB Project: JPY35million (2011-2012)
- MOEJ (SLCPs): JPY8.8 million (2012)
- MOEJ (ACP): JPY3.3 million (2012)

#### e. Low Carbon System research network (LCS-RNet) and Low Carbon Asia Research Network (LoCARNet)

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Establishment of the International Research Network for Low Carbon Societies (hereafter called LCS-RNet) was agreed upon at the G8 Environment Ministers Meeting held in Kobe in May 2008, as one of the “Kobe Initiatives”. In April of the following year, the network’s launch received approval at the Environment Ministers Meeting held in Italy. Toward realisation of the G8 long-term target to cut in half global greenhouse gas emissions by 2050, the objectives of the LCS-RNet are to internationally promote research on low-carbon societies based on transmission of research results and to contribute to international policy processes including the G8. Furthermore, the network aims to promote shared visions and understanding of low-carbon societies on the part of nations and local governments by facilitating dialogue among diverse stakeholders, including researchers, policy-makers, local governments, businesses and civil society. At its researcher meetings and annual meetings since 2009, the LCS-RNet has provided opportunities for information exchange among researchers at the forefront of research on low-carbon societies and low-carbon growth. Deliberations have been carried out on the latest in factors for research and reports and recommendations have been made to policy-makers. At its launch, the network was made up of participants from six countries and ten research institutes, but at present extends to seven countries and 16 research institutes.

##### (2) Major Findings / Results

- First, the LCS-RNet Secretariat held its Annual Meetings, as well as carried out side events at the Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC-COPs). Further, due to publication of a special issue of the peer review journal *Climate Policy*, considerable contribution was made to the aggregation of knowledge and its transmission and dissemination, as a platform for policy research on low-carbon societies.
- IGES provide a great deal of information about Japan in FY2012. For instance, comparison of the changing energy systems of various countries following Fukushima was addressed at the 4th Annual Meeting. Finding by the IGES that the conservation of electricity in Japan, after Fukushima still continues without rebounding drew attention.
- Additionally, based on recognition that stabilisation of the climate on a global scale will necessitate initiatives not only in developed countries, but also in emerging market nations and developing countries, the LCS-RNet Secretariat, together with the National Institute for Environmental Studies (NIES), has been promoting initiatives that support leap-frog development towards the creation of low-carbon societies in Asian developing countries.
- Furthermore, in the special issue of the peer review journal *Climate Policy*, NIES and IGES collaborated to analyse the potential for achieving the two-degree target, utilising two global scenarios. Further, in collaboration among researchers from Japan, Germany and the UK, discussions were laid out on changing energy systems of various countries following Fukushima, systems of import dependence, and the influence of citizen movements and social

## II. Report by each Group/Team

### A. Climate Change Group

systems on policy-making. In this paper, concern was shared on Japan's climate policy suffering from lowering priority of the climate change issue.

#### (3) Major Impact Created

- The LCS-RNet Secretariat, together with NIES, provided support for the creation of a base for low-carbon research in Asia. Specifically, opportunities were provided for dialogue between researchers and policy-makers related to low-carbon development policy in Indonesia, Thailand, Cambodia and Malaysia. Also, workshops were held to promote partnerships among researchers. Within these processes, calls have increased for sharing of knowledge on low-carbon issues in Asia. In response, the launch of the Low Carbon Asia Research Network (LoCARNet) was announced at a side event of the East Asia Knowledge Platform for Low Carbon Growth in April 2012.
- Further, as the LCS-RNet is scheduled to be concluded as of March 2014, the LCS-RNet Secretariat gathered opinions from each LCS-RNet steering committee member, as well as a number of government contacts, on the significance of the LCS-RNet, the pros and cons of its continuance and points for improvement in the second phase.
- They revealed the opinion that cooperation among diverse stakeholders is essential to bring about a "transition" to a low-carbon society, and that science (research), in particular, must be appropriately reflected on policy. Very strong expectations were indicated for continuance of LCS-RNet, which would enable further cooperation between researchers and policy-makers in the second phase.
- In particular, noteworthy suggestions on points for further improvement in the future included: advancement of joint research on the part of network constituents; strengthening of the information transmission function of the secretariat; actively opening doors for participation in the network from emerging market nations and developing countries in Asia; and partnership with the below-mentioned Low Carbon Asia Research Network (hereafter called LoCARNet), in particular in relation to Asian developing countries.

#### (4) Major External Fund

- Commissioned operation of the International Research Network for Low Carbon Societies / MOEJ (FY2010-FY2012 / total amount: JPY310 million)
- Commissioned work for supporting creation of low-carbon roadmaps and low-carbon growth strategies in Asian countries for the purpose of improving BOCM-MRV capacity / Mizuho Information & Research Institute (FY2012 / total amount: JPY18 million)
- APN Low Carbon Initiative / APN (FY2012 / JPY4 million)

### f. Carbon constrains and its impacts on the business activities

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This research project is composed of two topics: a) Emissions trading scheme and its impacts on the international competitiveness and carbon leakage, and b) Reaction of the companies to the carbon constrained society. It is very important to study ETS and other types of carbon constraints currently being developing globally and to review the impact of those on companies and industries by qualitative and quantitative analyses. At the same time, it is essential to understand the specific features (e.g. productivity, efficiency), to analyse the essence of strength and weakness of the current Japanese business by sector, and to identify business prospects by sector, so that the

## II. Report by each Group/Team

### A. Climate Change Group

impacts can be understood. The CC group joined with Tohoku University and Climate Strategies group to establish methodologies such as use of a macroeconomic model (CASE II) to tackle with these issues. We aimed to directly influence domestic discussions on ETS based on the above-mentioned research results and to advocate the “Roadmap” to the Japanese business & financial communities.

#### (2) Major Findings / Results

- **Emissions trading scheme and its impacts on the international competitiveness and carbon leakage**

By calculating the CO<sub>2</sub> intensity, we can identify the impact of the carbon constrain on each industry sector. Moreover, a case study was done on a hot-rolled steel plate manufactured in Japan, by calculating demand function, price elasticity, substitution elasticity, and domestic and international market shares, using the statistical data on demand-supply trends and price fluctuation, and how emissions trading systems can affect demand, supply and trade patterns of a product. As a result, it was clarified quantitatively that the impact on industry by the carbon constraints is not significant for most industries, and that only some industries and specific products are influenced by the carbon price.

- **Reaction of public companies to a carbon constrained society**

Using interviews and model analysis, we examined the opinions of Japanese business leaders on carbon tax and ETS system, cost structure and cost pass-through capabilities of Japanese companies by sector, etc. As a result, although it depends on the type of industry, it was confirmed that many business leaders have been considering the specific response measures against carbon constraint. It is also clarified that the MAC (marginal abatement cost) of Japanese companies are, in general, not so high because of its highly efficient management.

#### (3) Major Impact Created

As for the analysis using the CASE II model (Macroeconomic model), we published working papers both in Japanese and in English. The results were disseminated by IGES newsletter Climate Edge, etc. We also distributed these through the network of the Climate strategies. These outputs raised the interests of many people, which resulted in new collaboration with Tsinghua University. The message we tried to convey (“carbon constraint will not impact severely on competitiveness”) helped in some degree to understand the nature of the emissions trading and to facilitate the introduction of the ETS globally. As for the interviews with Japanese companies and productivity analysis, a policy report was published which also raised many people’s interest, especially industry people and policy-makers. Input to the Japanese government for the ongoing domestic policy formulation was made. On top of that, it can be said that direct communication with the business/financial communities had increased awareness and understanding both of climate change issues and of developing Japanese Roadmap to reduce GHG emissions by 25% by 2020.

## II. Report by each Group/Team

### A. Climate Change Group

#### (4) Major External Fund

- H23 MOEJ Impact of the carbon constraints on the international competitiveness (FY2011 / JPY2.8 million )

#### g. Long-term energy and GHG scenario analysis

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Following the Fukushima Daiichi nuclear accident, there is great uncertainty on the long-term domestic GHG emissions reduction through promotion of nuclear power. In order to contribute to the national debate on the formulation of a new energy and climate policy, IGES Climate Change group performed a number of quantitative analyses on Japan's future energy system and CO2 emissions. This research component is newly introduced in the Fifth Research Phase and it was anticipated that the research outcomes will support the products of other IGES research activities, which are largely qualitative.

##### (2) Major Findings / Results

In 2011, Climate Change Group and Economy and Environment Group together investigated the long-term economic implications of a gradual phase-out of nuclear power by 2050 on Japan's energy system and on achieving long-term CO2 emissions reduction (-80% by 2050 compared to 1990 level). The research aimed to highlight possible trajectories for the energy and environment policy of the country in the coming decades. The final report was published in June 2012; the main findings of the research are as follows:

- Significant reduction in CO2 emissions (-80% by 2050 compared to 1990 level) without nuclear energy is economically feasible. Increase in long-term energy system cost for the nuclear phase-out scenario compared to the scenario with continued dependence on nuclear power is limited (in average 0.13% of national GDP).
- Phase-out of nuclear energy increases the importance of renewable energy and Carbon Capture and Storage (CCS) technology. These technologies need to be developed as quickly as possible. Moreover, additional supply of natural gas is necessary by up to about 50% as the demand increases considerably up to 2030.
- Realising a low-carbon society while phasing out nuclear power may require more energy demand reduction than ever through changes in economic structure and lifestyle.

In November 2012, Climate Change Group published an in-depth analysis on Japan's "Innovative Strategy on Energy and the Environment" announced earlier in September. The main findings are as follows:

- Primary energy consumption can be reduced by more than 2.5% and domestic GHG emissions reductions compared to 1990 levels can reach 30% including forest sequestration.
- The industry activity projections for 2030 are detached from the industrial restructuring taking place on the ground at this moment. In case of setting activity indicators and their future projected values to calculate the GHG emissions reduction potential etc., it is important to take account of the inputs from research institutions and think-tanks in addition to those from the industry organisations.

## II. Report by each Group/Team

### A. Climate Change Group

- While our research focused on energy savings in the industrial and power sectors, there is a need to extend the analysis to residential and commercial sectors. The electricity saving potentials in the residential sector is of particular interest, as statistical data and experience with regard to the post-Fukushima behavioral shift is accumulating. Such analyses will contribute not only to the reduction of GHG emissions but also to the strengthened energy security.

#### (3) Major Impact Created

- Covered by two newspapers: Kagaku Shimbun (Science News: 15 June, 2012) and Denki Shimbun (Power Industry News: 28 June, 2012), and a National Geographic News (16 July, 2012).<sup>1</sup>
- Presented at the Annual Meeting of the Society for Environmental Economics and Policy Studies and the results were well received, particularly for its timely publication.
- Presented at IGES-held events such as the side events of the UN Rio +20 UNFCCC Bonn climate conferences, and other international meetings such as ISAP and the IGES-ERI Japan-China climate policy research workshop.
- These papers and presentations are referred many times by researchers as well as policy-makers in the course of discussion on Japan's future climate/energy policy.

The research results were also widely distributed through other IGES media such as the Climate Edge newsletter. The necessity of further research on the domestic GHG emissions reduction actions for post-2020, including further discussion on the future domestic economic activity levels, was disseminated to business, researchers and media through aforementioned outreach activities. In the coming years, it will be worthwhile for IGES to continue and expand these kinds of quantitative research activities to become an even better-reputed research institution. In order to realise this, it is necessary not only to strengthen the internal research capacity but also to enhance research cooperation with other research institutions.

#### (4) Major External Fund

NONE

### 3. List of Publications (See Annex)

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<sup>1</sup> <http://news.nationalgeographic.com/news/energy/2012/07/120716-japan-nuclear-restart-protests/>

## II. Report by each Group/Team

### B. Market Mechanisms Group

#### B. Market Mechanisms Group

### 1. Overview as Group

#### (1) Objectives and Goals / Targets

The purpose of IGES Market Mechanism (MM) group was to develop and promote the implementation of policy recommendation to formulate the institutional design of new market-based mechanisms and improve existing mechanisms with an aim to effectively reduce emissions from greenhouse gases in Asian countries. The Fifth Phase was a period of major changes in policy interests in Asian countries, with the transition from mechanisms under the Kyoto Protocol such as the clean development mechanism (CDM), to new market mechanisms. The activity of the MM team also expanded to the development of the Joint Crediting Mechanism (JCM) and domestic emission trading schemes in addition to the reform of CDM.

#### (2) Research Structure /Outline of Activities Conducted

##### ● Capacity Building for Market Mechanisms in Asia

MM group actively provided support for the smooth implementation of the CDM in Asia, such as through capacity-building activities, field surveys, joint research and training for the needs of each of the partner countries of China, India, Indonesia, Thailand, Philippines, Cambodia and Laos, as well as Mongolia and Viet Nam with which IGES signed MOU in 2011.

##### ● Research on market mechanisms

MM group has produced the number of publications and developed databases on the CDM, with timely updates of publications, including “CDM in CHARTS” which is a summary of rules on the CDM, and a respective database. Based on the database, we conducted research and analysis on the CDM reform, including simplification of CDM procedures, and published a report entitled “Towards CDM Reform”, “CDM Reform 2011: Verification of the Progress and the way forward” and “Towards the CDM 2.0: Lessons from the capacity building in Asia”. Furthermore, we published the policy report entitled “Impact of COP18 Decisions on Use of Kyoto Mechanisms by Japan”, which analyses the potential use of Kyoto credits for Japan.

With the growing interest in emissions trading schemes (ETS) both in Japan and other countries, we held a series of IGES Emissions Trading Seminar on the “Emissions Trading Scheme in Various Countries and Regions”, “Effectiveness of ETS and its Influences on Industry and Employment” and “Emissions Trading Seminar Emerging Carbon Markets in Asia and the Way Forward”

#### (3) Major Outputs in the Context of Policy Impact

The activities above contributed greatly to capacity development in host countries. Although it is difficult to qualify the impact of capacity-building in general, we did gain substantial outputs through our capacity-building programme such as publication of grid emission factors, submission of micro scale renewable energy additionality demonstration and widely utilisation of IGES CDM Grid Emission Factor Calculation Sheet.

The major impact of this component has been achieved through a series of “CDM reform”. Many of our suggestions are included in countries’ recommendation on Kyoto Mechanism including the CDM and New Market Mechanism under UNFCCC negotiation process.



## II. Report by each Group/Team

### B. Market Mechanisms Group

#### (4) Self-Evaluation

We evaluate our performance from three aspects as follows

##### **Comprehensive, all-embracing vision**

We conducted integrated capacity-building, on the ground experience, development of institutional design, rules, modalities and procedures, methodology development under new market mechanism and published policy recommendation on the process of rules and policies based on the comprehensive review of existing mechanisms such as the CDM.

##### **Added Value**

We responded to the needs of country, region and international negotiation processes through the timely delivery of relevant outputs such as the CDM and new market mechanism manual, policy report including submission to UNFCCC process. Furthermore, we provided relevant information and analysis of the situation based on the database and the development of market mechanism in the region.

##### **Timing of activity**

We fully utilised the CDM experience to new market mechanism for our counterpart, regarding database, supporting tools and e-learning materials on the introduction of MRV as well as development of guidelines and good practices on the MRV based on the capacity building experience.

## 2. Reports by Research Component

### a. Capacity Building for Mechanism in Asia

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

MM group has provided a broad range of support for the smooth implementation of CDM in Asia, such as through capacity-building activities, field surveys, joint research and training for the needs of each of the nine partner countries(China, India, Indonesia, Thailand, Philippines, Cambodia, Laos, Mongolia and Viet Nam).

#### (2) Major Findings / Results

MM group actively provided support for the smooth implementation of market mechanisms, including the CDM in Asia, cooperating with governments, private companies and local stakeholders in host countries. For example, MM group calculated grid emission factors in cooperation with designated national authorities (DNAs) in Cambodia and the Philippines. Cambodia DNA and IGES jointly submitted the standardised baseline for risk husk gasification. In Mongolia, MM activities contributed the agreement on the Joint Crediting Mechanism between Mongolia and the implementation of verified emission reduction (VER) schemes in Thailand and Indonesia.

- Capacity buildings on CDM development
- Policy recommendations to UNFCCC through submissions
- Capacity buildings for validation and verification entity
- Design of new market-based mechanisms under the post-2012 climate regime and making proposals (Policy paper).

## II. Report by each Group/Team

### B. Market Mechanisms Group

- Capacity-building for implementation of new market-based mechanisms in Asian developing countries, particularly to assist developing systems to measure, report and verify (MRV) greenhouse gas (GHG) emissions reduction.
- Research on the evaluation of CDM performance on the methodology, governance system, and contribution to the sustainable development based on the database and capacity building.
- Design and proposal for domestic emissions trading and/or VER (verified emissions reduction) schemes.
- Capacity-building for implementation of domestic emissions trading and/or VER schemes.
- Establishment of collaboration with external organisations on CDM capacity-building, such as World Bank, UNDP, and ADB under Nairobi Framework Partnership coordinated by the UNFCCC secretariat (Feb. 2013)
- International Symposium on “How to Make Asia into Low Carbon Society: the role of measurement, reporting and verification (MRV) and opportunity for partnership” (March 2013)

### (3) Major Impact Created

The activities above contributed greatly to capacity development in host countries. Although it is difficult to qualify the impact of capacity-building in general, we did gain substantial outputs through our capacity-building programme such as publication of grid emission factors, submission of micro scale renewable energy additionality demonstration and wide utilisation of IGES CDM Grid Emission Factor Calculation Sheet.

IGES publication	Impact generation
Publication of Grid Emission Factor of the Phnom Penh Electricity Grid in Cambodia	The calculation of GEF has been published as nationally approved grid emissions factor. <a href="http://www.camclimate.org.kh/index.php?page=searchdocument&amp;docid=b53">http://www.camclimate.org.kh/index.php?page=searchdocument&amp;docid=b53</a>
Publication of Grid Emission Factor of the Philippines	The calculation of GEF has been published as nationally approved grid emissions factor. <a href="http://www.doe.gov.ph/power-and-electrification/national-grid-emission-factor-ngef">http://www.doe.gov.ph/power-and-electrification/national-grid-emission-factor-ngef</a>
Submission of micro scale renewable energy additionality demonstration to UNFCCC by Department of Environmental and Natural Resource	This proposal has been submitted to UNFCCC secretariat. <a href="http://cdm.unfccc.int/DNA/submissions/index.html">http://cdm.unfccc.int/DNA/submissions/index.html</a>
Development of proposal on the standardised baseline for the CDM with the Ministry of Environment Cambodia	This proposal has been submitted to UNFCCC secretariat. The submission process had much contributed to capacity development for the host country. <a href="http://cdm.unfccc.int/methodologies/standard_base/index.html">http://cdm.unfccc.int/methodologies/standard_base/index.html</a>
IGES CDM Grid Emission Factor Calculation Sheet	This calculation sheet is used to calculate the standard baseline for grid emissions factor in South Africa. <a href="http://cdm.unfccc.int/methodologies/standard_base/EB73_repan03_AS B-0001.pdf">http://cdm.unfccc.int/methodologies/standard_base/EB73_repan03_AS B-0001.pdf</a>

### (4) Major External Fund

- FY2012 Capacity building for new market mechanism in developing countries (平成 24 年度新メカニズムの構築に係る途上国等人材育成支援事業委託業務) / MOEJ (FY2012/ total amount: JPY170 million)
- FY2011 Capacity building for new market mechanism in developing countries (平成 23 年度新メカニズムの構築に係る途上国等人材育成支援事業委託業務) / MOEJ (FY2011/ total amount: JPY228 million)

## II. Report by each Group/Team

### B. Market Mechanisms Group

- FY2010 Capacity building for co-benefit of pollution control and mitigation actions through Kyoto Mechanisms (平成 22 年度新メカニズムの構築に係る途上国等人材育成支援事業委託業務) / MOEJ (FY2010/ total amount: JPY278 million)

#### (5) Major Publications

- Policy Brief, “Classification of MRV of Greenhouse Gas (GHG) Emissions/Reductions: For the discussions on NAMAs and MRV” (December 2012)
- Policy Report, “Measurement, Reporting, and Verification (MRV) for low carbon development: Learning from Experience in Asia” Editing of report and contributing to the Chapters on MRV methodologies on waste and renewable energy (March 2013)
- Policy report, “IGES-TERI CDM Reform Paper: Linking Ground Experience with CDM Data in the Cement Sector in India” (March 2011)
- Policy report, “IGES-TERI CDM Reform Paper: Linking Ground Experience with CDM Data in the Power Generation Sector in India” (March 2011)

#### b. Promotion of Market Mechanism and research on Emission Trading Schemes

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

MM group has expanded the number of publications and information in databases on the CDM, with timely updates of publications, including “CDM in CHARTS” which is a compilation of basic information on the CDM, and the respective database. Based on that database, we conducted research on CDM system reform, including simplification of CDM procedures in the United Nations, and published reports entitled “Towards CDM Reform”, “CDM Reform 2011: Verification of the Progress and the way forward” and “Towards the CDM 2.0: Lessons from the capacity building in Asia”. Furthermore, we published a policy report entitled “Impact of COP18 Decisions on Use of Kyoto Mechanisms by Japan”, which analyses the potential use of Kyoto credits for Japan.

With growing interest in emissions trading schemes both in Japan and overseas, we held a series of IGES emission Trading Seminar on March every year and shared the updates on the Emission Trading Schemes.

##### (2) Major Findings / Results

We proposed the reform on Market Mechanism including the CDM and suggestion to New Market Mechanisms through our experience learned from capacity building activities in Asian countries, quantitative analysis based on database and summary of international negotiations under UNFCCC.

- Proposals for improvement of existing market mechanisms such as CDM .
- Research on the evaluation of CDM performance on the methodology, governance system, and contribution to the sustainable development based on the database and capacity building.
- Research on the option of new market-based mechanisms and analysis of future carbon market in the Asian countries.
- New MOU agreement with UNFCCC secretariat on a framework for cooperation (Oct. 2012)
- Submission to UNFCCC regarding to new market mechanisms and CDM (2011, 2012, 2013)
- Emissions Trading Seminar, (March 2013, March 2012 and March 2011)

## II. Report by each Group/Team

### B. Market Mechanisms Group

#### (3) Major Impact Created

The major impact of this component has been achieved through the series of “CDM reform”. Many of our suggestion are included in countries’ recommendations on Kyoto Mechanism including the CDM and New Market Mechanism under UNFCCC negotiation process. Examples citing our suggestion are as follows;

Suggestion by IGES	Submissions by countries
“Simplification of demonstration of additionality” “The publication of positive slit on electric generation technology” Source: CDM Reform 2011 Chap 2.3 & 3.2, CDM Reform 2010 Chap 2.2	- Increased use of standardised approaches, Identification of positive list (Australia) - Facilitate the application of standardised ambitious baselines(EU) - The assessment of additionality needs to be improved and streamlined (Switzerland) - Methodologies need to be simplified (Switzerland) - Simplified project cycle track for small scale projects using standardised baselines and for micro scale programme of activities (World Bank)
“Simplification of modality and procedures” “Elaborated guideline on the registration of projects” Source: CDM Reform 2011 Chap 2.1 & 2.2	- Guidelines should be developed for circumstances (Australia) - Establish guidelines for local and global consultation (Switzerland) - Simplify and optimise the procedures of complex control of documents during registration of CDM projects (Uzbekistan)

#### (4) Major External Fund

- FY 2012 Capacity building for MRV development towards new mechanisms in Asia regions (平成 24 年度新メカニズムの構築に向けたアジア地域における MRV 体制構築支援事業委託業務)/ MOEJ (FY2012 total amount: JPY250 million)
- FY 2011 Capacity building for MRV development towards new mechanisms in Asia regions (平成 23 年度新メカニズムの構築に向けたアジア地域における MRV 体制構築支援事業委託業務)/ MOEJ (FY2011 total amount: JPY200 million)

#### (5) Major Publications

[Policy Brief, Report]

- Policy Brief “Impact of COP18 Decisions on Use of Kyoto Mechanisms by Japan” (March 2013)
- Policy Report, “Towards the CDM 2.0:Lessons from the capacity building in Asia” (March 2013)
- Policy Report, “CDM Reform 2011: Verification of the Progress and the way forward” (September 2012)
- Policy Report, “Towards CDM Reform” (September 2012)

[New Market Mechanisms Related Publications]

- New Market Mechanisms in CHARTS
- Possible Elements of Market-based Mechanisms: A Summary of Views from Parties on the Elaboration of Market-based Mechanisms under Post-2012 Regime

[Kyoto Protocol Related Publications]

- CDM in CHARTS
- IGES GHG Emissions Data
- IGES National Registry Database

## II. Report by each Group/Team

### B. Market Mechanisms Group

- Options on the Future Market Mechanisms under the International Negotiation

[CDM/JI Database]

- CDM Project Database
- CDM Project Data Analysis & Forecasting CER Supply
- CDM Monitoring and Issuance Database
- CDM Review and Rejected Project Database
- CDM Review and Rejected Project Data Analysis
- CDM Programme of Activities (PoA) Database
- JI Project Database

[Other CDM Related Publications]

- IGES Market Mechanisms Country Fact Sheets Booklet
- Grid Emission Factors Data
- CDM Emission Reductions Calculation Sheet Series

### 3. List of Publications (See Annex)

## II. Report by each Group/Team

### C-1. Natural Resource Management Group: Forest Conservation Team

#### C-1. Natural Resource Management Group : Forest Conservation Team

##### 1. Overview as Team

###### (1) Objectives and Goals / Targets

The mission set by the Forest Conservation Team for the IGES 5<sup>th</sup> phase was through strategic research, capacity building and outreach to develop and promote policy instruments for the sustainable management and use of forest resources for the wellbeing of present and future generations.

The Integrative Strategic Research Programme of IGES for the Fifth Phase noted that globally about 13 million ha of forest are lost every year, the consequences of which include loss of livelihoods, cultural assets and knowledge; rising inequality associated with the concentration of forest resources in fewer hands; loss of the forest asset base for national development; and loss of a broad range of ecosystems services including climate protection, biodiversity, and stable landscapes for agriculture and human settlement.

The research and related activities set out by the Forest Conservation Team for the 5<sup>th</sup> phase aimed to consider both incentive and regulatory instruments for sustainable forest management. The intention was for the Team to focus on:

- (i) the concept of a new global scheme – REDD+ – to promote the role of forests in mitigating climate change, and
- (ii) reforming the trade in forest products to support legal forestry operations and sustainable forest management.

The research challenge identified for REDD+ was to provide direction on how forest management can (1) achieve real (measurable, verifiable and reportable) and long-term emissions reductions and enhancement of carbon stocks, and (2) ensure that forests committed for REDD+ serve a broad range of environmental, social and economic functions.

The challenges for research on the forest products trade were identified as clarifying the implications of the transformations in trade that are taking place for forests and forest management, and contributing to the development of policies and instruments that will ensure these transformations are a driver of sustainable forest management, not a driver of forest destruction.

Reflecting these two core research focuses, the initial objectives set for the FC Team in the 5<sup>th</sup> phase were;

- To extract lessons from existing REDD+ demonstration activities and to provide analytical input from field studies for the development of climate forestry management models appropriate to Asia-Pacific contexts;
- To provide critical analytical inputs for the development of effective, efficient and equitable national REDD+ administration and strategies;
- To identify the challenges to and opportunities for reforming the forest products industry in China, Vietnam, and other emerging consumer countries towards a sustainable forest products trade;
- To deepen understanding of the strengths and weaknesses of regulatory initiatives in consumer countries to curb the import of illegal forest products.

## II. Report by each Group/Team

### C-1. Natural Resource Management Group: Forest Conservation Team

As the Team's research evolved and as new opportunities arose during the 5<sup>th</sup> phase, some modification of these initial objectives and related work were undertaken. These modifications are discussed below in the sections on each research component.

In addition to REDD+ and the forest products trade as the two core components of the Team's research, the Forest Conservation Team also contributed extensively to the work of other IGES teams and to IGES-wide activities, such as the IGES White Paper and ISAP.

#### (2) Research Structure /Outline of Activities Conducted

- The 5th phase research was diverse in terms of levels of analysis (local, sub-national, national and international), research methodologies (action research, household surveys, key informant interviews, analysis of secondary data and literature, etc.), and outputs (policy briefs, policy reports, peer reviewed journal articles, videos and others). Funding was mostly sourced from the Ministry of Environment of Japan, but diversified during the 5th phase, with funds secured from the Asia Pacific Network for Global Change Research (APN), and the Department of Agriculture, Fisheries and Forestry of the Australian government.
- The research on REDD+ accounted for most of the work conducted by the FC Team. This research consisted of:
  - Developing, managing, updating and expanding the IGES REDD+ Database;
  - Action research and capacity building to develop and test the concept of community carbon accounting (CCA);
  - Reviews of national REDD+ readiness activities in five countries- Indonesia, PNG, Cambodia, Laos, Vietnam;
  - Development of a national REDD+ governance standard for Nepal;
  - Analysis of the international REDD+ negotiations
- The initial objective for the research on the forest products trade was modified after funding was secured through the Responsible Asia Forestry and Trade (RAFT) partnership for analytical studies on logging and timber exports in PNG. This research focused on options for timber buyers to mitigate the social and environmental risks associated with PNG export timber.
- The Forest Conservation Team was involved in launching a research project with the Sustainable Consumption and Production Group on microfinance and climate change adaptation, and another project on climate change and adaptation to water scarcity with the Freshwater Sub-group. The report on the latter project is provided by the Freshwater Sub-group.
- A collaborative model was used by the Team to design and implement much of the 5th phase research. The model consisted of engaging partners and funders in the design of the research, and, while IGES managed most of the research and was responsible for the major research outputs, IGES researchers and partners worked collaboratively in implementing the research. This model was applied to the community carbon accounting project and in the development of a draft national REDD+ governance standard for Nepal. In some cases, such as the study of national REDD+ readiness processes, FC researchers were primarily responsible for the research, but even in these case, external experts were invited to contribute, for example, through peer review of the IGES outputs.

#### (3) Major Outputs in the Context of Policy Impact

- Invited to give several presentations at UNFCCC-related sides events on the unique multi-stakeholder method developed by IGES and partners for the formulation of national REDD+ forest governance standards

## II. Report by each Group/Team

### C-1. Natural Resource Management Group: Forest Conservation Team

- Outputs on community carbon accounting project, including IGES Policy brief “Community-based Forest Monitoring for REDD+”, referenced in Global Observation of Forest Cover and Land Dynamics (GOF-C-GOLD) sourcebook
- 5 unique national studies on REDD+ readiness, cited in a number of publications

#### (4) Self Evaluation

The Forest Conservation Team carried out work as proposed in the Integrative Strategic Research Programme of IGES for the Fifth Phase, with some modification. Most of the milestones it set were achieved, and delays were mostly due to requests for assistance/collaboration from other IGES research teams. The Forest Conservation Team responded positively to nearly all requests for assistance/collaboration from both inside and outside IGES. The Team received a growing number of requests to deliver presentations and trainings, reflecting outside acknowledgement of the expertise that the Team now possesses. The Team also received a number of requests for collaboration with other organisations and its publications are being cited and used. As some of the outputs have only recently been published, further positive feedback on the Team’s work is expected in the near future. The Team was active in sourcing funding, and while not all funding proposals were successful, it was able to diversify the funding base for its research activities to some extent.

## 2. Reports by Research Component

### a. REDD+

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The initial 5<sup>th</sup> Phase objectives for IGES research on REDD+ were modified to reflect the decisions on REDD+ that emerged from the UNFCCC Conference of the Parties. Negotiators agreed that ultimately REDD+ must be implemented through national systems, and agreed that the major elements of these systems include national strategies, reference emissions levels, national forest monitoring systems, and safeguard information systems. COP decisions also established a set of safeguards for REDD+. Amongst these, COP decisions clearly state that the full and effective participation of indigenous peoples and local communities should be prompted and supported as safeguards when undertaking REDD+ activities, and set transparent and effective national forest governance structures as another REDD+ safeguard.

Reflecting the COP decisions and emerging research opportunities, the objectives set for the IGES REDD+ research were slightly revised during the 5<sup>th</sup> phase. The research objectives addressed during the phase were to:

- Provide guidance on engaging local communities in forest biomass monitoring and extract lessons on good practice for designing REDD+ activities through comparative analysis of REDD+ demonstration projects;
- Provide reporting and analysis on the development of national REDD+ systems
- Provide reporting and analysis on the REDD+ negotiations
- Develop and test a methodology for developing national REDD+ forest governance standards through a through a multi-stage, multilevel and multi-stakeholder approach



## II. Report by each Group/Team

### C-1. Natural Resource Management Group: Forest Conservation Team

#### Community carbon accounting project

The community carbon accounting (CCA) project addressed the first objective by developing and testing approaches to engage local communities in monitoring biomass in their forests. The CCA project was conducted with local partners at action research sites in Indonesia, PNG, Cambodia, Laos, and Vietnam. Fig. 1 describes the action research process employed.

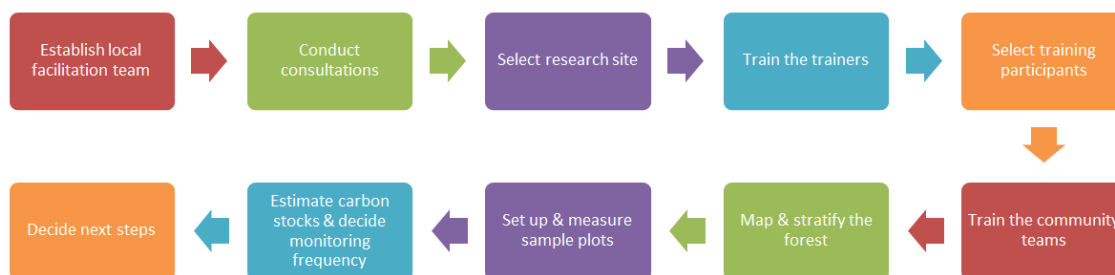


Figure 1: CCA action research steps

In addition to the site-based action research, a website to report on the project was set up, regional workshops were organized each year to report on progress and share experiences and results, and progress was made towards drafting a training of trainers (ToT) manual to encourage replication of the approaches. The action research evolved differently in each country, reflecting local conditions and opportunities. In Indonesia, villages that participated in the action research began designing REDD+ project documents for their forests and hope to secure funding for REDD+ activities. In PNG and Cambodia, remote sensing and GIS were introduced to enable analysis of possible REDD+ scenarios at the research sites. In Vietnam, the focus has been on workshops to build up a pool of local researchers with good understanding of the concept of community participation.

The first objective was also addressed by utilizing profiles of demonstration activities the Forest Conservation Team compiled on the IGES REDD+ Online database. Papers were prepared for several peer reviewed journals, and IGES published a policy report that provides summary and analysis of 27 REDD+ project designs.

#### National REDD+ systems

The studies of national REDD+ systems in Indonesia, PNG, Cambodia, Laos, and Vietnam addressed the second objective. Reports on each country were published in English, and Japanese summaries of these reports were compiled in a separate publication. A common reporting structure was used to ensure each report was comprehensive and to facilitate comparison across countries. Each report covered the following issues: forest resources and drivers of forest cover change; interest in REDD+; technical and financial support; organisational framework for REDD+ readiness and implementation; REDD+ strategy (including safeguards); reference emissions level and monitoring, reporting and verification; and demonstration activities. Information was gathered through literature reviews, and interviews with key informants in each country.

## II. Report by each Group/Team

### C-1. Natural Resource Management Group: Forest Conservation Team

#### REDD+ negotiations

In addressing the third objective, the Forest Conservation Team reported and provided analysis on key REDD+ negotiations events. The reporting covered progress made and bottlenecks and the analysis proposed possible ways forward. As with the national REDD+ studies, these reports were made available through the IGES REDD+ Online database.

#### National REDD+ governance standards development

In relation to the fourth objective, together with researchers at the University of Southern Queensland and Griffith University, the Forest Conservation Team tested a process to develop a quality-of-governance standard that can be used to promote good governance in the development and implementation of REDD+ policies and projects. Under this approach, broadly accepted generic principles of good governance are elaborated by stakeholders into a standard that is appropriate for their country. The key features of the standards development process are that it is multi-stage, multi-level and multi-stakeholder. The methodology was tested for Nepal and the development process consisted of the following four stages: an online questionnaire survey of actors from the environmental, social and economic sectors; in-depth interviews with key informants from all sectors related to forest governance in Nepal; a multi-stakeholder workshop; and testing of the standard with local stakeholders in an area where a REDD+ project is being implemented.

#### (2) Major Findings / Results

- With proper training, community teams can take and record forest measurements to provide accurate and precise forest carbon stock estimates. This is evident by comparing the results of community measurements with those made by professionals for the same locations or forest types.
- The training of trainers is critical and well prepared training programmes are essential to implement community-based forest biomass monitoring systems. A structured training of trainers (ToT) must be organised to ensure trainers possess the necessary knowledge on forest carbon accounting and effective techniques for training communities on forest sampling.
- The potential advantages of engaging communities in forest monitoring include better local understanding and ownership of REDD+ activities, and more effective monitoring because of the close proximity of the communities to the forest and their traditional knowledge on forest ecosystems. How community-based forest monitoring teams could be incorporated into national forest monitoring systems needs to be explored further.
- Interest in REDD+ amongst countries in the Asia Pacific region is strong, but this is yet to be translated into more effective policies and policy implementation to protect and enhance forest carbon stocks. While the technical challenges to developing national reference levels and monitoring systems are considerable, the greatest challenges are in building cross-sectoral interest in REDD+, coordinating different tiers of government, and ensuring broad stakeholder involvement in REDD+ design and implementation.
- Stakeholders participated enthusiastically in the process to develop the REDD+ governance standard in Nepal. The approach used ensured that all major stakeholder groups had the opportunity to identify what they felt is needed to ensure good governance for REDD+.

## II. Report by each Group/Team

### C-1. Natural Resource Management Group: Forest Conservation Team

#### (3) Major Impact Created

- Increased awareness and understanding of the potential to engage communities in forest biomass monitoring, through various outputs, including IGES Policy brief “Community-based Forest Monitoring for REDD+: Lessons and reflections from the field”
- Sharing of lessons on REDD+ demonstration activities through various outputs, including IGES Policy report “REDD+ projects: A review of selected REDD+ project designs”
- Sharing of lessons on REDD+ readiness through 5 country reports
- Creation of a draft REDD+ governance standard for Nepal, and promotion of the standards development method through presentations at UNFCCC-related side events
- Capacity building on community carbon accounting through workshops in Japan, Indonesia, Cambodia, Indonesia, Laos, Vietnam and PNG
- Information sharing on community carbon accounting when co-hosting “REDD+ in Pacific Island Countries” side event at Asia Pacific Forestry Week, co-hosting two workshops on REDD+ in Japan, and presenting at UNFCCC-related side events
- Capacity building for national REDD+ readiness by organizing national REDD+ multi-stakeholder workshops in PNG

#### (4) Major External Fund

CDM Capacity Building / New Mechanisms funding, MOEJ, FY2010-FY2012, 110 million yen

2010 Special Call for Proposal for Focused Activities, APN, 2011-2013, 10 million yen

### b. Trade in forest products

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Forest conservation objectives will be difficult to achieve unless the forest products trade is significantly reformed. Several reasons explain why trade has contributed to forest loss. First, consumers have “imperfect” knowledge and are unable to distinguish between sustainable and unsustainable forest products. Second, international markets mostly only value forests for their products, not for their wide range of ecological, economic, and social functions. Third, forest law enforcement is often weak in tropical producer countries because of weak governance and inadequate enforcement capacity.

The Forest Conservation Team was unable to secure funding for the initial research objectives for this component. However, in mid-2012, IGES joined the Responsible Asia Forestry and Trade (RAFT) partnership, and secured funds for research on timber legality and sustainability issues in PNG. The RAFT partnership consists of a group of international non-governmental organisations with a shared interest in promoting the trade in legal and sustainable timber. The Forest Conservation Team contributed to the work of the partnership in FY2012 through studies in PNG on risks of timber procurement and ways for timber buyers to mitigate these risks, and on the development and uptake by industry of voluntary legality and sustainability standards.

## II. Report by each Group/Team

### C-1. Natural Resource Management Group: Forest Conservation Team

#### (2) Major Findings / Results

- The demand from international timber buyers for logging companies in PNG to supply verified legal timber is increasing, largely because of legislation on illegal logging introduced by Australia, the EU and the US. However, only a few companies have had their logging operations independently certified as legal, indicating that large markets for unverified wood continue to exist. This situation could change with growing interest in China in mitigating the risks of illegal wood from PNG.
- Ensuring continued market access is the strongest driver for logging companies to have their operations certified. The costs of certification are high, while market premiums are not large, indicating that certification is unlikely to increase company revenues.

#### (3) Major Impact Created

- A comprehensive research report was partly drafted. RAFT partners in China requested an early draft of the report to assist their development of guidance for Chinese buyers of PNG wood.
- A paper on “Customs collaboration on the illegal timber trade” was presented at the International Conference on Transnational Environmental Crime, Australia National University, Canberra

#### (4) Major External Fund

- Responsible Asia Forestry and Trade partnership / Department of Agriculture, Fisheries and Forestry of Australia, 5 million yen

### c. Microfinance and climate change adaptation

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Two researchers in the Forest Conservation Team were involved in launching the IGES research project on microfinance and climate change adaptation. Two hypotheses were developed for the research project: (i) Micro-finance can enable poor households to adapt to climate change and to build their resilience against extreme climate events; (ii) Climate change could threaten the micro-enterprises that borrowers have invested in and reduce their asset base.

National reviews of microfinance policies and systems and field studies were conducted in Nepal and Laos. Comparative analysis of microfinance practice in these countries and microfinance models that emerged in Japan to assist victims of the earthquake and tsunami that struck in March 2011 was undertaken.

#### (2) Major Findings / Results

- For both developed and developing countries, new financial instruments and modification of existing instruments are needed to build resilience to climate change induced and other natural disasters.
- In Japan, there is an important role for risk transfer instruments to build the resilience of enterprises prior to a disaster, whereas microfinance could play this role for rural households in developing countries.

## II. Report by each Group/Team

### C-1. Natural Resource Management Group: Forest Conservation Team

#### (3) Major Impact Created

- IGES signed MoUs with the Institute of Microfinance (InM) and the Bangladesh Institute for International and Strategic Studies (BISS). IGES and InM agreed to co-finance a collaborative research project in Bangladesh. The project was launched at the workshop “Building Resilience and Adaptive Capacity to Climate Change”, held in Dhaka in 2012 and co-organised by IGES and InM.
- Papers on microfinance and climate change adaptation were presented at the 2010 Microfinance Summit in Nepal and in 2012 at ISAP and at “National Conference on Community-Based Adaptation to Climate Change” in Dhaka.

#### 3. List of Publications (See Annex)

## II. Report by each Group/Team

### C-2. Natural Resource Management Group : Freshwater

#### C-2. Natural Resource Management Group : Freshwater

##### 1. Overview as Group

###### (1) Objectives and Goals / Targets

The Freshwater Sub-group was responsible for two research components, namely “Groundwater Governance for Sustainable Development” and “Water Environment Partnership in Asia.” Overall objective of the Sub-group is to create, harness and accumulate knowledge for policy makers to help them to develop better management of water resources to ensure water security. The main target audience was policy makers in Asian countries who are engaged in water resource management.

###### (2) Research Structure /Outline of Activities Conducted

- Component 1: Groundwater Governance for Sustainable Development
- Component 2: Water Environment Partnership in Asia (WEPA) <a non-research component>
- During the ISRP5, the Sub-group was engaged in several cross-group activities
  - “Development of MRV (Measurement, Reporting and Verification) in Wastewater Sector” that was conducted under Component 2 of the Market Mechanism Sub-group “Support for Institutional Design of an MRV System”
  - IGES Strategic Fund Research of FY2012, “Water-Energy-Climate Nexus (An assessment of water resource management and climate mitigation policies in Thailand using water-extended bottom-up energy systems model),” jointly implemented with Environment Economy and Environment Group

###### (3) Major Outputs in the Context of Policy Impact

- Web-site of the Regional Knowledge Hub on Groundwater Management for the Asia-Pacific Water Forum (APWF), which includes presentations and summary of the meetings organised by IGES and its partners. The information gathered through the knowledgehub activities were presented at water related conferences organised such by ADB and UNESCO.
- A publication of WEPA entitled “Water Environment Management Outlook 2012,” which was distributed at major policy processes in water sector such as the 6th World Water Forum in Marseille, France.
- A policy brief “Long Term Electricity Scenario and Water Use—A case study on India” of which findings will be incorporated in the World Water Development Report 5 (WWDR5) prepared by UN-Water.

###### (4) Self-Evaluation

Overall, the Freshwater Sub-group work in ISRP5 implemented its activities to achieve the goals set out in the ISRP5 although there were some changes in focus of activities. As for groundwater governance component (Component 1), its focus was shifted more to “networking” rather than the research originally planned. As a result, the sub-group produced fewer outputs than expected but the networking efforts steadily increased chances of collaborative research work with other organisations such as the International Water Management Institute (IWMI) and UNESCO.

## II. Report by each Group/Team

### C-2. Natural Resource Management Group : Freshwater

Conversely, WEPA, a non-research and network activity, incorporated more research-type of activities especially on wastewater management. Together with research on “Development of MRV (Measurement, Reporting and Verification) in Wastewater Sector,” the sub-group gained knowledge on wastewater management in the Asian region and presented its findings at international key conferences such as the 6th World Water Forum and the 2nd Asia-Pacific Water Summit. Water-Energy nexus – another new area of research of the sub-group is one of the critical topics in recent dialogues on water sector and our study got the attention of the international community and contributed to the World Water Development Report 5 prepared by UN-Water. These positive outcomes were a basis for water-related research and activities of Water Resource Management in the Sixth Integrated Strategic Research Phase (ISRP6).

## 2. Reports by Research Component

### a. Groundwater Governance for Sustainable Development

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The objective of this research component is to create, harness and accumulate knowledge for policy makers, which can enable them to develop and facilitate better groundwater management strategies. Two sub-components were planned in ISRP5, namely (a) Baseline Study of groundwater and its governance in Asia and (b) In-depth study on enabling environment to introduce and carry out effective implementation of economic instruments for sustainable development. In addition, activities such as the Asia-Pacific Water Forum Groundwater Knowledge Hub were conducted under this component.

#### (2) Major Findings / Results

##### (a) Baseline study of groundwater and its governance in Asia

- Groundwater resources are facing multiple pressures due to unplanned exploitation and competition, contamination and climate change. Sustainable management of groundwater in the region has been hampered by the absence of an effective governance mechanism which has resulted in resources degradation in many places. Under this sub-component, three studies were conducted in India, Cambodia and Nepal.
- The quick study in Mewat, a relatively dry rural district in Haryana state, India, found that absence of regulatory control and the provision of a subsidy for electricity (flat rate) have led to uncontrolled abstraction and depletion of the groundwater table. Rainwater harvesting and subsequent recharge could be promoted to replenish the groundwater table and relieve the water shortage in the area.
- A short study was conducted to understand the state of groundwater arsenic contamination and health risks in Cambodia, where high levels (0-2500 µg/l) of arsenic were found in groundwater. The Cambodian government set up the Arsenic Inter-ministerial Sub-committee (2011) and initiated various mitigation measures (screening of tube wells, awareness-raising, provision of alternative safe water) in high risk areas.
- The study in Nepal examined users' preference to groundwater for water supply and sanitation in Kathmandu where people are facing chronic water shortages. The study found that there were various relative advantages for choosing groundwater, and the major ones were better hygiene, convenience to access, cost and time savings, and reliable supply. Lack of alternative

## II. Report by each Group/Team

### C-2. Natural Resource Management Group : Freshwater

surface water sources and less reliable municipal water supply were two main driving factors for the households to resort to groundwater source.

(b) In-depth study on enabling environment for the introduction/ effective implementation of economic instruments for sustainable development

This component could not be implemented mainly for two reasons: We decided to shift our focus to networking rather than research with a very limited budget for seeking for new funding opportunities, and our limited human resources were more allocated to cross-group collaboration work.

(c) APWF Groundwater Knowledge Hub related activities

The majority of our efforts were spent on promoting the Regional Knowledge Hub on Groundwater Management by participating in conferences organised by organisations such as ADB and UNESCO. Similarly, attention was given to forge collaboration in new projects such as with International Water Management Institute and UNESCO-IHE based on the discussion at the launch meeting of the regional groundwater knowledge hub and we started two new projects with them respectively in FY2012.

#### (3) Major Impact Created

- Organising Capacity workshop “Groundwater: Myths and Reality” for young professionals including the Thai government officials (in June 2011 at Asian Institute of Technology, Thailand), in which leading groundwater experts delivered their lectures. In the workshop, IGES also presented a groundwater management study conducted in the Fourth phase.
- Organising Launch Meeting of Knowledge Hub for Groundwater Management in Bangkok, 2-3 June 2012 with the participation of policy-makers in different Asian countries and international/regional organisations. IGES made presentations based on the research activities and also facilitated discussion on future actions of the regional knowledge hub.
- Co-organising a Technical Workshop (Groundwater in IWRM – options and lessons) with Department of Groundwater Resources of Thailand at the Second Asia Pacific Water Summit, May 2013, Chiang Mai, Thailand (originally planned for Feb 2012 but postponed to May 2013 due to flooding in Thailand). IGES introduced the activities of the regional knowledge hub as well as major findings of the research activities in the Fifth phase.
- Registration of the regional groundwater knowledgehub activities as “Solutions for Water” at 6th World Water Forum (March 2012, France) that is a part of outcome documents of the forum
- Involvement in key water events to disseminate the knowledgehub activities through presentations and exhibitions: ADB and Partners Conference Water Crisis and Choices (Oct., 2010), ADB Water Learning Weeks (April 2011, November 2011), and ADB Asia Water Week (March 2013).

#### (4) Major External Fund

- Australian Centre for International Agricultural Research (‘ACIAR’) Grant Number LWR/2010/081 project with International Water Management Institute (IWMI) [FY2012-2015: “Enhancing the resilience and productivity of rainfed dominated systems in Lao PDR through sustainable groundwater use” (Amount: AUD 200,120)]



## II. Report by each Group/Team

### C-2. Natural Resource Management Group : Freshwater

- ABD-UNESCO-IHE Knowledge Partnership (RETA 6498: Knowledge and Innovation Support for ADB's Water Financing Program) and UNESCO-IHE DUPC co-finance [FY2012-2014: "Comparative research of groundwater management in the coastal areas in Southeast Asia" (USD 43,950 for attending workshop and equivalent IGES in-kind contribution)]

#### (5) Major Publications

- Summary: Water Resources Situation Analysis to Promote Sustainable Groundwater Development in Mewat District, Hariyana, India  
[www.iges.or.jp/en/news/topic/pdf/FW\\_Knowledgehub/Groundwater\\_management\\_in\\_Mewat.pdf](http://www.iges.or.jp/en/news/topic/pdf/FW_Knowledgehub/Groundwater_management_in_Mewat.pdf)
- Summary of a Study on Groundwater Arsenic Contamination in Cambodia  
[www.iges.or.jp/en/news/topic/pdf/FW\\_Knowledgehub/Groundwater\\_Arsenic\\_Contamination\\_in\\_Cambodia.pdf](http://www.iges.or.jp/en/news/topic/pdf/FW_Knowledgehub/Groundwater_Arsenic_Contamination_in_Cambodia.pdf)
- ISAP 2010 summary  
[www.iges.or.jp/en/news/topic/pdf/FW\\_Knowledgehub/activity20100712/FW\\_Open-session\\_Summary.pdf](http://www.iges.or.jp/en/news/topic/pdf/FW_Knowledgehub/activity20100712/FW_Open-session_Summary.pdf)  
[www.iges.or.jp/en/news/topic/pdf/FW\\_Knowledgehub/activity20100712/Summary.pdf](http://www.iges.or.jp/en/news/topic/pdf/FW_Knowledgehub/activity20100712/Summary.pdf)
- Solutions to 6th World Water Forum [4262 - Knowledge Networking for Sustainable Groundwater Management in the Asia Pacific Region]  
<http://www.solutionsforwater.org/solutions/knowledge-networking-for-sustainable-groundwater-management-in-the-asia-pacific-region>
- Web-site of the Asia-Pacific Water Forum Water Knowledge Hub on Groundwater Management, which includes all presentations and materials of the meeting that IGES organised as well as the above outputs.  
<http://www.iges.or.jp/en/natural-resource/groundwater/>

#### b. Water Environment Partnership in Asia (WEPA)

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The freshwater sub-group has been serving as the secretariat of the Water Environment Partnership in Asia (WEPA) since FY2004 commissioned by the Ministry of the Environment, Japan (MOEJ). WEPA aims to share information on water environmental management among 13 Asian countries to promote better water environmental governance in each partner country. In the second phase of WEPA, started in FY2009, two focus topics were established, namely "domestic wastewater management" and "climate change and the water environment". Besides the focus topics, surveys to overview the status of water environmental management were conducted. The findings of surveys were shared with member countries through meetings and publications such as WEPA Water Environmental Outlook2012.

##### (2) Major Findings / Results

###### (a) Domestic wastewater management

- The current sewerage treatment coverage rate in the Republic of Korea and Japan exceeds 75%. The rate in Malaysia (peninsular Malaysia and municipalities only) and urban areas of China falls into the 60-70% range and Thailand's coverage rate falls into the 20% range. On the other hand, the sewerage treatment coverage rate is less than 10% in other WEPA partner countries. Construction of sewerage treatment facilities is mainly being carried out in urban areas. In areas without access to sewerage treatment services, treatment using individual septic tanks is

## II. Report by each Group/Team

### C-2. Natural Resource Management Group : Freshwater

common mainly in urban areas. In addition to lower removal rate of BOD, grey water is not treated in many cases by septic tanks.

- Long-term, large-scale investment is required for the construction of large-scale sewerage treatment plants. Therefore, we must look at approaches which are feasible and sustainable under the socio-economic conditions of developing countries in Asia. WEPA countries have gained a great deal of experience in examining and developing feasible policy options for domestic wastewater treatment under various socio-economic constraints. WEPA countries are able to showcase a number of good practices which effectively promote the involvement of the public sector and communities in the construction and operation of sewerage treatment plants.
- There is no single pathway to sustainable domestic wastewater treatment: different policy options should be applied for differing socio-economic conditions in Asia. One promising option is decentralised wastewater treatment.
- Experiences of domestic wastewater management in partner countries were shared at the WEPA meetings. Such information sharing was very much appreciated by partner countries.

#### (b) Climate Change and the Water Environment

- Climate change is a major factor to impact the future of the world's water resources. Projected impacts include: degradation of water quality resulting from rising water temperatures or reduced flow volume; increasing water pollution and health risks associated with untreated wastewater and landslides which occur during disasters including floods; impacts on ecosystems from rising atmospheric/water temperatures and reduced precipitation; and indirect impacts from changes in water consumption rates and patterns (e.g. impact on health from excess groundwater extraction and drinking polluted groundwater).
- WEPA countries do not have enough scientific data to investigate climate change impacts to water quality. Strengthening water quality monitoring is important not only for pollution control but also to accumulate scientific data to investigate possible impacts to climate change.
- To ensure that we have "no regrets," the following are mentioned as examples of activities that can be carried out and examined in the field of water environmental measures: strengthening of current pollution control measures; strengthening water quality monitoring and also improvement of data sharing mechanisms; and sharing of local knowledge based on experiences.

#### (c) Status of Water Environmental Management

WEPA partner countries identified the following common action areas to be promoted in each country:

- Review laws and regulations, and establish standards in consideration of socio-economic conditions and the current state of the water environment.
- Strengthen local management of water environment at the basin level.
- Improve/strengthen scientific basis for policy making such as the establishment of effective monitoring and data storage systems.
- Strengthen the control of water pollution sources such as by the promotion of adequate domestic wastewater treatment and total pollution control load systems.
- Stipulate polluter pays principle in water quality management and utilise market-based instruments as an incentive for compliance.
- Promote institutional and technical capacity building of organisations in charge of water environmental management at national and local levels.
- Promote participation of private sector, civil society and communities in water management and improve environmental awareness.

## II. Report by each Group/Team

### C-2. Natural Resource Management Group : Freshwater

- Framework of water environmental management has been already established in many partner countries and the problem is how to promote implementation. Different stage of implementation challenges were found among partner countries according to experiences of pollution control.

#### (3) Major Impact Created

- WEPA workshops (2010 in Tokyo, 2011 in the Philippines, 2012 in Cambodia)
- Bilateral meetings (2010 in Nepal, 2012 in Sri Lanka) that contributed to the capacity development of officers in charge of water environmental management by addressing priority areas of each country.
- WEPA database that contains information on water environmental management has been regularly updated. The database is an important platform of information exchange of WEPA. The contents are often cited at FAO's global water information system entitled AQUASTAD.

#### (4) Major External Fund

- Ministry of the Environment, Japan

#### (5) Major Publications

- WEPA Outlook on Water Environmental Management 2012 (in Japanese and in English)
- Summary of WEPA Outlook on Water Environmental Management 2012 (in Japanese and English)

### IGES Strategic Fund Research 2012

#### **Water-Energy-Climate Nexus (An assessment of water resource management and climate mitigation policies in Thailand using water-extended bottom-up energy systems model)**

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The main objectives of this study are to (i) establish the feedback between water resources and energy production; (ii) demonstrate the importance of integration of water-energy management while highlighting impacts of the water management and climate policies on energy production choices and energy system costs; (iii) and highlight the co-benefits from an integrated energy-water management policy.

The major components of this research are as follows:

- (a) Estimation of water availability for energy production under different policy scenarios
  - Estimating climate change impact on water availability using RGCM and Regional Hydrological Model (HEC-HMS).
  - Estimating long-term water availability for energy sector using proportional sharing of water among different sectors and econometric analysis.
- (b) Development of a water adjusted bottom-up energy systems model
  - Developing the water module of the MESSAGE Model
  - Running a scenario to estimate the total water demand for the energy sector.

## II. Report by each Group/Team

### C-2. Natural Resource Management Group : Freshwater

- (c) Estimation of water use coefficient for energy sectors
  - Identification of energy production technologies and their water requirements
  - Survey of selected power plants to collect water use data for electricity generation
  - Estimation of water use coefficients for all selected technologies (m<sup>3</sup>/GWh)
- (d) Assessment of water constraints for energy sector
  - Identifying the water constraint mitigating technologies for energy sector.
  - Running the water constrained scenario

#### (2) Major Findings / Results

- It was found that the water-use co-efficient in South Asia and Southeast Asia is several times higher than its value for USA power plants. Based on the estimated water co-efficient, our model shows that electricity generation will need a significant amount of water, which can intensify tradeoff conflict. In India water demand for electricity generation will exceed government projections by 2050. In the case of Thailand, national water demand for electricity is not taken into account in government projections for water demand. On the other hand, IGES estimates show that about 8 billion cubic meters of water will be required for electricity generation in 2050.
- In India where per capita water availability has dipped below the alarming threshold of water stress (below 1700 m<sup>3</sup>), water intensive thermal power plants form the backbone of national power supply by contributing almost 60% of electricity generation in India. Geographical distribution of existing thermal power plants shows that more than 80% of these are set up in either water scarce or water stressed regions. The dominance of coal-based thermal power generation in the total electricity supply mix of the country is not likely to change due to availability of abundant coal reserves. This instigates exclusive need of water for electricity generation that will intensify conflicts among sectors of water use. On the other hand, trend of intensifying water scarcity may put the operational continuity of power plants in jeopardy.
- The result of water availability projection of Thailand under different climate change scenarios shows that while annual water availability is expected to be increased in coming decades, seasonal variability of water availability will be intensified; consequently water availability in wet season and dry season will increase and decrease, respectively. The increased water availability in the wet season will not have positive impact unless storage capacity of access runoff is improved because water availability in wet season.

Based on this assessment of water energy interactions in India and Thailand following suggestions is made:

- The state of water resources should be considered in a Go or No Go policy of location selection for future power plant development.
- Improvement of end-use efficiency is important for coping with water scarcity, which has the potential to complement a significant volume of water for water users.
- In principle wind and solar photovoltaic power generation require negligible volume of water. Promotion of these sources of renewable energy would reduce the pressure on water resources to some extent. In contrast concentrated solar power (CSP) generation requires more water for cooling than other fuel sources. CSP plants can be considered only in areas with an abundant water resource and in case of water stressed areas the possibility should be explored of using a water-efficient cooling system like dry cooling and hybrid cooling.
- Since water-use intensity of power plants in the study countries is higher than the global standard, it is crucial to identify the place where water loss occurs. Mandatory periodic water use auditing is a tool to identify places of high water loss and to prioritise water conservation

## II. Report by each Group/Team

### C-2. Natural Resource Management Group : Freshwater

strategies in power plants. Consequently, water-use auditing helps to improve power plant productivity and to maximise water availability for other users.

#### (3) Major Impact Created

- By invitation from UNESCO, IGES contributed a case study to the World Water Development Report 5 coming up in 2014.
- IGES Policy Brief drew attention from the media and subsequently was reported in one of the leading energy newspaper in Japan (Denki Shimbun).
- The study created opportunities for new research collaboration. Research collaboration with IIASA's ESM Group and Research Institute for Humanities and Nature (RIHN) is now under consideration.

#### (4) Major External Fund

NONE

(IGES strategic research fund (FY2012)/ total amount: JPY6 million)

#### (5) Major Publications

##### IGES Policy brief

- Long Term Electricity Scenario and Water Use – A Case Study on India. (Published in July 2012)

##### IGES Policy report

- An assessment of water resource management and climate mitigation policies in South Asia and Southeast Asia using water-extended bottom-up energy systems model. (Work in progress; expected date of completion, October 2013)

##### Peer Reviewed Article

- A Critical Review of Long Term Water-Energy Nexus in India. (The article will be published in the World Water Development Report 5 in 2014)
- Assessment of Long Term Water Availability: Supply and demand gap analysis in Thailand. (Work in progress; expected date of completion, November 2013)

##### Non-Peer Reviewed Article

- 水不足がアジアの電力部門を直撃発電用水の利用効率化でビジネスチャンス. (Published in Business I ENECO in Jan, 2013)

### 3. List of Publications (See Annex)

## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

#### C-3. Natural Resource Management Group: Adaptation

##### 1. Overview as Team

###### (1) Objectives and Goals / Targets

The goal of this component is to strengthen the knowledge for promoting science-based adaptation in the Asia-Pacific region. The AD team has achieved this goal by collaborating with various national and international partners and Networks.

###### (2) Research Structure /Outline of Activities Conducted

- Adaptation Metrics (5-year project ending in FY 2014).

Overall Objectives are: identify adaptation effectiveness indicators in the Gangetic basin, evaluate the existing adaptation decision making frameworks, develop a decision-making framework based on these experiences, and share research results with various stakeholders through networks.

- Strengthening capacity for policy research on mainstreaming adaptation/ Adaptive policies (3-year project ended in FY 2012)

Overall objectives are: To identify barriers to mainstreaming adaptation into sectoral policy making, to characterise and identify adaptive policies, to measure the progress in mainstreaming climate change adaptation into institutional processes and share research results with various stakeholders through networks.

- Scaling up risk insurance (One-year contract with APAN ended in FY 2012)

Overall objective is to identify bottlenecks to scaling up of crop insurance in select Asian countries and to come up with measures for overcoming the same.

- Training needs assessment for capacity building of policy makers on climate change adaptation in agriculture sector (One-year contract with APN ended in FY 2010 and one-year contract with APAN ended in FY 2012)

Overall objectives are to conduct training needs assessment of major government officials at national and sub national levels, draft training modules based on the TNAs, and pilot test the select training modules.

- Collaboration with others and involvement in policy processes

- IGES project on Tohoku disaster
- Contribute to the IPCC 5<sup>th</sup> Assessment report (livelihood and other components in the Asia Chapter)
- WMO-FAO: identify innovative financial mechanisms for resilience in WANA region
- Supporting APAN in various activities carried out by Bangkok Regional Centre
- Training of senior and management staff of African Development Bank on resilience and Green Growth
- Other activities (e.g. S6, ICCPL, APFED projects)

###### (3) Major Outputs in the Context of Policy Impact

**Outputs:** Despite the limited financial and human resources the AD team had during the phase, the

## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

team was able to deliver all the committed and additional outputs. The major achievement has been its ability to publish the research results in the collaborative books and journal papers. The classification of outputs is given below.

Subject (donor)	Lead/s	Number of outputs*
Adaptation effectiveness indicators (S8 project)	SVRK Prabhakar	13
Adaptive policies (APN)	SVRK Prabhakar	9
Training modules for capacity building in CCA (APAN and APN)	SVRK Prabhakar	4
Tohoku disaster	Hayashi	3
Risk insurance (APAN and APN)	SVRK Prabhakar	3
Others: <ul style="list-style-type: none"> <li>• Food-water-energy nexus in AP region</li> <li>• Food safety in AP region</li> <li>• Capacity building and guidance note on green growth for AfDB</li> <li>• Financing risk reduction in WANA region</li> <li>• Indonesia climate change adaptation policies</li> <li>• Climate change and disaster risk reduction</li> </ul>	SVRK Prabhakar Sano	17

\*only significant outputs

- The following are the salient findings that have policy implications:
  - **Research on adaptation effectiveness indicators for the Gangetic Basin:** It is possible to identify a common set of adaptation effectiveness indicators that are relevant for a range of adaptation activities and locations. This has relevance in terms of simplifying adaptation prioritisation tools for various stakeholders at policy and implementation levels.
  - **Research adaptive policies:** Going by way the research has defined the adaptive policies, the research has revealed that it is not sufficient if a policy is amended on regular basis. We couldn't find an evidence for frequently amended policies being successful. This signifies the need to design policies based on strong evidence between the causes and effects which signifies for policies made based on research evidence as much as possible.
  - **Training modules and pilot training programs:** The training needs assessment has revealed insufficient knowledge and skills on climate change adaptation among the agriculture department personnel and there is a clear lack of in-service and induction training programs. The training modules piloted for implementation level officers could able to significantly improve the skill and knowledge levels of the trainees.
  - **Research on Tohoku disaster:** It was found that the prefectures with good functional relationship in disaster risk reduction with the adjacent prefectures were better able to respond to the Tohoku disaster than those without such linkages. It was suggested to expand the sister-city concept to prefecture level as well.
  - **Research on crop insurance:** In general, the crop insurance programs have benefited the farmers from buffering the climatic shocks to a limited extent and insurance payouts are still insufficient to help in complete recovery and have not stopped farmers from borrowing money for getting to normalcy. The high cost of insurance both for the insured and the insurer and insufficient coverage under certain perils are issues that policy

## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

interventions need to address.

**Policy interface:** In addition to generating the above outputs, the team was able to carry out several science-policy interface dialogues throughout the phase.

- Conducted regional stakeholder consultation on Adaptation Metrics and Policy Frameworks for Adaptation Governance in the Gangetic Basin. The consultation has sensitised various stakeholders on the need for establishing a framework for measuring adaptation, which helped promote understanding of issues in the existing decision-making mechanisms.
- Organised a session on frameworks for measuring adaptation, 5th International Conference on Community Based Adaptation (March 2011, Bangladesh).
- Organised sessions on fairness in decision-making, risk insurance and financial innovations for climate resilience in Adaptation Forum and ISAP.
- Conducted various country-level science-policy interface events for eliciting adaptation effectiveness indicators in India, Nepal and Bangladesh and a session on risk insurance as a part of Asia Pacific Policy dialogue in New Delhi.
- Contributed for the 5th Assessment Report of IPCC
- Presented the results of research at various international and national conferences and published on various international platforms including books published by peers on climate change adaptation.

### (3) Self-Evaluation

Despite limited human resources (two researchers and an associate researcher) and a high turnover, AD team is proud of its high productivity. The core of AD team research is MOEJ-funded research on developing adaptation metrics (S8-3); nonetheless, APN and APAN funded research projects were also important for the team. Although the APAN project is a one -year project with a small budget, AD team successfully utilised the project as a preliminary study for achieving a larger, multi-year project in the future which is funded by APN (ARCP2013-18NMY-Prabhakar). S8-3 study is unique and is expected to generate positive impact for local policymaking processes. In FY2012, S8-3 study underwent a mid-term evaluation and received a high evaluation by the advisors (A-).

## 2. Reports by Research Component

### a. Adaptation Metrics (S8 project)

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The primary objective of this project was to identify adaptation effectiveness indicators for the agriculture sector in the Gangetic basin and to arrive at an index that would help measure the effectiveness of adaptation activities ex-ante and ex-post and for developing a decision-making framework by evaluating the frameworks proposed in the literature and by evaluating the existing adaptation decision-making practices.



## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

#### (2) Major Findings / Results

- The study has provided useful experiences and important observations on how communities perceive and measure the effectiveness of adaptation options. Characterising the historical drought has helped in identifying and characterising the drought prone areas in the Gangetic basin. Analysis of historical drought events using Standardised Precipitation Index (SPI) and Palmer Drought Severity Index (PDSI) has revealed that these indices can provide important means of characterising drought in terms of intensity and duration in the Gangetic basin.
- The structured questionnaire surveys were conducted with communities (n=675, community responses) in 11 villages in the drought-prone areas of Bangladesh, India and Nepal. The findings of these surveys helped in getting insights on the kind of adaptation options preferred by the communities in drought prone regions and on the indicators chosen by them to measure the effectiveness of adaptation options.
- The study has revealed that the effectiveness indicators could significantly vary with the location and to certain extent depending on who is choosing them and the adaptation practices in question. Incorporating these human and location specific considerations into any adaptation decision-making framework is crucial for better connecting the measurement outcome with those benefiting from these adaptation actions.
- To evaluate the effectiveness of these options, the respondents have identified several effectiveness indicators which have shown limited statistically-significant association with the demographic background of the respondents.
- In Bangladesh, four out of five indicators have shown significant association with the practice group showing the tendency that respondents practicing particular practice or those who think certain practices are important have a tendency to rank certain indicators as important as against other indicators. Whereas, in India, the statistical analysis has revealed very few significant associations between top ranked indicators and socio-economic characteristics of the respondents and practice groups. The results from Nepal indicated that farmers practicing certain adaptation practices or those who ranked certain adaptation practice as important have tendency to choose and rank high certain indicators against other indicators.
- The study has made significant progress in evaluating the existing adaptation decision making frameworks. Though the currently proposed frameworks are still at nascent stages and are yet to be field tested, studies of these frameworks indicated that they are a step in the right direction and provide ample insights into principles and practices of decision-making in CCA. The comparative evaluation of existing frameworks has indicated that following faulty assumptions should be avoided in formulating M&E frameworks:
  - characteristics of adaptive capacity are known and agreed upon;
  - it is easy to estimate baselines and establish adaptation targets at levels where adaptation is important;
  - tools exist for measuring adaptation and M&E and that they just need to be brought together;
  - local actors are capable of choosing what is right and wrong and they have information to do so, and
  - integration across scales is simple and straightforward.

#### (3) Major activities and outputs

- Published one IGES research report on adaptation effectiveness indicators.
- Presented one research paper at Adaptation Futures, Arizona, USA (29-31 May 2012).
- Organised a session on frameworks for measuring adaptation at the 5th International Conference on Community Based Adaptation (March 2011, Bangladesh)

## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

- Organised and made presentations at indicators vetting meetings/workshops in the three project countries (February 2012/ India, Bangladesh and Nepal)
- Conducted pilot surveys for prioritising adaptation effectiveness indicators in the three countries, organised project review meeting in Bangkok, presentations at three countries, and three research reports on the results of the survey results
- Presented five research papers at the 4th International Conference on Climate Change, Seattle, Washington (12-13 July 2012).
- Published one conference proceedings for the session at 4th International Conference on Climate Change, Seattle, Washington.
- Presented one research paper on adaptation effectiveness indicators presented at the 11th International Conference on Dry Land Development: "Global Climate Change and its Impact on Food & Energy Security in the Dry lands", 64. Beijing, China. IDDC (18-23 March 2013).

#### (4) Major Impact Created

- By developing local adaptation index using 'bottom-up' approach, more precise analysis on local adaptive policies is available for policymakers in the region.

#### (5) Major External Fund

- S8-3 *Suishin-hi* Study/MOEJ (FY2010~FY2014/total amount: JPY46 million)

### b. Strengthening capacity for policy research on mainstreaming adaptation to climate change in agriculture and water sectors (CRP2011-01CMY-Pereira)

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The overall objectives of the project are 1) To assess technical, institutional and regulatory barriers to integrating climate change adaptation concerns at both policy and operational levels and propose countermeasures; 2. To develop metrics for monitoring the progress in mainstreaming adaptation in sectoral policies and operations; and 3. To identify characteristics of selected policies that will enhance adaptive capacity. This is a multi-country study where IGES is responsible for implementing the Japan part. The other countries participating in this study are Malaysia, India and Viet Nam.

#### (2) Major Findings / Results

- Several barriers were identified for mainstreaming climate change adaptation into developmental planning in Japan. There has been less policy emphasis on climate change adaptation over mitigation in Japan. There are some specific actions emerging at local levels of government and in sectors, but they still lack systematic approaches to efficiently deal with climate change in terms of central level coordination and strategising.
- The following recommendations emerge from barriers related part of this study.
  - Firstly, there is a need for capacity building of local functionaries for science-based adaptation. Topics such as downscaling of climate change projections and impacts would be useful for local level decision-making.

## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

- Secondly, the communication and coordination between different administrative levels needs to be improved ideally with a greater role at the national level so that lessons learned across the prefectures could be shared effectively.
  - Thirdly, there is a greater need for coordinated and integrated policies and programmes to avoid duplication in different sectors and governments. Finally, there is a need for diversification of adaptation strategies from technology orientation to social orientation.
- The following recommendations emerge from the adaptive policies part of the study
    - It was clear that although countries like Japan have a good history of formulating and implementing several policies to address perceived issues in agriculture, the mere assessment of these policies in terms of how soon they were introduced and how often they were modified is not appropriately reflected in terms of how effective the policies were.
    - The effectiveness of a policy would go beyond the indicators/criteria identified in this study. The additional criteria for effectiveness of policies could be whether policies are designed based on the right stimuli, correct perceptions of policy makers to these stimuli, and if the policy is based on right information. In addition, assessment of these policies must be based on the fact that outcome of these policies should not be limited to indicators such as timeliness.
    - This has major implications for the community engaged in climate change adaptation since these community need to take decisions often on limited information. Hence, providing policy relevant information that is timely is crucial for effective policies.

#### (3) Major activities and outputs

- Organised consultation meeting on adaptive policies and measuring mainstreaming adaptation in agriculture sector in Japan.
- Organised consultation meeting on the impact of the Great East Japan Earthquake on the agriculture and food safety in Japan.
- Conducted Delphi questionnaire survey on adaptive policies in Japan.
- Two research presentations at the 8th NAPSIPAG international conference, Kathmandu, Nepal.
- Published and presented a full peer reviewed paper at the Earth System Governance Tokyo Conference, Tokyo, Japan. Earth System Governance and Tokyo University (28-31 January 2013).
- Published two research papers on adaptive policies in a book published by Singapore University and MacMillan Publishers.
- Submitted the final (end of the project) research report to APN (8 March 2013).

#### (4) Major Impact Created

- The study was able to define the characteristics of Japanese adaptive policies in the agriculture sector and suggest factors to improve the capacity. The study added significantly to the emerging body of literature on climate change adaptation from developed countries. In addition, the study results were shared with the policy researchers and policy makers both within Japan and internally by presenting the results in the science-policy dialogues and international conferences.

## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

#### (5) Major External Fund

CRP2009-02NMY-Pereira/APN FY2010~FY2012/ total amount: JPY3.8 million)

#### c. Risk Insurance Systems for Promoting Climate Change Adaptation and Disaster Risk Reduction in Asia

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The broad objective of this preliminary study funded by the Asia Pacific Adaptation Network was to study the risk insurance systems in the selected Asian countries and to arrive at lessons for scaling up insurance. The reconnaissance study was carried out in Philippines, Malaysia and Viet Nam.

##### (2) Major Findings / Results

- Several risk insurance initiatives have been implemented at grassroots level for reducing the vulnerability of communities to disasters in most of the countries in Asia and the Pacific over the years. Despite these grassroots efforts, the penetration of risk insurance is poor in developing Asia Pacific compared to many developed countries in the region due to several barriers that this sector is facing.
- It was evident from the study that the countries are at different levels of developing agriculture insurance programmes and institutional mechanisms, with the Philippines at the forefront followed by Viet Nam and Malaysia.
- The growing disaster losses and related burdens on governments has been the clear driver of insurance in all the study countries. Though Malaysia has long experience of implementing insurance for industrial crops, insurance has entered into agriculture only very recently with the promulgation of the new government crop insurance programme. Having introduced insurance programmes early, the Philippines have diverse insurance approaches, mostly spearheaded by public insurance institutions with strong public-private partnership. The government of Viet Nam have tried hard to make insurance work in the country, shown by their long but unsuccessful history with insurance.
- Structured questionnaire surveys with farmers have revealed several important insights into the effectiveness of insurance on the ground. Government compensation has still been an important means of relief and recovery from natural disasters in areas without insurance and to certain extent in areas with insurance mostly due to limited coverage of perils or limited damage coverage by the current insurance products.
- Responses did reflected the presence of mismatch between compensations, insurance pay outs and farmers expectations, and there was an interesting linkage with the way the insurance products are understood by farmers; a clear indication for the need to strengthen the public awareness programmes before enrolling into insurance schemes. In areas with insurance, the farmers have reported the presence of mechanisms to redress grievances but the response on these mechanisms was mixed with most rating it as unsatisfactory in the Philippines.
- The cost appeared to be the single most important determinant when buying insurance. Irrespective of whether the insurance is completely subsidised or not, the majority of respondents, whether currently participating in insurance or not, have preferred that the insurance be fully subsidised. The insurance payments were mostly either timely or timely enough to recover. Most farmers were not sure about the damage assessment procedures adopted by the insurance companies and were overwhelmed by the claim procedures. In areas where insurance is present, insurance did helped farmers to recover but the respondents felt that the insurance did not completely compensate their loss. Insurance did not completely stop most farmers borrowing from a formal lending institution or from family and friends after a disaster.

## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

#### (3) Major activities and outputs

- Organised a session on risk insurance in the Asia Pacific Policy Dialogue in New Delhi, India.
- Organised a session on risk insurance in the 3rd Asia Pacific Adaptation Forum, Incheon, Korea.
- Published APAN research report titled 'Scaling up risk financing in Asia and the Pacific region: Bottom-up lessons from agriculture insurance in Malaysia, Philippines and Vietnam'.
- Published a peer reviewed research paper on "Promoting Risk Insurance in Asia-Pacific Region: Lessons from the Ground for the Future Climate Regime under UNFCCC" in a book published by BaltCICA and Blackwell and Wiley.
- Published a peer reviewed research paper on financial innovations for risk reduction in WANA region in a book published by WMO, FAO and Springer.
- This work has contributed to preparing a project proposal for funding by APN, and successfully obtained a 2-year research project funded by APN starting from FY2013.

#### (4) Major Impact Created

- The study was able to bring the private sector, policy researchers and policy makers through organising science-policy dialogues and share lessons with the stakeholders. The results of the study were published as book chapters in the BaltCICA book as a case study from outside the Baltic Sea region which is a recognition in itself the importance of the risk insurance and emerging lessons from the Asia and the Pacific region. The study defined the status quo of risk insurance in agriculture sector and distinguished the barriers to disseminate the service.

#### (5) Major External Fund

- APAN Research Fund/ APAN (FY2012/ Total Amount: JPY1 million)

### d. Scientific Capacity Development of the Trainers and Policy Makers for Climate Change Adaptation Planning in Asia and the Pacific

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The overall objectives of this project were (i) to undertake appraisal of training needs in terms of knowledge and skill areas for effective adaptation; and (ii) to design training modules for imparting knowledge and skills for effective adaptation. Subsequent to developing the training modules, the training modules were pilot tested in Bangladesh and Cambodia, and the final modules were submitted to the APAN for broader dissemination. The draft modules were initially developed for five countries and pilot testing of modules were done in Bangladesh and Cambodia.

#### (2) Major Findings / Results

- Most importantly, all the project countries are at a nascent stage of capacity building for climate change adaptation with Bangladesh and Nepal at an advanced stage in terms of number of existing training programmes and capacity to implement capacity building programmes on climate change adaptation.
- A range of obstacles were identified that limit the introduction and expansion of training programmes on climate change adaptation. Some of these include lack of sufficient funds for training, lack of critical mass of trainers, lack of knowledge on what constitutes adaptation and

## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

how it is different from usual developmental planning, lack of specified mandate for many government officers to undertake project on climate change adaptation.

- In all countries, the national level policy setting played an important role in furthering the agenda of climate change adaptation. Documents such as National Adaptation Plan of Action are still the important source of information to identifying priority areas for capacity building. Hence, there is every need to make these assessments as accurate as possible, since all the national interventions are going to be aligned based on these documents.
- All country partners have developed training modules for entry level, mid - level and senior - level (policy makers) for induction and in - service training. For entry level staff, the focus was on introducing principles and operational aspects of climate change adaptation. For the mid - level staff, more technical aspects were introduced with high proportion of content on vulnerability and effectiveness assessment tools. For the senior staff at the policy level, the modules were focused mostly on policy areas, decision support tools, existing policies for climate change adaptation and on climate change negotiation skills.
- The pre- and post-training evaluations done during the pilot training programmes has revealed significant improvement in the knowledge on climate change adaptation among the trained officers.
- In addition to above, the following broad conclusions can be made from this activity:
  - Climate change adaptation is also an issue of capacity building and hence capacity building of key stakeholders is of paramount importance for promoting climate change adaptation in some of the most vulnerable sectors and countries in the Asia-Pacific region. Awareness generation and capacity building of policy makers is the key since they are crucial to bring change to various government-related processes and to the society at large.
  - There have already been several initiatives by various international and national agencies for training and capacity building of key stakeholders. Training and capacity building of various government staff and trainers in the region have been facilitated by both formalised systems consisting of induction and on-the-job training programmes, as well as ad-hoc training programmes that are conducted from time to time when resources are available. However, they are too few and inadequate in terms of their design and implementation.
  - The project has revealed the presence of training and capacity needs assessments for adaptation for priority sectors in some of the project countries. However, the nature and details of these training and capacity needs are not entirely related to climate change adaptation since many times the content related to disaster risk reduction is interchangeably used for that of climate change adaptation.
  - Formulation of draft training modules and pilot programmes should not be seen as an end but only as a beginning for creating an enabling environment for engagement of different stakeholders. Active and coordinated engagement of national and local governments and other stakeholders is crucial to regularise training and capacity building programmes in the Asia-Pacific region. However, piloting and scaling up of these initiatives require proactive participation of various stakeholders including the support from governments, NGOs, national and local institutions and donor agencies.

### (3) Major activities and outputs

- Authored one final report to APN (CBA2010-09NSY-Okayama)
- Authored two research reports on piloting of training modules for district and sub-district agriculture officers in Bangladesh and Cambodia.
- Desk review of existing training modules implemented by various government and nongovernment agencies in the field of climate change adaptation for agriculture sector.

## II. Report by each Group/Team

### C-3. Natural Resource Management Group: Adaptation

- Authored an article in a UNFCCC publication on capacity building.
- Conducted consultation meetings to identify priority subject areas for training.
- Questionnaire surveys were done to identify existing skill and knowledge areas and possible changes in the job functions of staff for handling work related to climate change adaptation.
- Conducted pilot training programmes for the grassroots functionaries in the agriculture departments of Bangladesh and Cambodia, and modified the training modules after evaluating these training programmes.

#### (4) Major Impact Created

- Contributed to local capacity building of climate change adaptation by developing and pilot testing the training modules for the agriculture sector. These modules will be used extensively as most stakeholders can adopt these and develop their own training programmes.

#### (5) Major External Fund

- CBA2010-09NSY-Okayama (FY2010-FY2011/ Total Amount: 3 million Yen)
- APAN Research Fund/ APAN (FY2012/ Total Amount: 1 million Yen)

### 3. List of Publications (See Annex)

## II. Report by each Group/Team

### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

#### Natural Resource Management Group: Biodiversity and Ecosystem services

##### 1. Overview as Group/Team

###### (1) Objectives and Goals / Targets

The IGES Fifth Phase Integrative Strategic Research Programme placed particular emphasis on the sustainable management of forests and freshwater as the focus of the Natural Resource Management Group. Payment for ecosystem services was also highlighted as a specific topic to be developed in relation to the area of biodiversity. The Fifth Phase was the first to specifically address the topic of biodiversity and ecosystem services, and thus its activities were undertaken jointly by a number of other groups such as EE and PMO as the “incubation” period.

Initially, the overall objective of this research was to help address the loss and degradation of biodiversity by designing innovative economic instruments to be applied internationally through conventions such as the Convention on Biological Diversity (CBD), as an addition to the biodiversity conservation already being undertaken by the CBD and other Multilateral Environmental Agreements through designation of protected areas and species.

Research objectives were:

- To identify policy measures including economic instruments to promote sustainable biodiversity conservation, and
- To clarify the cooperation mechanisms for biodiversity conservation in the use of economic instruments mainly in the CBD process.

In addition to this research, projects have been developed further during the Fifth Phase on issues such as biodiversity offsets, the sustainable use of biodiversity in production landscapes, and the mainstreaming of biodiversity in the business sector.

###### (2) Research Structure /Outline of Activities Conducted

Research on biodiversity and ecosystem services has involved a wide range of activities including literature reviews, interviews/questionnaire surveys with international, national and local experts, case studies on specific policy frameworks, as well as economic analyses. The Fifth Phase research can be organised into the following five main components.

- Collaborative activity with the International Partnership for the Satoyama Initiative  
IGES implemented a collaborative activity with the International Partnership for the Satoyama Initiative (IPSI) to illustrate the importance of the sustainable use of Socio-Ecological Production Landscapes and Seascapes (SEPLS).
- Policy Studies on Environmental Economics  
IGES conducted a three-year study on policy frameworks for internalising the value of ecosystem services into the economy, funded by a research grant from the Ministry of the Environment.
- Biodiversity offset methods and advanced policy frameworks  
IGES conducted various case studies on biodiversity offset frameworks and methods implemented abroad as input to the consultation processes for a potential introduction of biodiversity offsetting in Japan.
- Mainstreaming of biodiversity and ecosystem services among businesses  
IGES has investigated the level of engagement of businesses in the conservation and



## II. Report by each Group/Team

### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

sustainable use of biodiversity and ecosystem services as well as provided information on tools to measure and manage corporate impacts on biodiversity.

- Support to the implementation of the Convention on Biological Diversity  
IGES contributed to the processes of the convention on biological diversity through assisting the organisation of the CBD/COP 10 in Nagoya, Japan in 2010. At the end of the Fifth Phase, IGES also conducted the Mid-term review of the Japan Biodiversity Fund managed by the CBD.

#### (3) Major Outputs in the Context of Policy Impact

- Contribution to the successful hosting of the CBD/COP10 in Nagoya, Japan
- Promotion of the sustainable use of Socio-Ecological Production Landscapes and Seascapes (SEPLS) through the International Partnership for the Satoyama Initiative (IPSI)
- Provision of concrete case studies on the application of the economics of ecosystems and biodiversity in Japan
- Inputs to decision-making processes on introducing biodiversity offset frameworks into the revision of the Japanese Environmental Impact Assessment Law
- Provision of the study results of The Economics of Ecosystems and Biodiversity (TEEB) to a Japanese audience through the IGES website
- Mapping of tools, indicators, and certification systems to identify business impacts on biodiversity and ecosystem services

#### (4) Self Evaluation

The overall experience of the Fifth Phase has been positive, with a growing number and diversity of research activities on the conservation and sustainable use of biodiversity over the three years. Although a number of new funding opportunities arose on an ad hoc basis, creating difficulties for the planning of biodiversity related activities, it has been possible to accommodate new tasks and to successfully produce required outputs thanks to effective collaborations with other research groups within IGES. The Fifth Phase has served as a successful incubation period for the biodiversity team which has evolved into a full-fledged team within the NRM. Through the Fifth Phase activities, we have been able to produce outputs which are expected to provide positive impacts to a wide range of stakeholders, including developing country members of the Satoyama Initiative involved in land use and management, private sector actors working for biodiversity in Japan, Japanese policy practitioners requiring insight on advanced policies implemented abroad, and multilateral agencies such as the CBD. The continuation of these activities in the Sixth Phase will ensure further engagement with the stakeholders and is expected to lead to an increased presence of IGES in the field of biodiversity policy research.

## 2. Reports by Research Component

### a. Collaborative activity with the International Partnership for the Satoyama Initiative

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

During the IGES Fifth Phase, a Collaborative Activity entitled “Exploring options to integrate the Satoyama Initiative within policies and decision-making processes” was conducted with the International Partnership for the Satoyama Initiative. The aim was to promote the real-life

## II. Report by each Group/Team

### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

application, recovery, or maintenance of sustainable practices observed within various Socio-Ecological Production Landscapes and Seascapes (SEPLS) around the world, and to provide inputs to the development of future IPSI Strategic Plans based on its research findings, especially on options to integrate the Satoyama Initiative within policies and decision-making processes.

To achieve these objectives, IGES, in collaboration with the IPSI Secretariat and members, conducted the following activities:

- Sharing research outcomes on how policies can best integrate or promote the concept of the Satoyama Initiative based on various case studies and through discussions in relevant IPSI related meetings/workshops;
- Communicating with diverse IPSI members to identify the background, factors and policies that support the sustainable use of SEPLS;
- Incorporating discussions and comments from various stakeholders of IPSI into final research findings and policy recommendations;
- Organising an IPSI related meeting/workshop and parallel session at the ISAP2012 to deepen discussions on options to integrate the Satoyama Initiative within policies and decision-making processes in line with the IPSI Strategy, by inviting key stakeholders of IPSI;
- Disseminating research findings and policy recommendations based on various case studies and arising from the IPSI Collaborative Activity through IGES partners and other relevant networks.

#### (2) Major Findings / Results

- The sustainable use of Socio-Ecological Production Landscapes (SEPLS), which is a key concept of the Satoyama Initiative, links to the objectives of the Convention on Biological Diversity, and contributes both directly and indirectly to the achievement of the 2020 Aichi Biodiversity Targets and the implementation of the Strategic Plan for Biodiversity 2011-2020.
- The Satoyama Initiative case studies have illustrated a number of important measures for the sustainable use of SEPLS. These included establishing local management structures to allow the representation and coordination of direct resource user's interests, strengthening multi-stakeholder partnerships in resource management, strengthening the capacity of local communities to maintain ecological functions through the conservation of biodiversity within production areas, protecting and restoring cultural and historical landscapes which harbour agrobiodiversity, ensuring benefits to direct resource users by valuing cultural and ecological landscapes and providing incentives for their protection, and assisting local farmers in knowledge management and consolidation of traditional practices through technical and institutional support.
- By promoting the implementation of these activities in a locally appropriate manner, the Satoyama Initiative can bring about proper recognition of the value of traditional knowledge systems as well as participatory resource management for the maintenance of ecological functions within production landscapes and seascapes.
- Based on the findings, IGES produced the Satoyama Initiative Factsheet as dissemination material on the benefits of the initiative for the sustainable use of biodiversity, and a policy paper on the contributions of the Satoyama Initiative to mainstreaming the sustainable use of biodiversity in production landscapes and seascapes.

#### (3) Major Impact Created

- At the International Forum for Sustainable Asia-Pacific 2012 (ISAP2012), an ISAP Parallel Session entitled "The Satoyama Initiative and Resilience – Pathways to a Sustainable Society -",

## II. Report by each Group/Team

### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

and an Expert workshop entitled “Promoting understanding of the Satoyama Initiative and supportive policies and frameworks to promote socio-ecological production landscapes” were jointly organised by IGES and IPSI. They served as an occasion to disseminate information on the benefits of this initiative for biodiversity, and to discuss its contributions to building a resilient society with the wider public.

- At the IUCN World Conservation Congress, IGES members participated in side events hosted by the Satoyama Initiative which served as an occasion to interact with a wider range of stakeholders related to landscape management.
- At the 11th Meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD/COP11), IGES members participated in the Satoyama workshop hosted the IPSI secretariat, and provided inputs to the discussions. The Satoyama Initiative Factsheet, produced by IGES based on case study results to introduce the Satoyama Initiative and its contributions towards the achievement of the Aichi Targets, has been distributed at COP11.

#### (4) Major External Fund

- IPSI Collaborative Activity, UNU-IAS, JPY10.5 million (2012)

### b. Policy Studies on Environmental Economics

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This study led by the EE group in collaboration with external partners has been conducted in two phases, of which the first was a three-year study on the “Policy options to internalise the economic value of ecosystem services towards their sustainable use”. This study was centred on the economic valuation of ecosystem services as a basis for the internalisation of this value into the economy, and focused on payment for ecosystem services, REDD, biodiversity offsets to quantitatively evaluate their economic efficiency and to explore effective policies for their implementation. This study consisted of the following sub-topics.

- Sub-topic 1. Economic analysis of ecosystem services at Asian and Global scales  
The socioeconomic impact of policies for the sustainable use of ecosystem services was analysed using a CGE model, together with an estimation of the appropriate pricing for PES and REDD schemes. The efficiency and frameworks of biodiversity offset schemes were also considered based on experimental economics. Additionally, analyses were conducted on the linkages between people’s willingness to pay (WTP) for ecosystem services and their level of happiness, the temporal and spatial discount rates of WTP, the influence of forest ecosystems on GDP growth, and financial mechanisms of REDD+. A portfolio analysis on ecosystem restoration was conducted, and priority ecosystems were identified.
- Sub-topic 2. Economic valuation of ecosystem services  
The economic value of Kabukuri swamp in Miyagi prefecture and Yanbaru region of Okinawa prefecture were measured, based on which a nation-wide survey was conducted to evaluate the effectiveness of biodiversity conservation at the national scale. These served as a basis to consider the cost-effectiveness of different conservation measures.
- Sub-topic 3. Policy options for financing biodiversity through market mechanisms  
Case studies and comparative analyses were conducted on various frameworks for PES and

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### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

biodiversity offsets in countries such as the US, Costa Rica and Australia, in order to consider possible application in Japan.

- Sub-topic 4. Domestic policies for the payment for biodiversity and ecosystem services  
Domestic PES-like schemes in the field of forest and agricultural management were investigated, including payment schemes for water catchment forest conservation through water bills, and direct payment schemes for environmentally sustainable agriculture. The study also explored the challenges associated with the introduction of PES schemes in Japan, and the need for a broader scale comprehensive policy for the sustainable use of ecosystem services based on national and local biodiversity strategies and action plans.

The second phase of the Policy Studies on Environmental Economics (2012~) is an on-going project on “the development of comprehensive indicators for a high-quality and sustainable life”. It consists in the investigation and comparative analysis of domestic and international sustainability and happiness indicators, as well as analyses for the fine-tuning of existing sustainability indicators such as Genuine Savings (GS). It also comprises analyses for the economic valuation of natural capital based on happiness indicators, and the integration of the Better Life Index. This study will further explore the possible uses of such indicators within decision-making processes.

#### (2) Major Findings / Results

- The challenges for introducing PES in Japan have been highlighted through considerations on advanced schemes implemented overseas such as in Costa Rica, as well as on domestic PES-like schemes. In combination with qualitative analyses, PES was also analysed quantitatively through a CGE model to determine the appropriate price of the payments.
- REDD pricing was also analysed by applying the CGE model to Indonesia. The REDD framework is attracting global interest as REDD+, and thus the study focused on its most recent developments as well as the resource needs for its implementation.
- The economic efficiency of biodiversity offsets was demonstrated using experimental economics, and concrete recommendations were made on its design. In addition to such economic models, comparative analyses on existing schemes such as biodiversity offset banking in the US and Australia have been conducted to outline the challenges for their introduction to Japan.

#### (3) Major Impact Created

In order to widely disseminate the knowledge accumulated through this study, the research findings were communicated on numerous occasions:

- In 2010 and 2011, sessions were organised at the Annual Meeting of the Society for Environmental Economics and Policy Studies to present the progress and findings of this study.
- The 10th Conference of the Parties to the Convention on Biological Diversity (CBD-COP10) served as an opportunity to disseminate the policy implications of the valuation of ecosystem services through side events.
- Books have also been published both in Japanese and English on the results of this study in order to disseminate them to a wider audience.

#### (4) Major External Fund

- Policy Studies on Environmental Economics, MOEJ, JPY 100 million (2009-2011)
- Policy Studies on Environmental Economics, MOEJ, JPY 1.5 million (2012)

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### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

#### c. Biodiversity offset methods and advanced policy frameworks

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Throughout FY2010 to FY2012, IGES has continued to implement the following studies in order to examine a suitable offset policy for future introduction in Japan.

- Investigation of biodiversity offset methodologies and country case studies (in the United States, Canada, Australia, Germany, France, the Netherlands, UK, and others) through interviews with key stakeholders and desk reviews
- Review of methodologies for the selection of appropriate offset sites using spatial optimisation techniques

##### (2) Major Findings / Results

- In 2010, IGES conducted research on biodiversity offset methodologies and country case studies in the United States, Australia, and Germany, with a focus on the legal foundation of existing biodiversity offset frameworks as well as the concrete procedures required for their implementation.
- In 2011, IGES conducted research on biodiversity offset methodologies and country case studies in France and the Netherlands following the study framework of the previous year, and acquired further information on the details of different biodiversity offset schemes and the challenges encountered in their implementation.
- In 2012, IGES conducted a review of the more detailed quantification methods of biodiversity offsets which are being applied in the United States, Australia, Germany, France, Netherlands, UK, Switzerland and others, as well as a review of spatial optimisation methods which could be used for the selection of appropriate offset sites.

##### (3) Major Impact Created

- Based on the research on biodiversity offset mechanisms in different countries, IGES succeeded in providing a background paper which was critical for the members of the Committee on technical considerations on key issues under the Environmental Impact Assessment Law to discuss the possibilities for the development of a Japanese policy on biodiversity offsets.
- Particularly, IGES research provided valuable information on biodiversity offset mechanisms in France, the Netherlands, UK, Switzerland and Canada, where up-to-date research on biodiversity offsets is limited, especially in a form that is accessible to the Japanese audience.
- The detailed information collected through this study raised important issues to be considered in order to develop biodiversity offset mechanisms in Japan, such as the challenges that could be caused by basing the biodiversity offset schemes only on the Environmental Impact Assessment Law due to the limited extent to which this law can address biodiversity issues.

##### (4) Major External Fund

- MOEJ commissioned work "Research on Biodiversity Offset Policies" (FY 2010-2012/ total amount: JPY 12,000,000)

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### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

#### d. Mainstreaming of biodiversity and ecosystem services among businesses

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

In order to promote the conservation of biodiversity and ecosystem services within the business sector, IGES has continued to investigate private sector engagement in evaluating and managing the impacts of corporate activities on biodiversity and ecosystem services during the Fifth Phase. This has included following up on international initiatives for business and biodiversity, and related activities such as The Economics of Ecosystems and Biodiversity (TEEB), as well as business initiatives within Japan.

##### (2) Major Findings / Results

- In 2010, IGES translated the reports from The Economics of Ecosystems and Biodiversity (TEEB) and published the Japanese reports on the IGES website.
- In 2011 and 2012, IGES conducted research on mainstreaming biodiversity among businesses, including the mapping of business impacts on biodiversity and ecosystem services, and the gathering of information on tools, indicators, and certification systems to identify impacts on biodiversity and ecosystem services through interviews during the IUCN World Conservation Congress and the 11th Meeting of the Conference of the Parties to the CBD (COP11).
- In 2012, IGES became a member of the committee on business and biodiversity within the International Standard Innovation Technology Research Association (IS-INOTEK) and conducted research on good practices on business and biodiversity in Europe and the US through interviews.

##### (3) Major Impact Created

- The provision of the Japanese translations of the TEEB reports promoted awareness and deeper understanding among business groups and other stakeholders on the importance of TEEB and the possibilities for applying its methodologies. Many Japanese institutions and business groups have requested to use the link to the IGES's TEEB webpage since its development.
- Through our research, the impacts on biodiversity and ecosystem services caused by each business sector became more visible. At the same time, the surveys conducted with Japanese companies revealed the status of Japanese business activities related to the management of biodiversity and ecosystem services.
- IGES also provided information on a selection of cutting edge business activities, tools, guidance and indicators to identify business impacts on biodiversity and ecosystem services and to plan for future actions. This information is available on the MOEJ's website.
- Through the research conducted together with IS-INOTEK and its business members, IGES was able to expand its network on business and biodiversity with international institutions and NGOs, and to create a good working relationship with business groups, which is expected to become essential for further work in this field.

##### (4) Major External Fund

- MOEJ commissioned work "Research on Mainstreaming Biodiversity among Businesses" (FY 2011-2012/ total amount: JPY 5,000,000)
- MOEJ commissioned work "translation and editing of TEEB reports" (FY 2010/ JPY 950,000)
- UNEP-TEEB commissioned work "organization of a side event to launch the TEEB reports" (FY 2010/ JPY 2,000,000)

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### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

#### e. Support to the implementation of the Convention of Biological Diversity

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

During the CBD/COP10 held in Nagoya, Japan in 2010, IGES supported the Ministry of the Environment of Japan (MOEJ) in the preparations and analyses of documents required for the negotiations. At the same time, IGES supported the compilation of the contents of the discussions and played a vital role for the organisation of information within the MOEJ towards the agreement on the outcomes of the COP10.

At the end of the Fifth Phase, IGES also conducted the Mid-term Review of the Japan Biodiversity Fund (JBF) managed within the Secretariat of the CBD (SCBD), with the aim of ensuring effective use of the JBF. Through interviews and desk-reviews, IGES conducted this review with focus on the effectiveness of the JBF in supporting developing countries to build capacity for the implementation of the Strategic Plan for Biodiversity 2011-2020. Based on the experiences accumulated over the last two years and lessons learnt on the management of the JBF, IGES also compiled recommendations towards the SCBD on increasing future more effectiveness in the implementation of activities under the JBF.

##### (2) Major Findings / Results

- During the CBD/COP10 held in Nagoya in 2010, IGES prepared and analysed documents required by the MOEJ for the discussions of the CBD/COP10, which include production of 100 copies of “the briefing paper for CBD/COP10”. IGES also attended various meetings and press conferences and produced reports based on the collected information in both English and Japanese where necessary. IGES supported the plan and organisation of three side events including the “Aichi Target”, “The Economics of Ecosystems and Biodiversity (TEEB)” and “Evaluation/Indicators of Biodiversity”, a collection of relevant information in related 88 side events and the production of report on these side events. IGES also translated related materials into English and Chinese. The information collected and the networks developed during the CBD/COP10 have served as an important basis for the establishment of the Biodiversity team within IGES and for exploring further projects on Biodiversity and Ecosystem Services.
- The CBD/COP10 also served as an opportunity for IGES to establish communications with stakeholders in the field of Biodiversity, such as through the signing of an MOU with the SCBD.
- Based on the past two years’ experiences and lessons learnt on the management of the Japan Biodiversity Fund within the Secretariat of the CBD (SCBD), IGES compiled recommendations for future improvements in effectively applying the JBF for capacity building in developing countries towards the implementation of the Strategic Plan for Biodiversity 2011-2020.
- The Mid-term review of the Japan Biodiversity Fund (JBF) contributed to strengthening the relationship between the SCBD and IGES, and to demonstrating concrete collaborations as agreed under the MOU signed between these two organisations. At the same time, IGES has succeeded in establishing better communication with the SCBD through this mid-term review of the JBF, which could be a basis for further collaborations. Furthermore, within IGES, and in particular within the Biodiversity team, the activities carried out for the Mid-term review of the JBF have served as a role model of collaborations with members of other teams to complete an important project with international institutions in a limited time frame.

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### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

#### (3) Major Impact Created

- The information collected and the reports produced before and during the CBD/COP10 served as an important basis for the Japanese government to lead the negotiations of the CBD/COP10 as the chair of the conference.
- The Mid-term review of the Japan Biodiversity Fund (JBF) proposed concrete actions that the secretariat of the JBF would be able to take and contributed to improving effectiveness, relevance, sustainability and efficiency of implementation of JBF activities. The Mid-term review also helped the secretariat of the JBF to acquire a better understanding of challenges and opportunities for further operations and to consider possible actions to take for the future.
- Furthermore, the Mid-term review of the Japan Biodiversity Fund (JBF) helped the donor of the fund, the Ministry of Environment of Japan, to understand the impacts of the fund and also largely contributed to the development of capacity building strategies within the secretariat of the CBD.

#### (4) Major External Fund

- MOEJ, Support for the organisation of the CBD/COP10 (FY 2010/ total amount: JPY 20 million)
- SCBD, Mid-term review of the Japan Biodiversity Fund (FY2012-2013/ total amount: JPY 8 million)

### 3. List of Publications

#### International Partnership for the Satoyama Initiative

- Brochure: Satoyama Initiative Factsheet, 09/2012
- Satoyama Initiative policy paper: "Contributions of the Satoyama Initiative to Mainstreaming Sustainable Use of Biodiversity in Production Landscapes and Seascapes" 03/2013

#### Policy Studies on Environmental Economics

- Commissioned research report: "PSEE study on policy options for economic internalization of the value of ecosystem services for their sustainable use" 03/2010, 03/2011, and 03/2012
- Commissioned research report: "PSEE study on indicators for sustainability and high quality of life" 02/2013
- Book: Managi, S., (ed.) 2011, The Economics of Biodiversity: Economic Valuation and Policy Analysis, Showado (In Japanese)
- Book: Managi, S., (ed.) 2012, The Economics of Biodiversity and Ecosystem Services, Routledge Explorations in Environmental Economics
- Article: Ota, T. and Hayashi, K. (2010) 'Comparative analysis of the determining factors that define service area perimeters of conservation banks in California', papers on Environmental Information Science, 24: 255-260.
- Article: Yagi, M. and Managi, S. (2011) 'Catch Limits, Capacity Utilization and Cost Reduction in Japanese Fishery Management', Agricultural Economics 42, (5): 577-592.

#### Business and Biodiversity

- Commissioned research report: "Study on private sector actions for the conservation of biodiversity and outreach measures for its promotion" 03/2012 and 02/2013
- Commissioned research report : "INOTEK sustainable resource use working group research report" 03/2013



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### C-4. Natural Resource Management Group : Biodiversity and Eco-systems services

- Commissioned translation reports: “The Economics of Ecosystems and Biodiversity (Foundation; in National and International Policy Making; in Local and Regional Policy; in Business and Enterprise; and Mainstreaming the Economics of Nature) 09/2011

#### Biodiversity Offsets

- Commissioned research report: “Research on biodiversity impact assessment and offset methodologies” 03/2011, 03/2012, and 03/2013
- Commissioned handbook: “Biodiversity impact assessment and offset methodologies (tentative)” In Progress

#### Implementation of the CBD

- Commissioned review report : “Mid-term Review of the Japan Biodiversity Fund Activities – Draft report based on desk review” 03/2013
- Commissioned report: “Report on CBD/COP10 support activities” 03/2011
- Commissioned report: “Report on Lessons learnt from CBD/COP10” 03/2011

#### D. Sustainable Consumption and Production Group

##### 1. Overview as Group

###### (1) Objectives and Goals / Targets

The goal of IGES Sustainable Consumption and Production (SCP) group was to contribute to the development of sustainable patterns of consumption and production in the Asia-Pacific region. Special attention was given to the use of raw materials (physical resources), the flows of materials through society, and the environmental impacts associated with these flows. The research of the SCP group was based on life-cycle thinking and explored how actors, institutions and policies can influence society's utilisation of materials and make it more sustainable. It aimed to identify and advocate effective measures to be taken at local, national and regional levels.

###### (2) Research Structure /Outline of Activities Conducted

The research and other activities of the SCP group were structured as four separate but closely related components:

- Sustainable Consumption in Developing Asia

This component addressed sustainability challenges associated with rapidly changing patterns of consumption in developing Asia. It reviewed current policy frameworks in the region, networked extensively at the global level to learn from experiences in other regions and to stay informed on the latest research on consumer behaviour, and conducted capacity development for national governments. One research project explored ways to overcome barriers to energy-efficient housing in rapidly developing Asian countries.

- Governance for Sustainable Resource Circulation in Asia

This component focused on how to achieve a systematic implementation of resource circulation and waste management policies in Asia. The three focus themes were: 1) improved governance for policy implementation of resource circulation and waste management, 2) assessment of social, economic and environmental impacts and trade-offs of different national resource circulation and waste management, and 3) implication of international resource circulation in Asia.

- Sustainable Waste Management with Multiple Benefits

This component explored how local approaches and adapted technologies for waste management can generate environmental improvements as well as local development benefits. It aimed to identify feasible options for local governments to minimise waste generation and to improve recycling and waste management. It combined field research and analysis of GHG emissions from waste treatment systems with on-the-ground projects, training, and facilitation of South-South collaboration.

- Chemicals Management for Sustainable Product and Material Life-cycles

This component focused on information management systems on chemicals in products. It explored benefits of such systems and preconditions for successful implementation. It concentrated especially on challenges associated with recycling of electronics and the role of information systems for improving these operations. The research contributed to a UNEP-led global project on chemicals in products.

###### (3) Major Outputs in the Context of Policy Impact

- UNEP's Global Outlook on SCP Policies

IGES wrote the Asia Pacific chapter of this global review of policies and other initiatives. That chapter was the

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### D. Sustainable Consumption and Production Group

background paper for the 10th Asia Pacific Roundtable on SCP, and the whole report was one of the background documents for the Rio+20 Conference.

- **UNEP's Resource Efficiency: Economics and Outlook for Asia and the Pacific**  
This ground-breaking report on resource issues in the region was written by CSIRO (Australia) in collaboration with Chinese Academy of Science, IGES, and TERI (India). It reviews the current resource use situation, presents future scenarios, and discusses possible policy responses.
- **A series of policy reports, journal papers and policy briefs on sustainable management of organic waste in developing Asia**  
This research is based on literature reviews, field visits, quantitative analysis of greenhouse gas emissions, pilot projects, and extensive consultations with experts, policy makers, and practitioners. It has received significant attention from international organisations, governments at different levels, and professional bodies, such as ISWA. The findings have been published in Thai, Khmer and Lao languages and used in training sessions for local government officials and other stakeholders.
- **UNEP's Fifth Global Environment Outlook (GEO-5)**  
IGES/SCP was lead author for the chemicals and waste theme of the Asia Pacific chapter.
- **A series of publications on Extended Producer Responsibility (EPR), including a policy report, a policy brief and a journal paper**  
This research, which is based mainly on policy reviews, and interviews with experts and government officials, has been well received both academically and from the policy community. As a follow-up, IGES was invited to support one major country in Asia in their development of EPR policies.

#### (4) Self Evaluation

Over the three years the SCP group existed it built up a strong international reputation in all its four focus areas. It was successful in fundraising and could therefore expand the team from six to ten members. It produced a large number of papers and reports with a good balance between publications aimed at policy makers and academic output. The team members were networking actively and substantially involved in several policy forums, often as invited presenters or session chairs. The strong recognition of the group's work is reflected in the following achievements:

- A large number of contracts from various funding sources, mainly from the Japanese government but also from international organisations, including UNEP, ADB and UNESCAP.
- Invited to contribute as authors and lead authors to high-profile publications, such as UNEP's Fifth Global Environment Outlook (GEO-5) and UNEP's Global Outlook on SCP Policies
- Invited as members of government committees, and steering groups and expert bodies of international programmes
- A series of policy reports on energy-efficient housing are to be co-published with ADB

## 2. Reports by Research Component

### a. Sustainable Consumption in Developing Asia

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This component addressed sustainability challenges associated with rapidly changing patterns of consumption in developing Asia. It reviewed current policy frameworks in the region, networked extensively at the global level to learn from experiences in other regions and to stay informed on the latest research on consumer behaviour, and conducted capacity development for national governments. One research project explored ways to overcome barriers to energy-efficient housing in rapidly developing Asian countries. The three main objectives were:

(i) to understand patterns of consumption, identify barriers to sustainable consumption and recommend approaches that address the dichotomy of existence between the emerging consumer class and remaining pockets of poverty; (ii) to promote government policies that can enable appropriate infrastructure and systems innovation in order to facilitate sustainable consumption in developing Asia; and (iii) to study sustainable initiatives that are indicative of a new paradigm of development, where increase in well-being is decoupled from environmental degradation and resource consumption.

#### (2) Major Findings / Results

- Most countries in Asia have SCP to some extent reflected in their national strategies. However, mainstreaming is usually insufficient and implementation often weak.
- The SCP policy concept has mainly been developed in Europe and North America. When applied to low-income countries in Asia it needs to be adapted to address not only high-end consumption with high environmental impacts but also poverty.
- Current policy approaches are to a high extent based on the idea that individual consumers can, through their buying decisions, shift production systems and value chains towards sustainability. However, experience shows that this model has serious limitations and that there is a strong need for collective decision-making and public policy.
- Despite rapidly growing numbers of middle-class consumers in many Asian countries there is still a wide-spread reluctance amongst policy makers to acknowledge the need for changes in consumption patterns.
- Many traditional Asian practices with high sustainability potential, such as use of local renewable materials and repair of broken products, are rapidly decreasing and there are few policy-led initiatives to promote the continuation of such practices.

#### (3) Major Impact Created

- Establishment of an ASEAN SCP Forum. IGES/SCP proposed the establishment of this policy forum and wrote the concept note.
- Founding members of the Global Research Forum on SCP (GRF). IGES/SCP was one of the proponents behind this initiative, which held its inaugural meeting in Rio de Janeiro just before the Rio+20 Summit.
- Repeated invitations to contribute to UNEP's work on SCP, including to write the Asia Pacific chapter of the Global Outlook on SCP policies, and to support the development of a UNEP Strategy on Sustainable Consumption.

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### D. Sustainable Consumption and Production Group

- Direct inputs to major international policy processes, including contribution to background papers and making interventions at high-level segments of CSD, Rio+20, and regional implementation meetings
- Contributed to strategic programme development and implementation in partnership such as the EU SWITCH-Asia, and the international SCP 10-year framework.

#### (4) Major External Fund

- UNEP/SWITCH Asia, FY2011, SCP Capacity needs assessment, USD160,000
- ADB, FY2011-2013, Energy efficient housing, USD175,000

### b. Chemicals Management for Sustainable Product and Material Life-cycles

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This component focused on the role of information systems in enabling sound management of chemicals in products. It explored benefits of such systems and preconditions for successful implementation. It concentrated especially on challenges associated with recycling of electronics and the role of information systems for improving these operations. The research contributed to a UNEP-led global project on chemicals in products, both by contributing to reports and by being a member of the steering group. Its objectives were formulated as follows:

(i) to suggest improvement of management systems and policies for safe handling of chemicals in products; (ii) to explore better information system for the end-of-life treatment through proper recycling and waste treatment; and (iii) to facilitate regional cooperation for sustainable resource circulation integrated with sound management of hazardous chemicals.

#### (2) Major Findings / Results

- There is currently a lack of effective systems for compiling information on chemicals in electronic products and for providing this information to recyclers and waste managers. Although some advanced countries have legislations that require such information to be made available, this does not always happen in practice.
- The weak information provision to recyclers is part of a broader problem of disconnect between producers and their supply chains on the one side and the end-of-life treatment community on the other. The solution to improved transfer of information on chemicals seems to lie in closer communication and deepened collaboration between the upstream and the downstream actors. This could be achieved through changes in the way EPR legislations are designed and implemented.
- Many countries in Asia have some form of certification scheme or standards for recycling facilities. However, the scope and the level of ambition of these systems vary widely and enforcement is often weak. A region-wide certification scheme, linked with a financial incentive, seems promising and further studies on how such a system could be operationalised are recommended.

#### (3) Major Impact Created

- Based on the research in this component the group contributed to a policy report on chemicals in electronics, published by the Nordic Council.

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### D. Sustainable Consumption and Production Group

- The group is representing the Asia Pacific region in the steering group of UNEP's project on chemicals in products (one of the emerging issues identified under SAICM) and in this position, the group had the opportunity to provide research-based input directly into that policy process.
- Research findings on certification systems for responsible recyclers were presented and well received in discussions on Environmentally Sound Management (ESM) under the Basel Convention.

#### (4) Major External Fund

- MOEJ, Kakenhi, FY2010, Recycling information sharing systems (RISS), JPY6,700,000/yr
- MOEJ, Suishinhi, FY2011-2012, Recycling certification in Asia (ReCA), JPY9,687,000/yr

### c. Governance for Sustainable Resource Circulation in Asia

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This research component aims: (i) to promote systematic implementation of resource circulation and waste management policies for sustainable consumption and production in developing Asian countries, and (ii) to come up with policy-relevant advice on improved governance of sustainable circulation in Asia by facilitating exchange of experts on nationally specific and theoretical knowledge created by international collaborative research on resource circulation and waste management policies. The three focus research themes were: 1) improved governance for policy implementation of resource circulation and waste management, 2) assessment of social, economic and environmental impacts and trade-offs of different national resource circulation and waste management, and 3) implication of international resource circulation in Asia.

To conduct policy research, both policy support activities (supporting 3R policy development in Viet Nam and Malaysia) at national level, actions were carried out to engage in international policy processes such as Regional 3R Forum in Asia and UNEP Resource Panel, and to carry out several international collaborative research projects both from a qualitative and quantitative approach (including economic modeling and MFA) within IGES (mainly collaboration with EE Group and KUC) and other research institutes (IDE-JETRO, CSIRO, University of Malaya, AIT etc.). Some of the research findings were shared at advisory committees of Ministry of the Environment of Japan.

#### (2) Major Findings / Results

- To effective policy implementation for sustainable resource circulation, this component proposed "phase-in approach" which gradually shift from "improvement of materials recovery and capacity development", "internalisation of environmental externalities", to "promotion of design for the environment and decoupling". This concept was applied both for the discussion on application of Extended Producer Responsibility in Asia as well as for the direction of international cooperation for sustainable resource management.
- Through comparative analysis of Japan, China, Malaysia, Thailand, Viet Nam, Taiwan and the Philippines, opportunities for improved governance for policy implementation of resource circulation and waste management were identified. The result will be published in the book titled "waste as a resource" by Royal Society of Chemistry in UK.

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- In collaboration with research institutes from developing Asia, the research project called “Asia Resource Circulation Policy Research” was conducted. The 1st phase research (FY 2009-2011) covered identification of climate benefit of the 3Rs for organic waste management, role of informal sector in the 3Rs, agricultural waste and the 3Rs, improved governance and 3R policy implementation through collaboration between central and local governments, improved e-waste management and secondhand goods, or policy challenges of technology transfer of 3R technologies. The result was shared at an open seminar in February 2012 with various media coverage. The 2nd Phase was started in FY 2012 with focus on 3R policy indicators, recycling industrial development in GMS countries and reduction policy,
- This component participated in an international collaborative research led by UNEP and CSIRO resulted in publication of “Resource Efficiency: Economics and Outlook for Asia-Pacific” (UNEP 2011) which showed resource use pattern in the region from 1970 up to 2050. The report indicated that the amount of resources required to generate one unit of gross domestic product (GDP) in the AsiaPacific region is on the rise, resulting in a shift towards a less resource efficient economy over the last two decades, indicating the need for more policy attention on promoting a resource efficient development pattern.
- Through collaboration with EE group and researchers from University of Tokyo and others, quantitative analysis of sustainable resource circulation and management was conducted from FY 2009-2011. The research, for example, confirmed with quantitative analysis that multilateral collaboration for sustainable resource management is more effective than a unilateral approach and proposed an international fund for sustainable materials management to redistribute the benefit of such multi-lateral approach. The research results were highly evaluated by an external evaluation panel. The 2nd phase started in FY 2012 and developed a methodology of sustainability assessment of recycling systems.

#### (3) Major Impact Created

- This component has contributed to the Regional 3R Forum in Asia by forming a network of researchers, providing background papers and others. For example, IGES organised an expert group to support the discussion on 3R policy indicators and presented nine types of factsheets and background papers for the 4th Regional 3R Forum in Asia.
- IGES supported both the Malaysian government and the Viet Nam government to develop national strategy on food waste management in Malaysia and 3R programmes in Viet Nam by starting from needs assessment and formation of advisory expert groups to these governments.
- IGES has supported the dissemination of research results from UNEP’s resource panel. In 2012, the UNEP resource panel’s first meeting in Asia was organised in Tokyo and co-hosted by IGES. IGES is now under discussion with UNEP/DTIE to sign an MOU for supporting research activities for UNEP Resource Panel.
- IGES continues to conduct research and advocacy on resource efficiency and was invited to a public hearing process of European Parliament on resource efficiency policy as well as a policy dialogue between Germany and Japan on resource efficiency policy organised by Japan-Germany Berlin Center.

#### (4) Major External Fund

- Asia Resource Circulation Programme/ Ministry of the Environment of Japan (MOEJ) (FY 2010-2012/total amount JPY87 million)
- UNEP Resource Panel Support Programme/ MOEJ (FY 2010-2012/total amount JPY32 million)

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### D. Sustainable Consumption and Production Group

- Sub-component of Policy Studies on Environmental Economics/MOEJ (together with EE Group) (FY 2010-2012/JPY31 million)

#### d. Sustainable Waste Management with Multiple Benefits

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This component explored how local approaches and adapted technologies for waste management can generate environmental improvements as well as local development benefits. It aimed to identify feasible options for local governments to minimise waste generation and to improve recycling and waste management. It combined field research and analysis of GHG emissions from waste treatment systems with on-the-ground projects, training, and facilitation of South-South collaboration.

##### (2) Major Findings / Results

- The 3Rs (reduce, reuse, recycle) is an affordable approach for developing countries in achieving a sustainable solid waste management that generates multiple benefits. A certain amount of impact on greenhouse gases and the environment can be generated through the recycling system. However such impacts are much lower than open dumping, landfill and incineration. A good example is a recycling business that widely practices in developing countries (e.g. China, Thailand, India, Malaysia) that operates using the private sector which can be significant in generating income for various groups of people in society including the poor, residents, entrepreneurs and local governments. However, government intervention is required to enhance the sustainable practice of recycling business. For instance, environmental control is required to minimise environmental impacts.
- Improved solid waste management can significantly contribute to various national agendas in developing Asia including food security, alternative energy, health and environmental safety and climate change mitigation. However, most local governments, in particular for least developing countries, do not have the capacity to shift from the conventional open dumping and burning due to budget and personnel constraints. Hence, international support is required and the technology transfer in the form of North-South-South Cooperation is more appropriate to ensure adoptability and sustainability of the implementation. Furthermore, local stakeholders' engagement in the project on decision-making and implementation is important to ensure its success. A good example is the cooperation among IGES (Japan), Thailand and Cambodia in promoting organic waste separation at source for composting which can significantly reduce greenhouse gas emissions from landfill of organic waste and improve the cleanliness of the city.
- Amongst many waste treatment technologies that are implemented in developing Asia, organic waste utilisation technologies such as anaerobic digestion, composting and animal feed is more climate friendly than landfill gas recovery and incineration with thermal recovery (based on a lifecycle analysis). In practice, it is not possible to separate all organic waste from the waste stream, so an integrated waste management practices is recommended. A mechanical-biological pretreatment is an alternative for reducing environmental load of landfill and reducing energy use for incineration.
- Most governments in developing countries do not understand the linkage between waste and climate change. Specific guides for each country (in the local language) are essential to increase awareness of the relevant government. Intensive training workshop in the local language is effective to encourage local governments to invest on improved municipal solid waste for climate change mitigation and other benefits (e.g. job creation). A good example is the publication of national guides and national capacity building workshops for national and local governments in Cambodia, Lao PDR and Thailand that have received great attention from



## II. Report by each Group/Team

### D. Sustainable Consumption and Production Group

participants. Amongst many technologies introduced at the workshop, participants are more comfortable with composting because it is simpler and cheaper than others.

- In developing countries, data record for proper planning of solid waste management is not prioritised. Local governments has focused on a day-to-day waste collection and dumping. Awareness raising and training on data collection for efficient waste management is required.

#### (3) Major Impact Created

- SCP work on waste and climate change is well recognised by many international organisations, as well as national and local governments. Currently, we are invited to join various international events such as IPLA, GPWM, and recently CCAC and national and domestic policy influent event such as MRV development in Thailand.
- We receive many requests to conduct similar programmes in various countries in developing Asia such as Nepal, Sri Lanka, India and the Philippines. This achievement is a result of quality outputs that is being delivered by SCP team to serve the local needs of decision makers and academic societies.
- As an influent of IGES activities in Cambodia, Cambodia tends to include the element of waste and climate change mitigation in the new environmental law.

#### (4) Major External Fund

- MOEJ commissioned work, "MRV" (FY2011-2012: JPY37 million)
- ADB commissioned work, "Recycling business" (FY2011-2012: approx. USD120,000)
- APN research project "Capable program" (FY2010: USD30,000)

### 3. List of Publications (See Annex)

## II. Report by each Group/Team

### E. Economy and Environment Group

#### E. Economy and Environment Group

##### 1. Overview as Group

###### (1) Objectives and Goals / Targets

Against the background of the growing needs of pro-poor economic development as well as environmental conservation in the Asia-Pacific region, it is an urgent issue to formulate sustainable development policies based on integrated policy assessment that can reflect complex interactions of economy and environment. The Economy and Environment (EE) Group set its main objectives as follows: (i) to conduct quantitative assessments of sustainable development policies at both national level and regional level for Asia and the Pacific, and (ii) to develop relevant tools by ourselves, and then build up the capacity to apply relevant existing tools for this purpose. Working with other groups of IGES as well as external collaborators including universities and overseas research institutes such as the Korea Environment Institute (KEI) and Chinese Academy of Environmental Sciences (CAES), EE Group tried to find practical solutions to synergistically achieve both economic development objectives and environmental objectives and to contribute relevant policy processes.

To fulfil this, staff capacity building was also recognised as an important goal and all group members were assigned a leading role in at least one project. Opportunities for capacity development were actively exploited, such as conducting collaborative research (e.g. joint model development with IIASA), attending training sessions (e.g. GTAP model training course, IIASA Young Scientist Summer Program).

###### (2) Research Structure /Outline of Activities Conducted

The research activities of EE Group were composed of the following three components:

- a. Integrated policy impact assessment for sustainable development,
- b. Trade and environment with special focus on embodied emissions, and
- c. Green growth through economic instruments and green investment.

Following a broad direction set by these components, EE Group developed the following externally funded projects as well as IGES Strategic Research.

- Research on sustainable resource use policies, funded by MOEJ's Policy Studies on Environmental Economics (PSEE) scheme: FY2009-FY2011 (in collaboration with SCP group)
- Research on sustainable ecosystem service use policies, funded by MOEJ's PSEE scheme: FY2009-FY2011 (in collaboration with NRM group and PMO)
- Research on life cycle environmental impacts of resource use and sustainable resource use policies, funded by MOEJ's PSEE Phase 2 scheme: FY2012-FY2014 (in collaboration with SCP group)
- Research on alternative progress indicators of sustainable development, funded by MOEJ's PSEE Phase 2 scheme: FY2012-FY2014 (in collaboration with PMO)

## II. Report by each Group/Team

### E. Economy and Environment Group

- Research on baseline scenarios in India and NAMA in Thailand based on bottom-up energy system models, funded by MOEJ's commissioned work on MRV: FY2011 and FY2012
- Research on green economy in terms of national positions in the international negotiations and domestic policies and activities, funded by MOEJ's commissioned work for Rio+20 process: FY2010-FY2012
- Research on evaluation of climate change risk using game theoretic approach, funded by MOEJ's Global Environmental Research Fund: FY2012-FY2014
- Research on embodied carbon emissions and responsibility sharing schemes, funded by JSPS Kakenhi: FY2009-2011
- Research on regional investment liberalisation in East Asia, funded by JSPS Kakenhi: FY2011-FY2013
- Research on energy market integration in East Asia, funded by Economic Research Institute for ASEAN and East Asia (ERIA): FY2010-FY2011
- Study on electromobility in Japan, funded by Wuppertal Institute: FY2012-FY2013
- Study on water-energy nexus using water-extended bottom-up energy system model, funded by IGES Strategic Research Fund: FY2012
- Study on border carbon adjustment measures, funded by Mitsubishi UFJ Research and Consulting Company: FY2010
- Study on green jobs in Asia and the Pacific, in collaboration with ILO based on the Agreement on Cooperation signed between IGES and ILO on 4 September 2012

The outline of these research activities are explained later in Section 2: Reports by Research Component. In addition to these research activities, EE Group actively contributed to all IGES operations as follows:

- Contributed to White Paper 4, Chapter 8 "Policy framework for international collaboration towards sustainable resource circulation and management in Asia" (July 2012)
- Contributed to White Paper 3, Chapter 12 "United we stand: regional cooperation from a wider perspective of sustainable consumption and production" (July 2010)
- Organised ISAP2012 Parallel Session " Resilient energy system towards green economy" (24 July 2012)
- Contributed to ISAP2011, provided a panelist to the plenary session "Green Economy" and the ISAP summary session (27 July 2011)
- Organised ISAP2010 Expert Workshop "Economic Modelling of Resource Circulation Issues" and contributed to the open session "Is low-carbon development necessarily sustainable?" and to the lunch session "White Paper 3" (12 July 2010)
- Conducted training on Green Growth for African Development Bank (AfDB), funded by AfDB: FY2012
- Contribute to Temple University Japan's Green Economy Training Program for Indonesian officials and university faculties (10-16 October 2012, 4 among 11 lectures by EE)

## II. Report by each Group/Team

### E. Economy and Environment Group

#### (3) Major Outputs in the Context of Policy Impact

- Contribution to UNEP International Resource Panel (IRP)
  - Invited to present on economic aspects of sustainable resource policies at 10th IRP meeting in Copenhagen (8 May 2012)
  - Contributed to the panel discussion at the Open Seminar on Green Economy and Resource Efficiency, at the IRP 11th meeting in Tokyo (6 November 2012)
  - Invited to present on integrated scenario development at the Integrated Scenario Workshop at Yale University (14 February 2013)
  - EE outputs related to embodied emissions were referred to by a draft report of the Trade Working Group of IRP
- Contribution to the UNEP Green Economy Initiative
  - Invited to present at the International Workshop on Green Investment in Beijing (30 October 2012)
  - Invited to present at the International Workshop on Indicators of Economic Transformation and Environmental Competitiveness in Fuzhou (26 March 2013)
- Contribution to the Rio+20 process
  - Conducted lectures on ecosystem service valuation to GLOBE Japan, a group of members of parliament (29 May 2012)
  - Contributed to the panel discussion at the TERI side event on “Green Economy and Inclusive Growth for a Sustainable Future” (19 June 2012)
  - Supported MOEJ delegation at the Rio+20 (June 2012)
  - Contributed to the panel discussion at the MOFA Forum on “Green Future Action Corps”, that was proposed by the Japanese government at the Rio+20 (20 December 2012)
- Contribution to the East Asia Summit (EAS) Energy Cooperation Task Force (ECTF)
  - The results of the research on economic impact of energy market integration (EMI) in the East Asia region, funded by Economic Research Institute for ASEAN and East Asia (ERIA) were input to EAS ECTF through ERIA and finally recorded in the Joint Ministerial Statement of the 4th East Asian Summit Energy Ministers Meeting in Viet Nam (22 July 2010)
- Contribution to the Regional Office for Asia and the Pacific on green jobs
  - Contributed to the projects on Green Jobs in Asia (the Philippines and Indonesia) and Green Jobs Malaysia, in collaborations with the Climate Change Group (2011-2013). IGES name is included in all relevant reports of ILO and the website of ILO Regional Office for Asia and the Pacific includes IGES as its only Partner Institution.

#### (4) Self Evaluation

During the Fifth Phase, EE Group developed several innovative policy impact assessment tools to address important policy issues and also built capacity to conduct bottom-up energy system analysis using the existing models such as TIMES Integrated Assessment Model (TIAM) and

## II. Report by each Group/Team

### E. Economy and Environment Group

MESSAGE model of IIASA. These methodological development activities were conducted as a part of policy relevant research projects that aimed to conduct quantitative impacts assessment of sustainable development policies including sustainable resource use policy, sustainable ecosystem service use policy and energy scenario analysis both at national and regional levels, supported by external funds and the IGES strategic fund. In addition to these quantitative policy assessment research projects, EE Group conducted policy review and qualitative study on green economy policies as a part of the commissioned works for supporting Rio+20 process funded by MOEJ. Based on the outputs of these activities EE Group actively contributed to international policy processes including the Rio+20, UNEP International Resource Panel, UNEP Green Economy Initiative and the East Asia Summit (EAS). These achievements are relevant to what we targeted at the beginning of Fifth Phase.

EE Group contributed to IGES wide activities such as ISAP and White Papers. In addition, EE Group played a leading role in setting up several green economy training sessions for Indonesian government officials and university faculty staff organised by Temple University Japan in 2011 and in 2012.

On the operational side, throughout the Fifth Phase EE Group was successful in securing external funds sufficient to implement planned activities through promoting cross group collaboration as well as collaboration with other institutes. All major projects such as all PSEE projects, Rio+20 commissioned work and MRV commissioned work were cross-group collaboration projects. EE Group also pioneered the implementation of staff capacity building by dispatching staff to leading institutes such NIES and IIASA for substantial periods (2-3 months), as well as allowing staff to attend short training courses (e.g. the GTAP model training course).

## 2. Reports by Research Component

### a. Integrated policy impact assessment for sustainable development

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This component aimed to develop integrated policy assessment tools for sustainable development based on a few economic models that have been already developed or customised by IGES, including computable general equilibrium (CGE) models and multi-region input-output (MRIO) models, as well as the existing energy system models. During the Fifth Phase several important tools were developed.

Firstly, multiregional dynamic CGE models for Japan, China, Korea and Australia were developed for conducting impact assessment of sustainable resource use policy such as natural resource tax. This model is unique in terms of multi-regional CGE model based on national input output tables. This allows more detailed sectoral disaggregation than the widely-used GTAP database, which is the global economic dataset, and enables policy relevant research to be conducted.

Secondly, a preliminary policy impact assessment tool to capture life cycle environmental impacts of policies (such as sustainable resource policy) was developed. In this tool, policy simulation results of multi-regional the CGE model were used to update MRIO that was used for estimating carbon footprint and life cycle natural resource input including embedded resources in international trade.

## II. Report by each Group/Team

### E. Economy and Environment Group

Thirdly, we developed capacity to use bottom-up energy systems models such as TIMES and IIASA's MESSAGE model to address emerging policy questions related to future energy scenarios. Further, we conducted joint research project with IIASA on integrating water into the MESSAGE model.

#### (2) Major Findings / Results

- 4-country multiregional dynamic CGE model for Japan, China, Korea and Australia was developed to conduct impact assessment of sustainable resource use policy such as natural resource tax and steel scrap recycling. This model distinguishes two types of steel products (blast furnace steel and electric arc furnace steel) in order to reflect the impacts of steel recycling on iron ore consumption as well as carbon emissions. For this purpose the social accounting matrix of this model was constructed from national input-output tables of four countries. This non-global but multi-regional specification is a unique feature of this model.
- Methodology to link MRIO and CGE to estimate life cycle environmental impacts (in terms of carbon footprint and natural resource input) of sustainable resource use policies was developed.
- A policy impact assessment tool that combines forest stock model and single country dynamic CGE model was developed to conduct impact assessment of sustainable forest use with/without REDD and payment for ecosystem services (PES) schemes.
- Capacity to conduct research using bottom-up energy system models (TIMES Integrated Assessment Model: TIAM, and MESSAGE model) was developed.
- Contributions were made to develop water-extended MESSAGE model through collaborative research with IIASA, the developer of MESSAGE model.

#### (3) Major Impact Created

- Responding to the invitation from Panel Secretariat (UNEP), a presentation was made on economic implications of resource scarcity and sustainable resource use policies, based on the results of research on sustainable resource use policies, at the 10th Panel meeting in Copenhagen in May 2012.
- Responding to the invitation from Panel Secretariat (UNEP), made a presentation on carbon footprint estimation methodology based on a combination of CGE and MRIO at the Integrated Scenario Workshop of the Panel held at Yale University in February 2013.
- Proposed new methodology to reflect benefits of ecosystem service use at the Ecosystem Service Partnership conference in Portland in August 2012, which is related to Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) process.
- Through the development of the water-extended module of MESSAGE model, contributions were made to global new energy scenario development with water and climate under the Global Energy Assessment (GEA) framework launched by IIASA and the GEA Council.

## II. Report by each Group/Team

### E. Economy and Environment Group

#### (4) Major External Fund

- Policy Studies on Environmental Economics (PSEE)/ MOEJ (FY2010-FY2012/ total amount of 4 projects during this period: JPY107 million)
- Commissioned work on MRV/ MOEJ (FY2011-FY2012/ total amount: JPY34 million)

#### b. Trade and environment with special focus on embodied emissions

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

While international trade contributes to national economic development, transnational environmental problems, such as GHG emissions embodied in international trade and industrial relocation and carbon leakage due to the differences in the strictness of domestic climate policies, have yet been addressed in the global climate regime, nor in the world trade system. The purpose of this component was to evaluate carbon emissions embodied in international trade and to assess their implications for the implementation of domestic climate policies (such as a carbon tax system and border adjustment measures) in the context that only a part of the parties to the UNFCCC implement emissions reduction. We employed quantitative approaches such as the Multi-Region Input-Output (MRIO) model and the multi-region Computable General Equilibrium (CGE) model in order to reveal the policy implications of responsibility allocation related to the emissions embodied in trade. We conducted research on the implications of domestic climate policy and border carbon adjustment measures on national emissions by taking account of embodied emissions.

Using the multi-regional CGE model, we also conducted research on energy market integration in East Asia. For this study we developed global database in which net subsidised fossil fuels were disaggregated from composite petroleum and coal products that combines taxed and subsidised commodities. Based on this database we conducted impact assessment of fossil fuel subsidy reform in East Asia.

We also conducted a commission work of Wuppertal Institute on the electromobility in Japan.

##### (2) Major Findings / Results

- There is a huge amount of emissions embodied in international trade. Since embodied emissions are closely related to carbon leakage, international competitiveness and national GHG accounting, they should not be overlooked by either domestic climate policy-making or international climate change policy process.
- Due to the implementation of carbon tax in Japan, international carbon leakage will occur.
- Border adjustments of the implementing countries (e.g. Japan in this analysis) could mitigate international carbon leakage.
- In contrast, border adjustments do not necessarily contribute to output increase of energy-intensive sectors.

## II. Report by each Group/Team

### E. Economy and Environment Group

- Nationally appropriate mitigation actions (NAMAs) have a great potential to reduce global emissions and to improve welfare.
- To pass WTO examination, the proponent of a border carbon adjustment measure must prove the necessity of the trade measure in achieving the environmental objectives and substantial link between the trade measure and the stated climate change policy objective.
- Removal of fossil fuel subsidy from net subsidised fuels can achieve win-win results in terms of higher real GDP and lower CO2 emissions.

#### (3) Major Impact Created

- Three papers on embodied emissions using MRIO analysis were cited in the draft report of Trade Working Group of the UNEP International Resource Panel.
- We input the results of this component to the UNEP Green Economy Initiative.
- We have been invited by several institutions to contribute different chapters to their books related to MRIO and embodied emissions.
- The results of the research on economic impact of EMI in the East Asia region, funded by Economic Research Institute for ASEAN and East Asia (ERIA) were input to EAS ECTF through ERIA and finally recorded in the Joint Ministerial Statement of the 4th East Asian Summit Energy Ministers Meeting in Viet Nam (22 July 2010)

#### (4) Major External Fund

- Energy Market Integration study/ ERIA (FY2010-FY2012/ total amount of three projects during this period: JPY10 million)
- Kakenhi/ JSPS (FY2010-FY2012/ total amount for two projects during this period: JPY8 million)

### c. Green economy through economic instruments and green investment

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Green economy, containing broad implications, e.g. green investment, greening tax scheme, reform of environmentally-destructive subsidies, and internalisation of environmental externalities such as ecosystem services and resource constraints into the market mechanisms, is rapidly gaining global political momentum. Along with this political and economic stream, this component implemented quantitative impact assessment of green economy policies including policies for sustainable resource use, sustainable use of ecosystem services, and sustainable energy scenarios using the integrated policy impact assessment model. For the sustainable resource use policy study, we applied multi-regional CGE models for four countries with focus on iron and steel products as a case study, and investigated the potential benefits of international policy coordination compared to unilateral efforts. For the sustainable ecosystem service study, we applied an ecological economic model that links forest stock model and a single country dynamic CGE model for Indonesia to carry out assessment of sustainable forest use policy scenario. We also applied bottom-up energy system



## II. Report by each Group/Team

### E. Economy and Environment Group

model (TIAM) to energy scenario analysis for post-Fukushima Japan. The bottom-up energy system models (TIAM and MESSAGE model) were also applied to conduct NAMA scenario analysis in India and Thailand as a part of IGES-wide MRV study.

The component also aimed to contribute to international policy processes related to green economy. We contributed to UN Conference on Sustainable Development 2012 (Rio+20) Green Economy process through MOEJ commissioned work.

#### (2) Major Findings / Results

- Resource constraints will increase production costs. The results of a study on sustainable resource use suggested that the output price of iron ore will drastically rise under the business-as-usual scenario by 2020. But the study also indicates that the increase in demand under such resource constraints is eased by the supply of steel scrap.
- Compared to the policy scenario of Japan placing reduction policies on iron ore consumption on its own, a policy coordination scenario between four countries of Japan, China, Korea and Australia would enable both an increase in real GDP and a reduction in CO<sub>2</sub> emissions.
- The sustainable forest use (SFU) scenario in Indonesia resulted in increased forest stock with reduced man-made capital stock. The overall social welfare level in terms of equivalent variations was reduced. This negative impact is mainly caused by the production reduction in the forestry sector due to the restriction in logging volume and the wood product sector that inputs the forestry products as the main intermediate input. This study also revealed that the SFU scenario does not reduce social welfare level is the REDD credit price is around nine times higher than the current credit price.
- Based on the Japan energy scenario analysis using TIAM model, transition from a fossil-fuel/nuclear dominated energy mix to a renewable energy dominated fuel mix is feasible from an economic point of view. Japan's target of 80% CO<sub>2</sub> emissions reduction by 2050 compared to the 1990 level is economically feasible provided certain conditions are met. Whether or not this target is met hinges on an escalated deployment of renewable energy, use of advanced technologies for conventional power generation and deployment of economically viable CCS technology.

#### (3) Major Impact Created

- The results of research on sustainable resource use policies attracted the attention of the UNEP International Resource Panel and we had opportunities to present our research at the Panel Meetings in Copenhagen in May 2012 and in Tokyo in November 2012.
- Proposed new methodology to reflect benefits of ecosystem service use at the Ecosystem Service Partnership conference which is related to Intergovernmental Policy-Science Platform on Biodiversity and Ecosystem Services (IPBES) process.
- Developed water-extended module of MESSAGE model. Contribution to global new energy scenario development with water and climate under the Global Energy Assessment framework published the IIASA and the GEA Council.

## II. Report by each Group/Team

### E. Economy and Environment Group

- The Green Economy part of IGES proposal to Rio+20 mainly was reported at the TERI side event at the Rio+20 in June 2012 on Green Economy and Inclusive Growth for a Sustainable Future.

#### (4) Major External Fund

- Policy Studies on Environmental Economics (PSEE)/ MOEJ (FY2010-FY2012/ total amount of four projects during this period: JPY107 million)
- Commissioned work on MRV/ MOEJ (FY2011-FY2012/ total amount: JPY34 million)
- Commissioned work for Rio+20/ MOEJ (FY2010-FY2012/ total amount: JPY19 million)

### 3. List of Publications (See Annex)

## II. Report by each Group/Team

### F. Governance and Capacity Group

#### F. Governance and Capacity Group

##### 1. Overview as Group

###### (1) Objectives and Goals / Targets

The objective of the Governance and Capacity Group is to analyse issues and make policy recommendations to improve governance and capacity to address sustainable development and environmental issues in the Asia Pacific region.

###### (2) Research Structure /Outline of Activities Conducted

###### ● Multilevel Governance

The main activities under this component were related to the United Nations Conference on Environment and Development (Rio+20), which included two main issues, International Environmental Governance (IEG) focusing particularly on reform of the United Nations Environment Programme (UNEP), and the Institutional Framework for Sustainable Development (IFSD) which was one of the main themes of Rio+20. One of the main outcomes of Rio+20 was a decision to establish a process to develop Sustainable Development Goals (SDGs), which was the Group's research focus in 2012. In 2010, this component included the final year of research for the Biofuel Project which began during the Fourth Phase.

###### ● Regional and National Governance: Trans-Boundary Air Pollution

This component assessed the factors determining domestic atmospheric environment policies and related domestic political institutions and considered how these domestic factors may facilitate or constrain potential mechanisms or frameworks for strengthening international cooperation on atmospheric management

###### ● Capacity Development and Education

The Education and Capacity Development for Sustainable Development task aims to provide strategic policy recommendations and capacity building inputs to strengthen institutional structures/processes to achieve transformative learning for sustainable development especially focusing on international processes on Education for Sustainable Development (ESD), regional processes on Education for Sustainable Consumption (ESC), and local and urban processes for learning on Sustainable Lifestyles. This component had two major subcomponents, including education for sustainable consumption (ESC), and Monitoring & Evaluation of Education for Sustainable Development (ESD).

###### ● Regional Governance and Environmental Cooperation in Asia

This component analysed international environmental cooperation mechanisms in Northeast and Southeast Asia to develop recommendations for strengthening them. This research was linked to policy processes such as the Tripartite Environment Ministers Meeting (among China, Japan, and Korea), and the East Asian Environment Ministers meetings.

## II. Report by each Group/Team

### F. Governance and Capacity Group

- **Local Governance**

This component addressed several aspects of local governance, including international environmental cooperation at the local level (with KUC), carbon governance and MRV at local level (With KUC/PMO), and household energy management in Kanagawa Prefecture after 3-11 (w/PMO).

- **Participatory Environmental Decision Making**

This component intended to address key issues for participatory environmental governance in the Asia Pacific Region. The main objective was to improve environmental management through increased public participation in environmental decision making and sustainable development planning. Research for this component was not conducted independently, but rather was incorporated into research for other components, particularly Multilevel Governance and Regional Governance and Environmental Cooperation in Asia.

### (3) Major Outputs in the Context of Policy Impact

- For Sustainable Development Goals, the Group wrote an IGES Issue Brief on the role of governance and contributed to major policy briefs by the Independent Research Forum (Post-2015: Framing a New Approach to Sustainable Development) and the Project on Sustainability Transformation Beyond 2015 (Integrating Sustainable Development Goals into a Post-2015 Development Agenda).
- For Rio+20, the Group published a policy report and policy brief on UNEP reform as part of global discussions on International Environmental Governance (IEG) and the Institutional Framework for Sustainable Development (IFSD). The group also coauthored a report with ASEF (Global Architectures for Sustainable Development Delivery) and participated in several side events at Rio+20.
- IGES coordinated the writing of the governance section of the Asia Pacific chapter of GEO5.
- A series of reports on Monitoring and Evaluation for Education for Sustainable Development developed a monitoring and evaluation framework to assess the Decade of Education for Sustainable Development which ends in 2014.
- A policy brief and policy report were written on promoting green markets and made a recommendation to develop a multistakeholder platform on environmental CSR.
- In air pollution, the Group focused on promoting the development of an epistemic community on air pollution issues in East Asia through organising international experts workshops including at Better Air Quality, and making presentations at various forums. In addition several conference papers and a peer reviewed journal article were written examining policy developments and air pollution problems in specific countries.
- For local governance, the Group published a policy brief and peer reviewed journal article on measures to promote international environmental cooperation by local governments, a chapter in IGES White Paper III on roles of local governments to promote local initiatives for sustainable consumption, peer reviewed journal articles reporting social surveys of Japanese citizens on carbon offsets and energy saving, contributed to the IGES policy report on MRV, and several discussion papers.

## II. Report by each Group/Team

### F. Governance and Capacity Group

#### (4) Self Evaluation

The GC Group engaged in a wide range of policy areas linked by the concepts of multilevel governance and multistakeholder participation. It was also heavily involved in a range of important global, regional, national, and local policy processes, and engaged in substantial related networking with other international organisations, networks, and research institutes. A significant number and wide range of outputs were produced, both policy as well as research related, including policy briefs and reports, peer reviewed journal articles, and discussion and conference papers. In addition, the group began to publish more timely shorter articles on and fast moving topics such as Rio+20 as Researchers' Viewpoints and in newsletters of other organisations. Many workshops were organised in a range of areas which not only helped to disseminate IGES messages, but also contributed to promoting the development of epistemic communities, fostering mutual understanding, and capacity building. Significant contributions were made to all-IGES activities including the White Papers, ISAP, and the MRV project. Most activities were conducted in collaboration with other IGES groups. Fundraising was also quite successful; not all proposals succeeded, but funds were quite sufficient for activities. In terms of impacts, the Group contributed significantly to the IGES impact in the global, regional, and national Rio+20 and SDG processes. IGES recommendations were reflected in statements of major groups, as well as to some extent in Japan's related policies. Highlights include UNEP reform, which ultimately followed the recommendations outlined in the Group's policy brief and policy report, and contribution to the Asia Pacific regional chapter of UNEP's GEO5 as co-authors. The Group's research on monitoring and evaluation of ESD is expected to play an important role in the finalisation of the Decade for Education for Sustainable Development in 2014.

## 2. Reports by Research Component

### a. Multilevel Governance

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

- **Research on International Environmental Governance (IEG) and the Institutional Framework for Sustainable Development (IFSD)**

The main objective of this subcomponent was to analyse key issues from a global perspective and make policy recommendations regarding IEG and IFSD, in connection with Rio+20. This research focused particularly on governance aspects, UNEP reform, and regional implications. Note: this work was conducted in cooperation with PMO, EE and SCP.

- **Sustainable Development Goals (SDGs)**

This subcomponent was part of a larger project to consider how to strengthen the environmental aspect of MDGs in the context of upcoming international discussions on post MDGs and the possibility of establishing SDGs. Basic research was conducted on international trends in the discussion on MDGs/SDGs, possible effectiveness of potential goals and indicators, and implications of application of basic principles such as common but differentiated responsibility, universality, fairness and balance. Note: this work was conducted in cooperation with the Tokyo Institute of Technology, UNU-IAS, and the PMO.

## II. Report by each Group/Team

### F. Governance and Capacity Group

#### (2) Major Findings / Results

- A new approach to sustainable development should involve a universal global compact applying to all countries which tackles systemic barriers to progress, builds multi-stakeholder decision-making processes and strengthens cross-scale coordination, decrease inequality and risk and invest in resilience, moving beyond concepts and testing to scaled-up interventions.
- Regional institutions should play an important role in implementing Rio+20 and sustainable development goals, particularly focusing on capacity building, information sharing, and monitoring and implementation. Environmental cooperation should keep pace with future economic integration and liberalisation.
- It is important to have a single set of sustainable development goals, universally applicable to all countries, which should integrate the three dimensions of sustainable development.
- Sustainable Development (SD) strategies and goals should be linked to existing national and subnational plans and budgets.
- A phased reform of the United Nations Environment Programme (UNEP) was recommended to enhance the legitimacy and authority of environmental governance. The first phase would provide universal membership to UNEP's Governing Council, and in the second phase it would be upgraded into a specialised agency.

#### (3) Major Impact Created

- Some IGES messages on IFSD were reflected in the Zero Draft of the Rio+20 Outcome document (Jan. 2012) and to some extent into the position of the Government of Japan, including its statement at the NEASPEC Subregional consultation meeting and the Nov. 1, 2011 statement for the compilation of the outcome document.
- Japan adopted our recommendation to create a domestic multistakeholder consultation process for Rio+20, which IGES participated in, and it influenced the government's position.
- IGES organised workshops to present its views to key stakeholders including ISAP and a semi-plenary session at the Earth System Governance Tokyo Conference.
- GC played a major role in writing and coordinating the governance section of the Asia Pacific Chapter of UNEP's Global Environmental Outlook 5 (GEO5) and assisted other sections of the chapter. Also, GC helped to strengthen and coordinate the methodology for all of the regional chapters.
- IGES participated in the activities of major groups at various meetings relating to Rio+20 and influenced their statements.
- IGES is a founding member of the Independent Research Forum (IRF), a global research consortium on SDGs. IGES suggested the geographically diversified membership structure, including research institutes from both developed and developing countries, to enhance the persuasiveness of the Forum's recommendations. IGES also contributed to the group's overall direction, and helped write the concept paper and first policy brief.

## II. Report by each Group/Team

### F. Governance and Capacity Group

- The direction of UNEP reform has proceeded largely along the lines suggested in the related IGES policy brief and policy report which were promoted at various preparatory meetings ahead of Rio+20

#### (4) Major External Fund

- Environment Research and Technology Development Fund/ MOEJ (FY2012) (3,761,000 yen)
- Commissioned work on the Study on the trend of international environmental policy related to Rio+20/ MOEJ (FY2011-2012 12,100,000 yen for GC, PMO, EE, 4,354,900 yen for GC)

### b. Regional and National Governance: Trans-Boundary Air Pollution

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The main goal of this component was to analyse the key trends of domestic atmospheric environment management policy in the case study countries in the North and South East Asian regions (China, Japan, Republic of Korea and Thailand) and the main factors determining them, in order to understand the possible domestic factors and barriers to the promotion of potential international coordination for comprehensive atmospheric management or potential international agreement in East Asia. This component also aimed to contribute to the development of options to strengthen the international cooperation framework for air pollution in East Asia, as well as the related science-policy interface. Methodologies include: (1) use of written primary and secondary sources; (2) interviews with important stakeholders in each country; (3) participation in relevant international meetings such as EANET to follow the most updated discussions as well as the standpoints of each countries; (4) organisation of interactive workshops to present the options, receive feedback, and promote dialogue and mutual understanding. The case studies were conducted in collaboration with experts in the selected countries

#### (2) Major Findings / Results

##### [Domestic barriers and opportunities/perceptions]

- Korea and Japan have strong, similar interests in stronger international cooperation, but have diverging views on existing mechanisms.
- Thailand may experience future transboundary air pollution from its neighbors as they develop economically. To some extent this may also be related to electricity supply for Thailand.
- Thailand also interested in stronger international cooperation, but air pollution issues in the Southeast and Northeast Asian subregions are not closely connected.
- China has already been strengthening its domestic air pollution measures, particularly PM2.5. China has also recognised the importance of domestic transboundary air pollution, and has established a domestic regional mechanism to manage it.
- China understands transboundary issues, but does not want to focus on the transboundary aspect of air pollution. In contrast, it welcomes cooperation on domestic air pollution.

## II. Report by each Group/Team

### F. Governance and Capacity Group

- All countries are increasingly interested in cobenefits, but implementation may be strengthened or hindered by institutional structure and capacity in the case study countries.
- Scientists in the case study countries were interested in a science panel on air pollution in East Asia, but noted that different possible forms have different advantages and disadvantages.
- Ideas for a stronger regional or global framework and science panel are still new, so it was difficult to obtain specific comments. But Korea prefers a subregional focus.
- Different countries are interested in different pollutants, so a stronger international framework will need to accommodate these differing preferences.

#### [International cooperation]

- The research concluded that the main problems of existing air pollution cooperation frameworks include costly duplication and overlap, insufficient funding, limited effectiveness, insufficient scope (need to expand the scope of pollutants covered, greater emphasis on mitigation, and strengthen links between air pollution and climate change issues), and the need to strengthen the linkage between science and policy and implementation.
- The research concluded that the desirable functions of an international framework include expanded monitoring, modelling, assessment, research, and greater emphasis on emissions reduction, capacity building, and linkage between air pollution and climate change.
- Analysis of the advantages and disadvantages of the various options showed that the appropriate geographic scope is a key issue – whether it should focus more narrowly on Northeast Asia, or whether it should be more broadly focused on 1 or 2 additional subregions (Southeast and South Asia).
- It was found that experts generally view a Multi-Pollutant Multi-Effect (MPME) approach as a desirable approach for international cooperation. This study reviewed the current status and identified challenges related to the introduction of MPME approach in the Asian case study countries. It concluded that several elements of an MPME approach are already being used or planned in the case study countries, indicating that it may be feasible to introduce as a focus of international cooperation in a stepwise manner.

#### (3) Major Impact Created

- This research was conducted under MOEJ's strategic research fund, and results have been regularly shared with MOEJ officials, so the research has directly informed policy making.
- The project contributed to the development of a regional epistemic community on air pollution in East Asia. Through holding annual international expert meetings, the study facilitated exchange of information and ideas and also mutual understanding among the relevant experts from various countries on key issues.
- Ideas for strengthening international cooperation on air pollution and the related science policy interface were promoted and presented at various venues. IGES organised a side event and breakout sessions organised by IGES at Better Air Quality in 2010 in Singapore and 2012 in Hong Kong. Presentations were also made at the IGES/IIASA Workshop on co-benefits and the "Workshop on Japan-China Cooperation on Environmental and Energy issues" in Beijing.



## II. Report by each Group/Team

### F. Governance and Capacity Group

- The research results were used in the development of “Future measures to solve air pollution problems in Asia” which was presented by the Environment Minister of Japan on 15 March 2013 at the Global Warming Prevention Headquarters.

#### (4) Major External Fund

- Environment Research and Technology Development Fund (S-7-3) of the Ministry of the Environment (FY2010-FY2012/ total amount: 44.121 million yen)

### c. Capacity Development and Education component

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The Education and Capacity Development for Sustainable Development component aims to provide strategic policy recommendations and capacity building inputs to strengthen institutional structures/processes to achieve transformative learning for sustainable development especially focusing on international processes on Education for Sustainable Development (ESD), regional processes on Education for Sustainable Consumption (ESC), and local and urban processes for learning on Sustainable Lifestyles.

Education and Capacity Development for Sustainable Development must address whole-systems learning opportunities and engage formal, non-formal, and informal education to support transitions towards sustainable societies. Generally, these projects aim to influence policies and the wide-application of educational approaches (across formal, non-formal, and informal education) to achieve citizens who are more active and engaged in the achievement of sustainable societies as motivated, influential actors.

#### (2) Major Findings / Results

- Identification of required capacities for strengthening implementation of Education for Sustainable Consumption and recommendations for improving policy and institutional ESC frameworks.
- Identification of important factors and leverage points for national implementation of Education for Sustainable Development.
- Prepared ESD Country Status Reports for seven countries from East and Southeast Asia.
- Identification of key characteristic supporting strong learning performance in ESD.
- Prepared good practice case studies from 10 Regional Centres of Expertise on ESD.
- Development of an evidence-based Monitoring and Evaluation framework for ESD.

#### (3) Major Impact Created

- Supported the preparation of National ESC Guidelines for Indonesia.

## II. Report by each Group/Team

### F. Governance and Capacity Group

- Input case studies and findings to publications by the PERL (Partnership for Education and research about Responsible Living) network which were disseminated to important political processes on the 10 Year Framework of Programmes for Sustainable Consumption and Production (SCP).
- Regional coordination of the PERL network.
- Prepared a report on ESD in five countries and a sub-regional ESD cooperation strategy for the UNESCO office, Jakarta.
- Cooperative research activities and capacity building workshops with UNU-IAS on the Monitoring and Evaluation (M&E) of ESD.
- Organised and facilitated an UNESCO Expert Consultation on ESD Indicators.
- Provided inputs to UNEP's Global Outlook on SCP Policies.
- Involved in UNESCO Regional Consultation Processes on the framework for ESD beyond 2014.

#### (4) Major External Fund

- M&E of ESD / UNU-IAS (FY2011-2012 / 10 million yen)
- Institutional Strengthening of ESD / UNEP-DTIE (FY2011-2012 / 0.5 million yen)
- Education for Sustainable Consumption / Kanagawa Prefecture (FY2010-2012 / 4.5 million yen per year)

### d. Regional Governance and Environmental Cooperation in Asia

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This component analysed international environmental cooperation mechanisms in Northeast and Southeast Asia to develop recommendations for strengthening them. Several studies were conducted under Japan's Clean Asia Initiative, including: factors influencing ASEAN's decision making process for environmental cooperation, a survey of environmental cooperation strategies with ASEAN of selected non-ASEAN countries, a survey of environmental cooperation frameworks outside of Asia and implications for development of a comprehensive environmental cooperation strategy in East Asia, research to develop a cooperation strategy in East Asia to promote green markets, focusing on environmental information (labeling, certification, and standards) and green public procurement, and a study on Environmental Policy Measures and Challenges in the Areas of Air Pollution, Waste Management and Mercury Pollution in India. TEMM was another major focus, as the group worked to support MOEJ at the TEMM meeting and developed and implemented joint research on environmental governance in Northeast Asia in cooperation with the PRCEE and KEI. Finally, the group developed a proposal to strengthen regional governance through a Capacity and Information Exchange Platform in Asia Pacific as a regional follow-up to Rio+20. Expanded participation through multistakeholder engagement mechanisms was an important aspect or several of these research areas. Methodologies included interviews with policymakers and other stakeholders and use of written primary and secondary literature.

## II. Report by each Group/Team

### F. Governance and Capacity Group

#### (2) Major Findings / Results

- Developed a proposal for a Capacity and Information Exchange Platform in Asia Pacific published in IGES White Paper IV.
- Detailed analysis of ASEAN's environment-related decision making. Strengthened cooperation should be focused more on motivated member states rather than ASEAN itself.
- ASEAN countries are becoming less dependent on external donors, and there is increasing competition among donors. China and Korea are strengthening their cooperation with ASEAN.
- European regional cooperation frameworks are very complex and effectiveness is mixed. Some aspects may be relevant to the Asian context such as transboundary ecosystem management, information management and sharing frameworks. How European countries overcame wide cultural, historical, political, and economic gaps to foster cooperation may also be relevant.
- Based on an analysis of green markets in East Asia, it was recommended that Japan should continue efforts along its strengths in eco-labeling, green purchasing networks, and green public procurement, but should also develop three new areas: greening the supply chain, education for sustainable consumption, and corporate social responsibility. Detailed recommendations were made, including for a multistakeholder platform to strengthen international cooperation on environmental CSR.
- TEMM should make more efforts are needed to increase coordination among existing cooperation mechanisms and strengthen funding. IGES made detailed recommendations to enhance stakeholder participation. New issues to be addressed include nuclear power and potential accidents, natural disaster/risk governance and resilience, transboundary movement of e-waste, medical/pharmaceutical waste, new air pollutants such as PM2.5 and ozone, and SDGs.

#### (3) Major Impact Created

- The proposal for a Capacity and Information Exchange Platform in Asia Pacific was presented at ISAP 2012 and discussed with several related regional organisations.
- Contributed to the governance section of the GEO5 regional chapter on the Asia Pacific.
- MOEJ established an advisory group to discuss the idea of a cooperation platform for international environmental CSR.
- Contributed to a government advisory committee report on "Japan's Future Environmental Cooperation."
- The TEMM governance study works directly with Environment ministries

#### (4) Major External Fund

Commissioned work/ MOEJ

## II. Report by each Group/Team

### F. Governance and Capacity Group

#### e. Local Governance

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This component addressed several aspects of local governance, including international environmental cooperation at the local level (with KUC), carbon governance and MRV at local level (With KUC/PMO), and household energy management in Kanagawa Prefecture after 3-11 (w/PMO). It is expected to be easier to facilitate greater citizen participation at the local level. Methodologies included interviews with experts and stakeholders, various statistical analyses, social surveys, attending network activities, as well as review of primary and secondary written sources. Surveys are particularly useful for investigating the potential for greater civil society participation.

##### (2) Major Findings / Results

- Recommended practical measures to promote Japanese local governments' environmental collaboration with developing countries with citizens' support.
- Possible national institutional mechanisms to promote low carbon development at the subnational level include incentive provision, effective monitoring and evaluation, adaptation to and appreciation of diverse local conditions, and support of policy diffusion and mutual learning among sub-national governments.
- An experimental social survey of carbon offsetting in two large Japanese cities showed a willingness to contribute to climate mitigation projects in developing countries, indicating a certain untapped potential to use these mechanisms, although citizens also did not understand very well how they work.
- One study documented and analysed the motivations of Japanese local governments' international environmental cooperation with local governments of developing countries, which is beyond their legal mandate. It concluded that more consideration should be given to prefecture level cooperation, and that there is untapped potential in Japanese cities which have environmental management experience with possible business implications.
- A social survey of electricity saving by Japanese households after 3-11 showed significant willingness to use several energy saving measures. Energy saving was positively influenced by social networking and availability of information. The study suggested that local governments could further promote energy saving by targeting specific demographic groups through social media.

##### (3) Major Impact Created

- Results were presented to policymakers and other stakeholders at various workshops.
- Results were published in a number of policy briefs, reports, peer reviewed journal articles, IGES White Paper III, and discussion papers.
- Results were published in a chapter in a JICA book on Climate Change Mitigation and Development Cooperation, and presented at a JICA Research Institute Open Seminar in Feb. 2012. Recommendations were included in a JICA Research Institute Policy Brief.

## II. Report by each Group/Team

### F. Governance and Capacity Group

- Participated in MOEJ advisory committee on foreign legal systems, and prepared a related report on Japan's international cooperation strategy.
- Organised ISAP 2012 session on low carbon cities.

#### (4) Major External Fund

- Kanagawa Prefecture, FY2010-2012, million yen
- Suishinhi/MOEJ (FY2012/ 7.5 million yen)

### f. Participatory Governance

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This component addressed key issues for participatory environmental governance in the Asia Pacific region. The main objective was to improve environmental management through increased public participation in environmental decision making and sustainable development planning.

This component was not conducted independently, but rather was integrated with most of the other components.

#### (2) Major Findings / Results

See above.

#### (3) Major Impact Created

See above.

#### (4) Major External Fund

This component was conducted in conjunction with other components, and therefore used their funds.

### 3. List of Publications (See Annex)

### G. Kansai Research Centre

#### 1. Overview as Group

##### Objectives and Goals/Targets

The Kansai Research Centre conducted research on the topic of “Business and Environment” focusing on the actions of the private sector, such as companies promoting environmental and energy-saving measures. By cooperating with target countries and local governments, progress is made with policy research related to the energy-saving activities of companies. Additionally, research has identified barriers to and factors in the promotion of sustainable business in Asia and has contributed to concrete policy through projects to promote the application of low-carbon technologies and co-benefit technologies in developing countries, focusing on environmental technologies and energy-saving technologies possessed by companies.

##### Outline of Activities Conducted

- **Project1: Research for the Application of Low Carbon Technology in India (ALCT)**
  1. Ascertainment and analysis of policy related to transfer of low-carbon technology and existing examples
  2. Japan—analysis on the supply side; India—analysis on the technology demand side
  3. Selection of technologies for transfer aimed at CO<sub>2</sub> reduction and consideration on degree of priority
  4. Analysis and verification via pilot projects
  5. Promotion of low-carbon technology application: recommendations on frameworks related to certification and standards, as well as capacity building
  
- **Project2: Market-based Instruments for Improving Company Carbon Performance in Northeast Asia (MBIs)**
  1. Review of policies related to energy efficiency and GHG reduction in the industrial sectors of Japan, China and the Republic of Korea (ROK)
  2. The present state of company carbon performance and analysis of the gaps to the effective policies
  3. Analysis of the impact of subsidies on company GHG emissions
  4. Response and acceptability of companies regarding carbon tax and greenhouse gas emissions trading schemes
  5. Consideration of policy design related to MBIs and policy recommendations
  
- **Project 3: Local Business Initiatives (LBIs)**
  1. Eco-Home Diagnosis To spread the practice of the “Eco-Home Diagnosis Programme” around the country in coordination with local governments and related companies. Know-how and follow-ups were provided to Hyogo Prefecture, the Ministry of the Environment and the Japan Center for Climate Change Actions (JCCCA).

## II. Report by each Group/Team

G. Kansai Research Centre

### ● **Project 4: Co-benefit Technologies (CT)**

1. Creation of the co-benefit technology map and conduct case studies.

### ● **Project5: Research on Measurement, Reporting and Verification (MRV) for Low Carbon Development**

1. Development of MRV methodology for GHP and EHP
2. Case study on reduction in CO2 emissions utilising MRV methodology
3. Implementation of capacity building on MRV

### **Major outputs in the Context of Policy Impact**

- An application feasibility study on low-carbon technologies and detailed investigations were carried out targeting small and medium enterprises (SMEs) in India. Reports clarifying contributions to CO2 emissions reduction and considerable reduction in energy costs were compiled, and related recommendations were actively made via policy briefs. Further, input was made to the government of India within the project's Japan India Joint Coordination Committee (JCC). On the India side, the potential for contribution to the NAPCC, India's national plan on climate change, was suggested. Meanwhile, the key to dissemination was said to lie in reducing the cost of concerned technologies and improving the capacity of local human resources. Furthermore, ground-breaking outcomes were achieved in actual technologies from Japan being applied in India and launching of operations. In the period remaining (FY2013), verification through pilot projects, as well as strategy formulation (policy recommendations) related to the promotion of transfer and application of low-carbon technologies, will be carried out.
- The research focusing on the intentions and selections of companies regarding economic instruments for CO2 emissions reduction is ground-breaking. Results achieved to date have been released yearly in multiple papers in internationally renowned journals and have been highly acclaimed. In particular, outcomes of investigative research on the recognition and receptivity to economic instruments on the part of companies, as well as carbon price affordability, have provided important knowledge for future recommendations on frameworks including institutional design. These outcomes will be compiled into policy recommendations as soon as possible.
- The "Eco-Home Diagnosis" evolved into the "Eco-Concierge Scheme" of the Ministry of the Environment. It was expanded nationally as a project of the Japan Center for Climate Change Actions (JCCCA).
- The co-benefit technology map was inputted into the co-benefit approach of the "Kyoto Mechanisms Information Platform" run by the Japanese government.
- The MRV methodology related to GHP and EHP is one outcome of the projects from the Ministry of the Environment. Following further improvements in the future, it will contribute to bilateral mechanisms and nationally appropriate mitigation actions (NAMA) in developing countries.

### **Self Evaluation**

In the Fifth Phase, outcomes were achieved that contributed to concrete policy regarding technology application and transfer to developing countries. Utilising investigative methods on selection and intention toward policy on carbon reduction activities on the part of companies,

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important knowledge was gained to be applied to policy recommendations. These outcomes are evaluated to be outstanding and very relevant.

First, concerning the transfer and application of technology, initiatives that involved actual adoption of technologies from Japan are ground-breaking. Through many local surveys to date, low-carbon technologies were selected and the great potential for CO<sub>2</sub> emissions reduction and contribution to considerable reduction in energy costs was clarified in concrete terms. These are significant outcomes. A considerable amount of labour and time has been dedicated to local surveys in India, and communication and coordination has been carried out with TERI. Understanding gained on local conditions and the accumulation of diverse experiences, as well as the creation of a relationship of mutual trust with TERI, will serve as valuable impact in the future expansion of technology transfer.

Furthermore, economic aspects to the carbon reduction activities of companies are extremely important. The research included in-depth analysis on the selections and intentions of companies based on economic instruments and this was published in globally-renowned journals and highly acclaimed. This represents a significant achievement.

Hereafter, the outcomes to date related to the transfer and application of technologies will be developed into policy recommendations and promoted to governments, industrial sectors, academia and international organisations. Additionally, we would like to promote a concrete project on the diffusion of low-carbon technologies garnering the understanding and cooperation of related institutions. At that time, the combined utilisation of economic instruments in the environmental activities of companies will allow for the effective promotion of transfer and diffusion of technologies while giving consideration to the intentions of local companies.

### 2. Reports by Research Project

#### a. Research for the Application of Low-Carbon Technology in India (ALCT)

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

ALCT (Application of Low-Carbon Technology in India) is a research project which aims to contribute in promoting the application of low carbon technology in India, together with The Energy and Resources Institute (TERI) and support from various private firms such as Mayekawa, Yanmar and Panasonic Group. Pilot projects for selected low-carbon technologies are being conducted in actual Indian industries as a field experiment for this purpose.

##### (2) Major Findings / Results

- Selection and Evaluation of Appropriate Low-carbon Technologies for the Reduction of Carbon Emissions in India: Conducted a number of technical investigations for more than 50 Indian industry units in 6 different states/union territories for various low-carbon technologies including gas heat pump (GHP) system, electric heat pump (EHP) system, induction furnace, and compressed air system. As a result, we have confirmed a significant potential impact, not only in carbon emissions reduction, but also in saving energy and cost. For example, for one dairy plant in Chandigarh, our analysis has revealed the potential to reduce carbon emissions



## II. Report by each Group/Team

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by 49% while saving up to 77% of energy costs by introducing EHP system which can simultaneously provide heating and cooling at the same time.

- Experimental Pilot Study in Actual Indian Industry: The team prepared documentation for implementing experimental pilot studies, including detailed drawings and potential impacts of technology application (e.g. carbon emissions reduction and energy cost saving) based on the feasibility study conducted at several Indian industries. As a result of long and hard negotiations utilising these documents, the ALCT team successfully convinced four Indian industry units to provide their facilities etc. for the purpose of pilot projects. Among these four, the team has already installed GHPs in two foundry units as the first of its kind in India.
- Recommendations for Enhancing Technology Transfer: Although the ALCT research component is expected to continue through FY2013, various implications in enhancing technology transfer are already gradually emerging, particularly through experience and data from the experimental pilot study explained in the above. For instance, cost issues (not only manufacturing costs but also import tax etc.) and the information/knowledge gap especially regarding the advanced technologies, as well as difference in natural environment (e.g. climate) and energy supply conditions (e.g. unstable grid power) have been identified as potential barriers. These issues shall be further examined during FY2013.

### (3) Major Impact Created

The research activities are all clearly leading to tangible and visible impacts as can be exemplified by the success in the pilot study for low-carbon technologies, which is currently being conducted in the industry sector in India.

- Recognition by Government of India ( GoI ): The ALCT research component provided various invaluable data and experience as previously discussed in the above. These have resulted in significant recognition of our activities and findings amongst GoI officials:  
“This project is an opportunity for Indian industries to benefit from Japanese expertise and is a very good ‘model of cooperation’ between the two countries. It is necessary to build on this cooperation in the coming years.” Mr. R R Rashmi /Joint Secretary, MoEF (Ministry of Environment and Forests)  
“The heat pump is a good technology choice and its application should definitely be explored for SMEs. The project has very good synergies with NMEEE/NAPCC (National Mission on Enhanced Energy Efficiency/National Action Plan on Climate Change) and also the BEE-SME programmes.” Mr. J Sood /Energy Economist, BEE (Bureau of Energy Efficiency)
- Effectiveness of Low-carbon Technology Transfer: As discussed in the above, the ALCT research team has successfully transferred and equipped GHPs in two actual Indian industrial units as the first of their kind in the country under the experimental pilot study. Furthermore, EHPs are to be installed in another two units by the summer 2013. This case is expected to become the first case ever implemented in India. In addition, the research team has designed a measurement plan based on the on-site technical field investigation for all four Indian industries for both GHP and EHP. Based on this design, baseline measurement devices were installed by December 2012. Measurement was carried out and quantitative data from the sites are already becoming available for further analysis. The validity of Low-carbon technology transfer shall be examined through evaluation of these data.

Enhanced interest of Indian business associations and organisations in low-carbon technologies: A number of Indian business associations and organisations showed interest in ALCT project, such as Rajkot Engineering Association (REA), Maharashtra Chamber of Commerce, Industry and Agriculture (MCCIA), Association of Indian Forging Industry (AIFI), etc. Collaboration with these organisations

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started through jointly-held workshops. Further collaboration is expected in the future by collaborating in feasibility studies and capacities buildings activities at the cluster level.

### (4) Major External Fund

- JICA ODA JPY187million (FY2010-FY2013)
- JST Research Fund JPY54million yen (FY2010-FY2012)

## b. Market-based Instruments for Improving Company Carbon Performance in Northeast Asia (MBIs)

### (1) Outline (Objectives/Goals/Targets/Methodologies)

Focusing on climate policies using economic instruments (subsidies, taxation and emissions trading, etc.), this project bridges the gap between the ongoing practices and the effective and efficient policies in Northeast Asia. The research adopts a bottom-up approach for overcoming the difficulties in the design of carbon pricing policies from the business perspective. The main contents include: (a) understanding and responses of companies to climate policies; (b) policy influence on company energy efficiency and carbon emissions; (c) carbon prices affordable for the companies at present; and, (d) the design options of carbon pricing tools relatively preferred by companies. As the overall goal, recommendations are provided for the development of a comprehensive policy mix by gradually introducing carbon pricing measures.

This research targets the manufacturing companies of the three major economies (Japan, China and Korea) in this region. The overviews illustrated the overall framework of policies related to industrial energy efficiency at the country level and summarised the details in the progress of carbon taxes and greenhouse gases emissions trading schemes (GHG ETS). The surveys in China and Korea purposely targeted three energy-intensive sectors, including iron & steel, cement and chemical industries. The survey in Japan focused on the large energy-consuming companies in Hyogo prefecture.

Various research methodologies were adopted. Information was collected for the policy review through desk work and interviews with local experts. Major effort was put into preparing survey documents and implementing questionnaire surveys with the companies. Many econometric analyses were conducted for answering the pre-defined research questions. As examples, the willingness-to-pay (WTP) model was applied to estimate the carbon prices affordable for the companies. The selected experiment method was adopted to identify the company's preference on the design alternatives of carbon tax policy and GHG ETS.

### (2) Major Findings/Results

- The policy overview indicates that the efforts in industrial energy efficiency and carbon mitigation are dominated by the regulative and administrative measures in this region. Financial subsidies are the main incentives encouraging the improvement of industrial energy efficiency. The progress of carbon pricing policies, with carbon taxes and GHG ETS as the representatives, is much slower than expected. The concern of negative policy impact on the

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economy and strong resistance from industry are key factors blocking the real progress of these policies.

- The companies in the three countries have successfully practiced energy saving overall. Comparatively, the Japanese companies performed better in technological and investment measures. The practices of Chinese small and medium-sized enterprises are restricted by internal capacities. The energy saving efforts of companies in Japan and Korea are mainly determined by the company strategy and top management support.
- The surveyed companies reveal moderate awareness of economic climate policies and prefer subsidies and preferential taxes as economic incentives. While agreeing on the usefulness and necessity of certain mandatory requirements, companies commonly resist the policies that would have a cost burden on their use of fossil fuels.
- The WTP estimations measured the carbon prices affordable for the companies currently. The survey in China, with nearly 300 samples, indicates that a carbon price of 6 to 12USD/t-CO<sub>2</sub> would be affordable. The companies in Hyogo of Japan have a similarly affordable carbon price of 5 to 13USD/t-CO<sub>2</sub>. The Korean companies are more sensitive to the pricing of carbon. The affordable price for them ranges from 2.3 to 3.5USD/t-CO<sub>2</sub>. These results confirm the large gap between a company's affordable carbon price and the price level necessary for the realisation of country's carbon mitigation targets in the medium-term that has been estimated by macro-economic analysis studies.
- The policy choice experiments at companies in China and Korea identified the policy attributes significantly determining their preferences to carbon taxes and GHG ETS. As an example, around 200 companies sampled in China and 150 samples collected in Korea confirmed that a carbon tax with a lower tax rate would be preferred, allowing for tax relief measures to energy-intensive industries and using the tax revenues specifically for climate change. The relationships between different policy attributes in influencing company policy choices were estimated. These findings provided evidence for matching the debates on the design of carbon pricing policies in the two countries.

### (3) Major Impact Created

- The overview and comparative analysis of carbon tax policy and GHG ETS were presented in the 'Global Environmental Taxation Conference' and published in the book series 'Critical Issues in Environmental Taxation'. An invitation was issued to present the carbon tax part at a symposium organised by UNDP for south-south knowledge sharing on tax tools for climate change. These activities directly helped policy makers to understand carbon pricing progress in Northeast Asia.
- Outreach in the academic field is an essential part of this research. Through continuous efforts, six papers on the surveys in China and Korea were successfully published in energy and climate journals, like 'Energy Economics', 'Applied Energy' and 'Energy for Sustainable Development'. Research can also be shared by presenting at various conferences, such as the annual conferences of the European Association for Environmental and Resource Economics and the Korea Association for Public Finance. Successful publications aim to initiate new research on similar topics to create a collective impact on the policy processes in this region.
- The final policy synthesis and recommendations based on project findings was not able to be prepared strictly according to the original schedule. Nevertheless, the outcomes were disseminated as far as possible through local networks, such as research institutes under the related ministries in China and Korea, and the Hyogo prefectural government. These efforts are expected to facilitate policy discussions in target countries and areas.

### (4) Major External Fund

- Hyogo Prefecture subsidy JPY137 million (FY 2010 – FY 2012)

### c. Local Business Initiative (LBI)

#### (1) Outline (Objectives/Goals/Targets/Methodologies)

The nature of reduction measures to control carbon dioxide emissions from the household sector is the current topic of discussion in efforts to create low-carbon societies. Provision of know-how and assistance in the execution of projects was carried out for the Ministry of the Environment and the Japan Center for Climate Change Actions (JCCCA) with the aim of developing the Eco-Home Diagnosis Programme on a nationwide scale. This programme proposes particularly effective measures for CO<sub>2</sub> reductions based on the lifestyles of individual households. In addition, the Eco-Home Diagnosis Programme was introduced in the Republic of Korea and Indonesia.

Further, support was provided in the creation of the project scheme within Hyogo Prefecture. Additionally, data from diagnoses in Hyogo Prefecture were analysed and the state of CO<sub>2</sub> emissions and reduction effects of each household were verified.

#### (2) Major Findings/Results

- Incorporation of establishment of the “Eco-Concierge Scheme” into Japan’s Growth Strategy provided the opportunity for consultations with the Ministry of the Environment and JCCCA regarding deployment of the Eco-Home Diagnosis programme nationally. The copyright of the “Eco-Home Diagnosis Software” developed by the IGES Kansai Research Centre was donated to the Ministry of the Environment, and initiatives on the part of the Ministry of the Environment (Infrastructure Project on the Eco-Home Diagnosis Programme) were launched from April of 2011.
- In an effort to have the Eco-Home Diagnosis deployed overseas, the programme was introduced to the Indonesia government in February of 2010, and to research institutes in the Republic of Korea in November of 2012.
- As the Secretariat of the Hyogo Prefecture Eco-Home Diagnosis Council, creation of the programme scheme and training of diagnostic personnel was carried out. Likewise, operational support was provided to the Kansai Eco-Home Diagnosis Council, and developments and improvements were made to the web-based version Eco-Home Diagnosis and the children’s version of the software (Eco-Home Kids).
- CO<sub>2</sub> emissions from households in Hyogo Prefecture are approximately five tons per year per household, with 65 percent accounted for by automobiles, hot-water heating and household heating. Moreover, the reduction potential for households was estimated to be 29 percent of total emissions. Effective measures for CO<sub>2</sub> reduction were replacement of highly emitting equipment in the three areas of automobiles, hot-water heating and household heating, selective changes in lifestyles, and installation of solar power equipment. The reduction effects of these actions were estimated to be 23 percent.

#### (3) Major Impact Created

- The programme was adopted as a measure of the Hyogo Prefectural government in September 2010, and was launched as an initiative of the Ministry of the Environment (Infrastructure Project on the Eco-Home Diagnosis Programme) from April 2011. Diagnoses were performed in 440 homes in Hyogo Prefecture in fiscal year 2010, and 915 homes in Hyogo Prefecture in fiscal year 2011 (national total of 4,662 homes). Likewise, diagnoses were performed in 1,019 homes in Hyogo Prefecture in fiscal year 2012 (national total of 10,103 homes).

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- Following the conclusion of the Infrastructure Project on the Eco-Home Diagnosis Programme by the Ministry of the Environment (FY 2011 to FY 2013), the Eco-Concierge Scheme will be deployed nationwide utilising knowledge gained from the Eco-Home Diagnosis.

### (4) Major External Fund

- Hyogo Prefecture subsidy JPY137 million (FY 2010 – FY 2012)

### d. Co-benefit project

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

The co-benefit project was conducted in FY2010 and FY2011. The general objective of co-benefit project is to promote co-benefit approach in Asia. Co-benefit approach here refers to policies, programmes or projects considering both climate change control (greenhouse gas emissions reduction) and environmental pollution control (better air quality, better water quality, better solid waste management, etc). The specific objective of co-benefit project is to promote the dissemination, transfer and application of Japanese co-benefit technologies in Asian countries.

Major components/activities:

- Develop/update co-benefit technology map, which is a matrix containing selected promising Japanese co-benefit technologies and relevant information to each one of them;
- Conduct a joint research study in seven Asian countries (China, India, Indonesia, Malaysia, Philippine, Thailand and Vietnam) to identify sites where co-benefit technologies, from the technology map, can be implemented; Summarise in an excel sheet the environmental condition of each country and its CDM project needs in term of co-benefit technologies.
- Develop quantitative evaluation tools, which will be used to quantitatively evaluate the co-benefits that could be generated from a specific project. They are developed based on CDM projects;
- Coordinate study tours for representatives of Indonesian central and local governments, to Japanese companies and relevant institutions;
- Organize a workshop in Indonesia, and participated in symposiums related to co-benefit project.

#### (2) Major Findings / Results

All planned activities and outputs have been provided in timely and effective manner. Major findings and results are as follows:

- Numerous promising co-benefit technologies are available and could be applied in Asian countries. As example, the adoption of methane fermentation system was recommended to be applied in the sites visited in Thailand, Indonesia and the Philippines; Installing Denitrification and Desulphurization equipment was recommended in the power plant in Vietnam; Installing cogeneration system was recommended for the resort and spa in India; Adopting composting of the swage sludge process was recommended in the case of Malaysia; and finally using solid waste as raw material and fuel for cement production was recommended for the cement producing factory in China. The impact of introducing these technologies was quantitatively evaluated and was found to be significant in term of GHG emissions reduction as well as in

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G. Kansai Research Centre

term of environmental benefit such as land saving, energy saving, odour minimisation, NOx and SOx emissions reduction, and so on.

- The need for co-benefit technologies varies according to the recipient country's characteristics (social, cultural, environmental, economic, political, etc). Hence, there is no "one policy fits all" solution to facilitate the diffusion of these technologies. To ensure the effectiveness of a co-benefit project, in-depth analysis to identify a country's needs in term of co-benefit technologies and the relevant conditions of their applicability is crucial.
- Based on the case studies, operators of the visited sites are giving lower priority to environmental issues. In addition, their high concern was related to the cost and the maintenance of the proposed technologies. Hence, measures to raise their awareness about the importance of co-benefit technologies, as well to overcome financial, institutional and technical barriers should be found. To this end, cooperation is crucial between all stakeholders, government agencies, non-government agencies, research/academic institutes and private sector.
- The technology map includes 63 technologies. It should be expanded to include more co-benefit technologies available in Japan.
- The evaluation tools should be tested based on actual co-benefit project operation to check their robustness.

### (3) Major Impact Created

- The findings of the co-benefit project were disseminated at several international conferences and symposia such as the conference on Better Air Quality (BAQ);
- The co-benefit technology map was used as material for the training course conducted by JICA targeting officials from local governments in Indonesia, about co-benefit approach.
- The technology map and the excel sheet, which summarises the environmental conditions and the CDM needs in term of co-benefit technologies in seven Asian countries, have been inputted in the co-benefit approach home page:  
<http://www.kyomecha.org/cobene/tools.html>.
- The findings and proposals, regarding co-benefit projects, were shared during the Asia Co-benefit Partnership (ACP) advisory group meetings.

### (4) Major External Fund

- MOEJ commissioned work (FY2010-FY2011)

## e. MRV Project

### (1) Outline (Objectives/Goals / Targets/ Methodologies)

In FY2012, IGES KRC conducted a project entitled "MRV project" which aims to develop Monitoring, Reporting and Verification (MRV) methodologies to evaluate the impact, in term of GHG emissions reduction, of installing gas heat pump system (GHP) and electric heat pump system (EHP) in Indian industries. The ultimate goal is to input these MRV methodologies into the Japan-India bilateral offset crediting mechanism (BOCM/JCM), to promote the transfer of these two technologies into Indian industries.

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-Targets:

- The project targets BOCM/JCM as a scheme to promote the deployment and diffusion of GHP and EHP in India, so MRV methodologies have been developed according to the framework on BOCM/JCM methodologies.
- The project targets all stakeholders who are focusing on promoting low-carbon technology transfer, especially policy makers and businesses in India and Japan.

### (2) Major Findings / Results

The project was conducted successfully. All planned activities and outputs were provided in timely and effective manner. Major findings and results are as follow:

- MRV methodologies regarding EHP and GHP have been developed.
- Case studies about using EHP MRV methodology have been provided based on the assumption of implementing EHP in two dairy industries. Case studies for GHP MRV methodologies have been provided based on the assumption of implementing GHP in two investment casting industries.
- Under MRV methodology for GHP, it was difficult to determine a general default value for “Annual full load equivalent operation hours” of existing air conditioners. Under MRV methodology for EHP it was difficult to determine a general default value for the “Annual operation hours” of the chiller. Further investigation and analysis should be carried in FY2013 to determine sound default values regarding these parameters, especially because they are most important parameters to determine annual energy consumption for a reference scenario.
- The managers of the sites (case studies) are very interested in GHP and EHP, and are very keen on energy saving and capacity building regarding these technologies, as well as looking at related MRV methodologies.
- Monitoring tools, although not sophisticated, have been installed at each site and relevant data has been properly registered in logbooks.
- MRV methodologies have been developed based on assumptions rather than on actual projects. This is because GHP and EHP have not yet been implemented in India. Under the ALCT project also conducted by IGES KRC, pilot projects regarding GHP and EHP are being implemented, so the MRV methodologies are expected to be improved further based on more data availability and on actual project operation in FY2013.

### (3) Major Impact Created

- The findings of the MRV project were disseminated at a workshop in India as well as at an international symposium in Japan. Based on the presentation given in India, the Shakti Sustainable Energy Foundation (SSEF) proposed to collaborate with KRC to conduct capacity building activities for about 300 certified energy auditors regarding GHP and EHP using the developed MRV methodologies. KRC expressed an interest, and these activities might be conducted in the third or fourth quarter of FY2013.
- Discussion is on-going between Japan and India regarding BOCM/JCM. Any impact will be maximised when this scheme is agreed by both countries.

### (4) Major External Fund

- MOEJ commissioned work (FY2012)

## 3. List of Publications (See Annex)

### H. Kitakyushu Urban Centre

#### 1. Overview as Group

##### (1) Objectives and Goals / Targets

Kitakyushu Urban Centre (KUC) focuses on promotion of effective environmental policies at a local level toward development of sustainable cities through 1) networking local governments for facilitating mutual learning as well as collaboration with other stakeholders, including national governments and agencies, international and regional organisations, supporting organisations, academia, research institutions and NGOs, 2) provision of useful knowledge and approaches by objective and cross-cutting analysis of successful (and unsuccessful) case studies and policies, 3) provision of practical solutions and training opportunities for local government officials to resolve local environmental problems, and 4) implementing cooperation projects in Asian cities with local partners in Kitakyushu City.

##### (2) Research Structure / Outline of Activities Conducted

###### ● Component 1: Promotion of Environmentally Sustainable Cities through Networking

KUC organised four consecutive High Level Seminars on Environmentally Sustainable Cities (ESC) under the framework of the East Asia Summit Environment Ministers Meeting (EAS EMM) since 2010 serving as a secretariat in close coordination with EAS member countries and ASEAN Secretariat. KUC also designed and assisted implementation of an ASEAN ESC Model Cities Programme in eight ASEAN countries which was developed from the recommendations of the seminar and obtained fund from Japan-ASEAN Integration Fund (JAIF).

###### ● Component 2: Research on Sustainable City Policies

KUC, together with GC group at headquarter, conducted a research called “Development of Low-Carbon Societies in Asia through Intercity Collaboration” jointly with Kyushu and Hosei Universities using the Environment Research and Technology Development Fund in FY2010 – 2011, whose essence was succeeded by an MRV (measurement, reporting and verification) capacity building support for local governments for low-carbon city planning in selected Asian cities since 2011.

###### ● Component 3: Promotion of Composting and Local Initiatives

Since the implementation of the Kitakyushu Initiative for a Clean Environment (2000-2010), a networking programme of environmental cities under the UN-ESCAP framework, Kitakyushu City and IGES-KUC have maintained the network with selected keen cities by particularly promoting community-based solid waste management and a decentralised composting system in close cooperation with JICA Kyushu, JICA volunteers and other partners.



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### ● **Component 4: Project Implementation and Policy Formulation Support with Local Partners**

Not only researching environmental policies and networking cities, KUC also implements pilot projects and assists formulating policies to improve local environmental conditions in cooperation with local governments and other local partners.

### **(3) Major Outputs in the Context of Policy Impact**

#### ● **Component 1: Promotion of Environmentally Sustainable Cities through Networking**

Four consecutive High Level Seminars on Environmentally Sustainable Cities were held reflecting the importance of the subject and the recognition of the seminar by the participants as a platform for knowledge sharing and facilitating inter-organisational collaboration. The seminars were hosted by four different national governments and representatives from a total of more than 60 local governments as well as more than 50 organisations participated in the seminars which provided the breadth of the discussion. Fourteen local governments selected in eight countries as model cities implemented what they proposed using the seed fund from the ASEAN ESC Model Cities Programme in the Year 1 implementation and the Year 2 proposal prepared by KUC and supported by ASEAN countries was submitted and awaiting for the final approval by the Government of Japan.

#### ● **Component 2: Research on Sustainable City Policies**

Low-carbon concept and importance of such policy formulation gained recognition by leaders and officials of many Asian local governments in the past few years. KUC assisted selected cities, including Surabaya City (Indonesia), Ho Chi Minh City (Viet Nam) and Nonthaburi City (Thailand), in evaluating their environmental projects and policies in terms of GHG emissions reduction. KUC undertook a three-week training course on low-carbon city planning and MRV capacity building from JICA Kyushu and implemented it in Kitakyushu by inviting delegates from these three cities and other JICA-invited participants. In FY2013, these activities resulted in continuation of the MRV capacity building activities in selected local governments and implementation of a set of feasibility studies in Surabaya to identify potential large-scale demonstration projects in energy, transport, solid waste and water resource management sectors for a Joint Crediting Mechanism promoted by the Government of Japan. Not only mitigation, KUC also conducts a study on resiliency in selected Asian cities together with Nagoya, Hosei and Osaka Universities using the Environment Research and Technology Development Fund in next three years.

#### ● **Component 3: Promotion of Composting and Local Initiatives**

KUC organised two networking workshops on community-based composting in 2010 and 2011, respectively in cooperation with JICA Kyushu, Kitakyushu City and ESCAP, which resulted in a development of a JICA Training Course on Composting Management since 2012. KUC also assisted implementation of community-based composting projects in Cebu City, Philippines and Saankhu City, Nepal in cooperation with Kitakyushu City and others, which resulted in an outstanding 30 per cent waste reduction in three years in Cebu. KUC developed a promotion video for waste reduction through composting with JICA which is publicly available on JICA website. The waste reduction manual through composting developed by KUC was translated into Spanish and disseminated to the participants of the Rio + 20 Conference. KUC also conducted a research on large-scale composting

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facilities in six countries using an Asian Development Bank (ADB) fund to identify financially sustainable business model, appropriate technological inputs and necessary supporting policy measures for that.

### ● **Component 4: Project Implementation and Policy Formulation Support with Local Partners**

KUC assisted National Solid Waste Management Department, Ministry of Housing and Local Government, Malaysia in drafting a national food waste management strategy through conducting a series of baseline study and researching similar regulations and approaches in other countries. KUC also assisted Viet Nam Environment Administration, Ministry of Natural Resources and Environment, Viet Nam in drafting a national 3R action programme which will be submitted to Prime Minister Department for the approval in 2013. KUC is also assisting Kitakyushu City in implementing solid waste management projects in Nairobi, Kenya and in Surabaya, Indonesia with Nishihara Co., Ltd., a Kitakyushu-based waste management company, both under JICA schemes. Requests for such cooperation from Kitakyushu City has been increasing these days reflecting a policy of Government of Japan in taking advantage of city-to-city cooperation framework to promote Japanese companies' environment friendly and energy efficient technologies for accessing the growing Asian markets and gaining carbon credits from these countries.

### **(4) Self Evaluation**

KUC's project portfolio expanded in last three years as given above. Accordingly, the number of researching staff increased from four in April 2010 to nine currently including two visiting researchers from private companies and additional two waiting for approval. Development of low-carbon society and sustainable cities became a popular topic in the developing arena recently and many supporting agencies and organisations are focusing on this area. In perspective, KUC's position became strategically important for IGES as KUC has been studying local environmental policies and has a long-history in collaboration with local governments in Asia including Kitakyushu City, the most serious city in international environmental cooperation in Japan.

## **2. Reports by Research Component**

### **a. Promotion of Environmentally Sustainable Cities through Networking**

#### **(1) Outline (Objectives/Goals / Targets/ Methodologies)**

In the 5th phase, KUC focused efforts on realising the five practical activities for regional collaboration among ASEAN and East Asia Summit (EAS) participating countries recommended by the 1st High Level Seminar on Environmentally Sustainable Cities (HLS ESC) which was held under the EAS Environment Ministers Meeting (EMM) framework.

The ASEAN ESC Model Cities Programme was implemented jointly with the ASEAN Secretariat for a year (2011 – 2012) funded by the Japan-ASEAN Integration Fund (JAIF), providing seed funding, technical assistance and other support to 14 ASEAN cities to fulfill their stated targets. In addition, the programme also helped to strengthen existing national ESC frameworks (such as national city awards) or initiate new ones, such as in Cambodia and Vietnam. The programme's results convinced

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ASEAN member states to support its extension, and application for further funding has been submitted.

In parallel, KUC (as event Secretariat) organised the HLS ESC (2nd, 3rd and 4th seminar; annual basis) – with progressively growing scale – as a multi-stakeholder platform to facilitate networking, knowledge exchange and discussion on emerging issues. In 2013, the CityLinks Pilot Partnership, a technical city exchange programme between ASEAN and US cities, was also designed building on the recommendations of the HLS ESC and ASEAN ESC Model Cities Programme.

### (2) Major Results

- Through the ASEAN ESC Model Cities Programme, an umbrella mechanism (the ASEAN ESC Model Cities Programme) to encourage bottom-up initiatives and support capacity building for local government officers was established within the ASEAN and EAS EMM framework. The mechanism has enabled KUC to understand major initiatives and monitor trends on ESC programmes/projects within the region, and their linkages, in order to promote or facilitate synergistic collaboration.
- The HLS ESC has gained recognition among stakeholders as an annual event to convene high-level policymakers and practitioners for facilitating collaboration and discussion on ESC activities.
- IGES/KUC strengthened its capacity on working with local governments and grew its networks with ASEAN and East Asian governments plus donor organisations, development agencies, NGOs, academic and the private sector as well as reputation as an active player on the regional sustainable urban agenda.

### (3) Major Impact Created

- Helped raise awareness and build the capacity of ASEAN local government officers and more than 15,000 citizens on key urban environment sectors such as solid waste management (particularly composting), water and sanitation, urban greenery and low-carbon city development. Community-led institutional structures for bottom-up environmental protection in certain cities were initiated or strengthened.
- Several national programmes were streamlined with relevant ongoing national ESC initiatives, such as Indonesia (Adipura Environmental Awards), Malaysia (Bandar Lestari Sustainable City Awards) and Thailand (various national sustainable city awards). In Cambodia, the programme contributed to the launch of a new nationwide ESC campaign (Cambodia Clean City Campaign), while in Viet Nam, the programme helped to formulate a proposed set of ESC indicators suitable for Viet Nam.

### (4) Major External Fund

- Japan-ASEAN Integration Fund (JAIF) USD500,000 (FY2011 – 12)
- Model Cities Inception Workshop (ESCAP) USD30k (FY2011 -12)
- 4th HLS ESC (MoEJ) JPY11.7m (FY2012)

### (5) Major Publications

- Final Report of the ASEAN ESC Model Cities Programme Year 1 (2011/12)
- Programme and Model Cities Fact Sheets

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- ASEAN ESC Model Cities Programme website

### b. Research on Sustainable City Policies

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Two studies shown below were done in the 5th Phase.

**(a) Low Carbon City planning support for the local government in Asia:** Support was provided through training, field surveys prior to training and workshops post training. The purpose of training which was held in Kitakyushu City was the capacity development for NAMA/MRV, as well as presentations on policies and examples from Japanese local governments Japan. The purpose of the fieldwork before and after the training was to evaluate the results and potential reduction in GHG emissions, information exchange and sharing and the creation of a draft low carbon city plan. The local governments involved in this study were - Surabaya City, Indonesia; Ho Chi Minh City, Viet Nam; and Nonthaburi City, Thailand.

#### (b) Research on Development of Low Carbon Societies in Asia through City-to-City Collaboration:

This study aimed to develop a framework (“platform”) fostering joint initiatives among multiple stakeholders in the pursuit of low-carbon development of Asian cities. This study consists of three sub-themes: Sub-theme 1 (Kyushu University) on policy measures for low-carbon development in Asia, its promotion mechanisms, challenges and needs; Sub-theme 2 (Hosei University) on low-carbon policies and promotion measures in Japanese cities; and Sub-theme 3 (IGES) on frameworks for the promotion of city-to-city cooperation between Japanese and other Asian cities. KUC carried out the following: 1) analysis of resources which can be mobilized over the network, 2) investigations of 2 cases about JICA Grassroots Technical Cooperation Project (Chikujo town and Jintan city, Oita city and Wuhan city), 3) holding an international workshop.

#### (2) Major Results

##### (a) Low Carbon City Planning Support for Local Governments in Asia

**1) Training modules for Low Carbon City Planning:** Training modules were developed in association with related departments of Kitakyushu City (Environmental Bureau, City Architecture Bureau, Construction Bureau, Water and Sewerage Bureau); Kitakyushu University (Department of Engineering); NGOs, private enterprises etc. Low Carbon City Development issues and experiences were integrated in the form of handouts and presentation materials. These various materials were then arranged in a unified manner (Table 1).

**2) Evaluation tools for Low Carbon City planning:** The evaluation tool was developed for quantifying GHG emissions based on MRV (measurement, report, and verification) in order to develop low carbon cities. Using these tools, concrete policies were proposed in 5 sectors to meet the need of 3 cities (Table 2).

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**Table1: Training modules for Low Carbon City planning**

ITEM	CONTENTS
International framework and the current situation	International negotiations, NAMA, Global Warming Countermeasures, Emissions Trading, Eco-model city and Future-city
Sector (plan and design, construction, management evaluation and correction control of maintenance)	Traffic and transportation, energy, waste and recycling, a green tract of land and a park, water supply and sewerage, disaster prevention, environmental preservation and regulation, citizen participation, international cooperation
Kitakyushu City Site Visits	Eco-town(recycling Industries), Smart community, Hibikino campus, Yamada-Park, Environment museum etc.

**Table2: Proposal of low carbon city planning based on evaluation tools**

Sector	Project(example)		
	Surabaya city, Indonesia	Ho Chi Minh city, Vietnam	Nonthaburi city, Thailand
Traffic and Transportation	Modal shift (cars/motorcycles to public buses, railways)	Car pool	Use Compressed Natural Gas (CNG) for urban public transport Construct and operate the Metro route 1
Energy management	Cogeneration (utilization of waste heat), Renewable energy	Solar PV	Street lights using LED and renewable energy Rooftop greenery Management of Air Conditioners Rainwater utilization
Wastes /Recycling	Recycling Plastics/Papers/Glass/Metals Organic wastes(Composting, RPF)	Composting	Viet star Composting Plant
Greenery management	A forestation, Forest conservation/management	Planting	Planting Rooftop greenery
Water supply/Sewage	Water leakage control Aerobic wastewater treatment, Biomass fuels	Reducing water consumption	Water leakage control

### (b) Research on Development of Low Carbon Societies in Asia through City-to-City Collaboration:

The results underlined success and prevention factors in cooperation between cities (Table 3).

**Table 3: Success and Prevention Factors in City-to City Cooperation**

Success Factor		Prevention Factor	
Compatibility with national policies	This creates a strong base for ensuring collaborative buy-in.	Differences in culture or custom	Lack of understanding of differences in social background, language cultural norms, etc. easily leads to failure.
Links to economic effects	This is the driving force of cooperation and influences the possibility of future development	Differences in implementation frameworks	The strength of the trust between both sides as well as the sustainability of the implementation framework will influence stability. It is necessary to find talented people as well as ensuring adequate back-up and information sharing.

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Positive contributions by each stakeholder	Materials, people and funds and their associated structure determines enterprise success or failure.	Differences in aims	If there is no unification of purpose and grasp of needs, and result will deviate from the initial purpose. It is necessary to have a detailed unified approach clarified prior to the start of work.
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### (3) Major Impact Created

KUC conducted research called “Development of Low-Carbon Societies in Asia through Intercity Collaboration” jointly with Kyushu and Hosei Universities using the Environment Research and Technology Development Fund in FY2010 – 2011, the essence is which was succeeded by MRV (measurement, reporting and verification) capacity building support for local governments for low-carbon city planning in selected Asian cities from 2011.

### (4) Major External Fund

1. Asian Region MRV System Construction Assistance Fund, MOEJ (FY2011-12/JPY12 m)
2. Environmental Research and Technology Development Fund, MOEJ (FY2009-11/JPY126m)
3. Consignment contract concerning a "NAMA/MRV capability strengthening (A) course" (FY2012/JPY3.4m)

### (5) Major Publications

- “Low carbon development for City-City Networking in Asia”, Report (2011/03)
- “Development of Japan-China Environmental Cooperation and Business Potential - Case of Kitakyushu City” (2011/09)
- “Analysis of the utilization of Biomass energy in Japan”(2011/11)
- "FY2012 NAMA/MRV capability strengthening course job report" (2012/10)
- “Measurement, Reporting and Verification (MRV) for low carbon development: Learning from experience in Asia—Chapter 8 Cities: Cases from Indonesia, Vietnam, Thailand and Japan” (2013/03)
- “FY2012 MRV system construction assistance project towards the construction of a new mechanism in the Asian Region” (2013/03)

## c. Promotion of Composting and Local Initiatives

### (1) Outline (Objectives/Goals / Targets/ Methodologies)

This component mainly focused on the following two research activities in the 5th Phase.

- (a) **Research on large-scale composting projects:** This ADB-funded study examined both successful and unsuccessful large-scale composting programmes in six Asian countries, including India, Sri Lanka, Bangladesh, Thailand, Indonesia and China, aiming to identify recommendable policies for promoting composting as a green business. The output of the study was formulated in a policy guideline for national and local policy-makers to implement composting projects with technical and financial options in view of applying that for ADB-funded solid waste management projects.

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- (b) **Promotion of decentralised composting:** Following the past achievements under the Kitakyushu Initiative for a Clean Environment (2000-2010), an intercity network to share good environmental practices among member cities, replication of a successful community-based composting model developed in Surabaya (Indonesia) was further disseminated in other Asian Cities in cooperation with Kitakyushu City Government, Kitakyushu International Techno-cooperative Association (KITA), Japan International Cooperation Agency (JICA), United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and other organisations.

### (2) Major Results

#### <Research on large-scale composting projects>

- Organised six national workshops in Sri Lanka, Thailand, Bangladesh, India, China and Indonesia with participation of national government officers and other stakeholders to discuss and recommend favorable policies to support large-scale composting projects.
- A commissioned report was prepared for ADB incorporating the findings in the six countries.

#### <Promotion of decentralised composting>

- Assisted Cebu City (Philippines) to design and implement the community-based solid waste management programme for achieving the waste reduction targets set by the national mandate of RA 9003.
- Assisted Saankhu City (Nepal) to draft the community-based solid waste management plan.
- Organised an International Training Workshop for National Policy Framework on Municipal Waste Management in Indonesia, 27-29 October 2010 in Kitakyushu with Kitakyushu City, KITA, JICA Kyushu and UNESCAP, inviting participants from five cities and five national agencies in Indonesia.
- Organised a Networking Seminar on KitaQ System Composting in Asia, 29 June-1 July 2011 in Kitakyushu with JICA Kyushu, Kitakyushu City, and KITA with 20 participants from 10 cities in Asia.
- Organised a networking meeting for local governments, 7 March 2012, in conjunction with the 3rd High level Seminar on Environmentally Sustainable Cities in Cambodia.
- Organised a regional networking seminar on KitaQ Composting System, 17-20 July 2012 in cooperation with JICA Kyushu, Kitakyushu City and KITA with participation of 19 delegates from 13 cities in Asia and South America.
- Conducted trainings and gave lectures at the JICA Kyushu on the subject area on solid waste management, composting and local sustainability.

### (3) Major Impact Created

#### <Research on large-scale composting projects>

- At the national level, the ADB funded study on larger-scale composting made impacts in six Asian countries including Sri Lanka, Thailand, Bangladesh, India, China and Indonesia in making policy recommendations to integrate composting into municipal solid waste management
- At the regional, the study gave policy recommendations to ADB for its future assistance in municipal solid waste management and composting in Asia.
- <Promotion of decentralised composting>
- The community-based solid waste management system adopted by Cebu City with the technical assistance of IGES made impact to achieve 30% waste reduction within 3 years.

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- The documentation prepared by IGES based on the lessons learned in Cebu city was published by the Environmental Management Board (EMB) VII of the Department of Environment and natural Resources (DENR) as a best practice in its Annual Regional Solid Waste Management Report and impacted for expansion in other cities in the province.
- With the technical assistance of IGES, Saankhu city has prepared a solid waste management system that impacted to improve the waste collection system, environmental education and public health of the community.
- A PR material (flyer and a video) on Reducing Waste through the Promotion of Organic Waste Composting was produced with JICA Kyushu and shared at the Rio+20.
- Policy report compiling the municipal solid waste management in Sri Lanka was published in JICA Monograph on Present State and Challenges for International Cooperation on Urban Solid Waste Management in Asian Mega and Large Cities (2012).
- Peer-reviewed articles, conference papers, and discussion papers were published and knowledge was shared with other stakeholders.

#### (4) Major External Fund

ADB (USD 110,000), UNESCAP (USD 30,000), and Kitakyushu City (JPY3million)

#### (5) Major Publications

- Decentralized Composting in Asian Cities: Lessons Learned and Future Potential in Meeting the Green Economy. In *The Economy of Green Cities: A World Compendium on the Green Urban Economy*, Bonn, Germany. ICLEI and Springer (2013)
- Policy Implication of the Republic Act (RA) 9003 in the Philippines: A Case Study of Cebu City. In *The 1st IWWG-ARB Conference, 18-20 March 2013*, Hokkaido University, Japan (2013)
- Community-based Composting as an alternative Route to Enhancing MRV. In *the Measurement, Reporting, and Verification (MRV) for low carbon development: Learning from Experience in Asia*, IGES (2013).
- Solid Waste Management in Colombo City, Sri Lanka: Current Practices, Challenges and Opportunities. In *Present State and Challenges for International Cooperation on Urban Solid Waste Management in Asian Mega and Large Cities*, JICA (2012).
- Carbon Finance and Decentralized Composting in Asia: Potential and Future Considerations. In *Environment and Urbanization Asia*, 3(2). 303-323 (2012)
- Reducing Municipal Waste through Promoting Integrated Sustainable Waste Management (ISWM) Practices in Surabaya City, Indonesia. In *Ecology and the Environment*, Vol. 144. 457-470 (2011)

### d. Project Implementation and Policy Formulation Support with Local Partners

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Under the framework of Regional 3R Forum in Asia, KUC implemented two bi-lateral cooperation projects funded by the Ministry of the Environment, Japan (MOEJ), namely development of a national organic waste management strategy in Malaysia and a national 3R action programme in Viet Nam. In cooperation with Ministry of Housing and Local Government (MHLG) Malaysia and Viet Nam Environment Administration (VEA), KUC provided technical supports for institutional setting. KUC aimed to formulate a policy and regulation in those countries by reviewing associated policy formulation processes in Japan as well as in countries implementing those policies. Accordingly, recommendations based on the research findings were compiled and submitted to both national



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governments for their consideration. The outputs of the projects were shared at the Regional 3R Forum in Asia in order to replicate the cooperation model of institutional setting to further promote 3Rs in this region.

In Nairobi, Kenya, KUC, together with Kitakyushu City and private consulting firms, supported the City Council in improving the solid waste collection and transportation system under a JICA Technical Assistance Project.

#### (2) Major Results and Impact Created

- supported Ministry of Housing and Local Government, Malaysia to develop a national strategy on food waste management which is now in the hand of Malaysia Government to formulate a regulation
- supported Vietnam Environment Administration, Ministry of Natural Resources and Environment, to develop a 3R Action Programme, which will be submitted to Prime Minister department for its approval within 2013
- organised a plenary session on country-country cooperation in the promotion of 3Rs in Asia together with UNCRD and MOEJ at the 4th Regional 3R Forum in Asia in Hanoi, Viet Nam in March 2013 to disseminate the main outputs of the two bilateral cooperation projects in Malaysia and Viet Nam
- submitted a Year 1 report to Nairobi City Council which quality was rated as rank 'A' by JICA
- Formulation of a food waste recycling regulation in Malaysia and a 3R action programme in Viet Nam, as well as improvement of solid waste collection and transportation system in Nairobi, are anticipated

#### (3) Major External Fund

- Malaysia 3R project (MOEJ funded) JPY 21,300,000 (In total for FY2010 – 12)
- Viet Nam 3R project (MOEJ funded) JPY 16,800,000 (FY2012)
- Nairobi 3R project (JICA Technical Assistance Project) JPY 9,000,000(FY2012)

#### (4) Major Publications

- National Strategic Plan for Food Waste Management in Malaysia (Draft) submitted to Ministry of Housing and Local Government of Malaysia
- Malaysia 3R project website (<http://foodwastes.net/v1/>)
- A policy report, titled "Solid Waste Management in Viet Nam: Policy Recommendation Report" submitted to Viet Nam Environment Administration, Viet Nam

### 3. List of Publications (See Annex)

## II. Report by each Group/Team

### I. Beijing Office

#### I. Beijing Office

##### 1. Overview as Group/Team

###### (1) Objectives and Goals / Targets

The purpose of the Beijing Office is to act as an important bridge and a reliable platform between China and Japan to further promote environmental bilateral cooperation between the two countries. For this purpose, the following activities were conducted.

###### (2) Research Structure /Outline of Activities Conducted

###### ● Component 1: Sino-Japan Water Environment Partnership

This research has been implemented in China as part of the cooperation scheme of a project based on an agreement between the Japanese and Chinese governments. Beijing Office analysed the issues of the current policy framework on water pollutant reduction and water environment management, and prepared the policy recommendations for important water areas such as drinking water sources, where more strategic and comprehensive management is needed in light of their rapid development.

To be more specific, IGES was designated as the implementing organisation on the Japanese side for the “Model project on decentralised wastewater facilities in small towns and rural areas in China” and “Model project on reduction of total pollutant such as NH<sub>3</sub>-N etc. in small towns and rural areas in China,” which were agreed between the Environmental Ministers of Japan and China. Beijing Office has been working to construct model facilities, and also has been implementing monitoring and evaluation of these facilities since the Fourth Phase. At the same time, Beijing Office analysed the policy problems that were identified through implementation of model projects, and made policy proposals.

###### ● Component 2: Climate Change Capacity Building Project in China

Based on the cooperation agreement made between the Ministry of the Environment of Japan and the Chinese National Development and Reform Commission, and in coordination with the promotion of low-carbon development model projects and carbon emission trade model projects, Beijing Office implemented capacity building projects by inviting a Chinese delegation to Japan, with the purpose of strengthening the awareness of Chinese local government officers on low-carbon development and carbon emissions trade, so as to raise the capacity of Chinese local governments to implement low-carbon development model projects and carbon emissions trade model projects.

In addition, Beijing Office created a platform for practical policy dialogues on climate change between Japan and China.

This research was carried out in close coordination with the Climate Change Group (Market Mechanism Sub-group).

## II. Report by each Group/Team

### I. Beijing Office

- **Component 3: Participation in Sino-Japan Joint Survey Research in the Environmental Field**

Beijing Office participated in joint survey research in the environmental field conducted by the Japanese government in order to establish a strategic reciprocity relationship between China and Japan. Beijing Office also participated in delivering policy recommendations.

- **Component 4: Support for IGES' Activities to be carried out in China**

Beijing Office supported IGES as a whole and each group by providing important policy information etc. from China.

### (3) Major Outputs in the Context of Policy Impact

- **Component 1: Sino-Japan Water Environment Partnership**

Beijing Office constructed nine decentralised wastewater treatment model facilities in total from the Fourth Phase, and submitted the results of monitoring and evaluation to the Chinese Ministry of Environmental Protection. The results were highly evaluated at Japan-China High-Level Economic Dialogue, Japan-China Energy Conservation Forum and Japan-China-Korea Tripartite Environmental Ministers Meeting. Wastewater treatment facilities, to which model facilities are referred as samples, are being constructed in China.

Beijing Office was successful in providing the results of the projects in good time, when the 12th Five-Year Plan referred to construction of wastewater treatment facilities in small towns and rural areas and total reduction of water pollutants as important issues. Beijing Office organised international seminars to disseminate the results of projects and also published a book in China.

<Seminars>

July 2010	Seminar on exchange experience and evaluation of Japan-China cooperative model projects on decentralised wastewater treatment facilities in small towns and rural areas in China (Taizhou City, Jiansu Province, China)
December 2011	Seminar on overall results from Japan-China environmental cooperation (Tokyo)
February 2012	International seminar on Japan-China total reduction of water pollutants (Beijing)

<Publication ( in Chinese)>

January 2012	Management system of construction of decentralised wastewater treatment facilities in small towns and rural areas (China Environmental Science Publishing Company)
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- **Component 2: Climate Change Capacity Building Project in China**

Beijing Office created a platform for practical policy dialogues between the Japanese government (Ministry of the Environment) and the Chinese National Development and Reform

## II. Report by each Group/Team

### I. Beijing Office

Commission, and organised policy dialogues regularly, about twice a year. By providing such opportunities, Beijing Office facilitated exchanges and dialogues on climate change between the governments.

In addition, by inviting Chinese delegations to Japan to participate in training projects, Beijing Office contributed to raising adaptation capacity to climate change for local governmental officers from model cities/provinces for low-carbon development and also for carbon emissions trade.

#### ● **Component 3: Participation in Sino-Japan Joint Survey Research in the Environmental Field**

Beijing Office participated in Japan-China cooperative research on total reduction of nitrogen and phosphorus in water, and also in Japan-China cooperative research on total reduction of nitrogen oxides in air, which the Ministry of the Environment of Japan and the Chinese Ministry of Environmental Protection jointly implemented. Beijing Office's participation in this research was very meaningful in terms of policy-making and technical aspects, since Beijing Office could provide inputs at the right time, when the Chinese government was considering implementation of total reduction of nitrogen, phosphorus and nitrogen oxides.

#### ● **Component 4: Support for IGES Activities to be carried out in China**

Beijing Office basically provides answers within 24 hours to requests for advice and enquiries about information on research. By doing so, Beijing Office contributed to improving the efficiency of research activities of each project groups in IGES.

#### **(4) Self Evaluation**

Beijing Office is a very compact group, with one director, two researchers (both are holding other positions in other groups) and two assistants (one is holding another position in another group). Despite this, Beijing Office operations were very efficient in implementing projects due to close communication among its staff. Beijing Office considers that the results were relatively good compared to the size of the office. Also, Beijing Office was basically run using external funds over the Fifth Phase and it was not supported by the core fund, so it could be evaluated as contribution to improving the financial situation of IGES.

## **2. Reports by Research Component**

### **a. Component 1: Sino-Japan Water Environment Partnership**

#### **(1) Outline (Objectives/Goals / Targets/ Methodologies)**

This research has been implemented in China as part of the cooperation scheme of a project based on an agreement between the Japanese and Chinese governments. Beijing Office analysed the issues of the current policy framework on water pollutant reduction and water environment management, and prepared the policy recommendations for important water areas such as drinking water sources, where more strategic and comprehensive management is needed in light of their rapid development.

## II. Report by each Group/Team

### I. Beijing Office

To be more specific, IGES was designated as the implementing organisation on the Japanese side for the “Model project on decentralised wastewater facilities in small towns and rural areas in China” and “Model project on reduction of total pollutant such as NH<sub>3</sub>-N etc. in small towns and rural areas in China,” which were agreed between the Environmental Ministers of Japan and China. Beijing Office has been working to construct model facilities, and also has been implementing monitoring and evaluation of these facilities since the Fourth Phase. At the same time, Beijing Office analysed the policy problems that were identified through implementation of model projects, and made policy proposals.

This project was implemented in cooperation with National Institute for Environmental Studies (NIES) and Idea Consultants Inc. IGES was in charge of making analysis of political issues and making suggestions. NIES provided technical support and Idea Consultants Inc. was in charge of construction of model facilities and construction management.

#### (2) Major Findings / Results

Beijing Office constructed nine decentralised wastewater treatment model facilities in total from the Fourth Phase, and submitted the results of monitoring and evaluation to the Chinese Ministry of Environmental Protection.

Beijing Office was successful in providing the results of the projects in good time, when the 12th Five-Year Plans referred to construction of wastewater treatment facilities in small towns, rural areas and total reduction of water pollutants as important issues. Beijing Office organised international seminars to disseminate the results of projects and also published a book in China.

Beijing Office also presented the results of project at the international and domestic academic societies and published articles in journals.

<Major seminars which Beijing Office organised and/or made presentations>

July 2010	Seminar on exchange experience and evaluation of Japan-China cooperative model projects on decentralised wastewater treatment facilities in small towns and rural areas in China (Taizhou City, Jiansu Province, China/ Beijing Office was the organiser)
May 2011	Presentation of “Japan-China Cooperation regarding Regulation on Total Emission in China” at the 6 <sup>th</sup> Regional Workshop on Integrated Management of Basin/Coastal Areas (Dalian City, Liaoning Province, China)
July 2011	Presentation of “Japan-China Cooperation for Improvement of Water Environment in Rural Areas in China” at Japan-China Environmental Policy Seminar (Beijing, China)
December 2011	Seminar on overall results from Japan-China environmental cooperation (Tokyo / Beijing Office was the organiser)
February 2012	International seminar on Japan-China total reduction of water pollutants (Beijing, China / Beijing Office was the organiser)
October 2012	IGES Earth Environment Seminar (Yokohama / IGES was the organiser)

## II. Report by each Group/Team

### I. Beijing Office

<Publication (in Chinese)>

January 2012 Management system of construction of decentralised wastewater treatment facilities in small towns and rural areas (China Environmental Science Publishing Company)

#### (3) Major Impact Created

The results were highly evaluated at Japan-China High- Level Economic Dialogue, Japan-China Energy Conservation Forum and Japan-China-Korea Tripartite Environmental Ministers Meeting. Wastewater treatment facilities, to which model facilities are referred as samples, are being constructed in China.

#### (4) Major External Fund

- Japan-China Water Environment Partnership Research (Model project on decentralized wastewater treatment facilities)/ Ministry of the Environment (FY2010-2011 / Total JPY 223 million)
- Cooperative project on reduction of total pollutant such as ammonia nitrogen in small towns and rural areas/ Ministry of the Environment (FY2011-2012/ Total JPY159 million)

### b. Component 2: Climate Change Capacity Building Project in China

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Based on the cooperation agreement made between the Ministry of the Environment Japan and the Chinese National Development and Reform Commission(NDRC), and in coordination with the promotion of low-carbon development model projects and carbon emissions trade model projects, Beijing Office implemented capacity building projects by inviting the Chinese delegation to Japan, with the purpose of strengthening the awareness of Chinese local government officers on the low carbon development and carbon emission trades, so as to raise the capacity of the Chinese local governments to implement low-carbon development model projects and carbon emissions trade model projects.

In addition, Beijing Office created a platform for practical policy dialogues on climate change between Japan and China.

This project was implemented in close coordination with Climate Policy Group (Market Mechanism Subgroup).

<Reference: Low Carbon Development Model Project and Low Carbon Emission Trade Model Project>

July 2010 NDRC issued a notification on implementation of model project on Low Carbon Provinces and Low Carbon cities

## II. Report by each Group/Team

### I. Beijing Office

October 2011	NDRC issued a notification on development of model project on carbon emission trade
November 2012	NDRC issued a notification on implementation of the 2 <sup>nd</sup> model project on Low Carbon Provinces and Low Carbon cities

#### (2) Major Findings / Results

<Policy Dialogues (Steering Committee) were held as follows>

May 2010	at National conference center in Beijing
October 2010	at Fukoku Seimei Building in Tokyo
January 2011	at NDRC in Beijing
July 2011	at NDRC in Beijing
February 2012	at NDRC in Beijing
July 2012	at Fukoku Seimei Building in Tokyo

<Implementation of capacity building by inviting Chinese delegation to Japan was done as follows>

January 2012	The 1 <sup>st</sup> Japan-China cooperative high-level capacity building training course for low-carbon development (number of participants : 22)
July-August 2012	The 2nd Japan-China cooperative high-level capacity building training course for low-carbon development (number of participants : 21)

#### (3) Major Impact Created

- Beijing Office made a platform to have practical policy dialogues between the Japanese government (Ministry of the Environment) and the Chinese National Development and Reform Commission, and organized policy dialogues regularly, about twice a year. By providing such opportunities, Beijing Office facilitated the exchanges and dialogues between the governments in the areas of climate change.
- In addition, by inviting Chinese delegations to Japan to participate in training projects, Beijing Office contributed to raising adaptation capacity to climate change for local governmental officers from model cities/provinces for low-carbon development and also for carbon emissions trade.

#### (4) Major External Fund

Climate Policy group (Market Mechanism team) implemented this project by using the following external funds from the Ministry of the Environment.

FY2010	FY2010 Capacity Building Project for Developing Countries to Co-benefit from Anti-Pollution Measures and Anti-Global Warming Measures by using Kyoto Mechanism
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## II. Report by each Group/Team

### I. Beijing Office

FY2011	FY2011 Capacity Building Project for Developing Countries to Co-benefit from Anti-Pollution Measures and Anti-Global Warming Measures by using Kyoto Mechanism
FY2012	FY2012 Project to support building up MRV system in the Asian Region towards building up new mechanism

### c. Component 3: Participation in Sino-Japan Joint Survey Research in the Environmental Field

#### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Beijing Office participated in joint survey research in the environmental field conducted by the Japanese government in order to establish a strategic reciprocity relationship between China and Japan. Beijing Office also participated in delivering policy recommendations.

#### (2) Major Findings / Results

Major research activities that Beijing Office participated in are as follows:

- 1) Cooperative project on Japan-China Co-benefit Approach towards introduction of measures for simultaneous reduction of environmental pollutants and GHG gas (FY2010-FY2012)
- 2) Japan-China cooperative research on total reduction of nitrogen oxide in air (FY2010-FY2012)
- 3) Japan-China cooperative research on total reduction of nitrogen and phosphorus in water (FY2010)
- 4) Cooperative project on measures for heavy metal pollution in soil (including organising a seminar) (FY2011)
- 5) Japan-China cooperative research on measures for heavy metal pollution in the environment (FY2012)

#### (3) Major Impact Created

Beijing Office participated in Japan-China cooperative research on total reduction of nitrogen and phosphorus in water and also in Japan-China cooperative research on total reduction of nitrogen oxides in air, which the Ministry of the Environment of Japan and the Chinese Ministry of Environmental Protection jointly implemented. Beijing Office's participation in these research projects was very meaningful in terms of policy-making and technical aspects, since Beijing Office could provide inputs at the right time, when the Chinese government was considering implementation of total reduction of nitrogen, phosphorus and nitrogen oxides.

#### (4) Major External Fund

None



## II. Report by each Group/Team

### I. Beijing Office

#### d. Component 4: Support for IGES' Activities to be carried out in China

##### (1) Outline (Objectives/Goals / Targets/ Methodologies)

Beijing Office supported IGES as a whole and each group by providing important policy information etc. from China.

##### (2) Major Findings / Results

Beijing Office distributed “Weekly Report on Environmental Regulation and Business in China” and “Chinese Environment/CSR/Energy Report” every week, and also notified each group if there was any news related to the research activities of that group. Also Beijing Office translated important information, if any.

##### (3) Major Impact Created

Beijing Office basically provided answers within 24 hours to requests for advice and enquiries about information on research. By doing so, Beijing Office contributed to improving efficiency of research activities of each project groups in IGES.

##### (4) Major External Fund

None

### 3. List of Publications (See Annex)

#### J. IGES Regional Centre

##### 1. Overview as Group/Team

###### (1) Objectives and Goals/Targets

The goal of the Regional Centre in Bangkok as one of the overseas offices of IGES is to build and strengthen IGES's partnerships with international organisations, development agencies and other key institutes, especially those with offices in Bangkok or in the region. IGES has been expanding its networking and partnerships from Thailand since 2003 from its Bangkok Office formerly located at the Asian Institute of Technology (AIT) and since 2011 from its Regional Centre newly relocated in the city of Bangkok with expanded capacity. The Regional Center was given a legal status in Thailand endorsed by the Ministry of Labor with a license of an overseas regional office of a not-for-profit organization. During the 5<sup>th</sup> Phase, the Regional Centre provided the secretariat services for the regional networks specialising in climate change adaptation, environmental compliance and enforcement and sustainable development, engaged in the regional activities, and contributed to the IGES-wide activities.

###### (2) Research Structure/Outline of Activities Conducted

###### ● Sustainable Development Planning Network for Asia-Pacific (SDplanNet-Asia & Pacific)

As the Secretariat for the SDplanNet-Asia & Pacific, a network for sustainable development practitioners (<http://www.sdplannet-ap.org/>), the Regional Centre promoted capacity development of the practitioners by sharing tools and knowledge on sustainable development planning through a website and regular newsletters.

###### ● Asian Environmental Compliance and Enforcement Network (AECEN)

The Regional Centre provided support to the network which promotes the effective implementation of environmental laws and regulations in Asia (<http://www.aecen.org/>). In 2012 the IGES took over the network's secretariat and the Regional Centre has been fulfilling this role Bangkok.

###### ● Asia-Pacific Adaptation Network (APAN)

Since its launch in 2009, the Regional Centre has been operating the Regional Hub for APAN, the first regional adaptation-specific network under the UNEP's Global Adaptation Network (GAN) that promotes mainstreaming climate change adaptation and knowledge sharing (<http://www.asiapacificadapt.net/>), in close collaboration with UNEP Regional Office of Asia Pacific (UNEP-ROAP) and Resource Centre for Asia and the Pacific at AIT (AIT- RRC.AP).

###### ● 5th Global Environmental Outlook (GEO5)

IGES is a longstanding collaborating centre for UNEP's Global Environment Outlook series (<http://www.unep.org/geo/geo5.asp>).

## II. Report by each Group/Team

### J. IGES Regional Centre

- **Asia Pacific Climate Change Adaptation Project Preparation Facility (ADAPT Asia-Pacific)**

In 2011, the Regional Centre joined this five-year project funded by the US Agency for International Development (USAID) as an implementing partner. The Regional Centre led the knowledge management component of the project (<http://www.adaptasiapacific.org>).

- **Coordination with Organisations stationed in Bangkok and support for IGES-wide activities**

The Regional Centre has maintained close collaboration and communication with multilateral and bilateral organisations government offices and research institutes located in Bangkok and other cities in Southeast Asia to provide a wide range of support to IGES's research activities in the region.

### (3) Major Outputs in the Context of Policy Impact

- **SDplanNet-Asia & Pacific** held a regional conference and an online training session in 2010, and disseminated tools and other useful information through its website and bi-weekly newsletters to about 300 regular subscribers. These contributed to capacity development of sustainable development practitioners.

- Major External Fund: IISD (FY2010/ approx. JPN 8 million)
- Main publication:
  - 2nd SDplanNet-AP Annual Conference (FY2010)
  - All network's publications and resources are made available at <http://www.sdplannet-ap.org>.

- **AECEN** held annual conferences in 2010 and 2011 and a regional workshop on mainstreaming climate change adaptation into EIA in 2011; implemented a Japan-Thailand twinning project on soil contamination in 2010; provided technical support to nine other twinning projects; developed a clearing house on EIA supported by ADB; conducted a survey and a case study on open burning as part of co-benefit approach study in collaboration with the Climate Change Group (2011-2012) funded by the Ministry of the Environment of Japan; and shared the proceedings and findings through its website along with the latest news and reports related to environmental enforcement and compliance in the region. The regional conferences and workshop encouraged substantial discussion on the emerging issues in environmental safeguards in the context of climate change among government officials from AECEN member countries and experts, which contributed to raising awareness of policy makers in integrating climate change impacts in environmental safeguards. In addition, the Japan-Thailand twinning project contributed to capacity development of government officials in charge of pollution control.

- Major External Fund received by IGES: USAID (2010-2011/approx. USD 150K), MOEJ (2011/USD20K)
- Main publications:
  - Regional Forum Summary (2010, 2012)
  - Asia Environmental Compliance and Enforcement Network (AECEN) Twinning

## II. Report by each Group/Team

### J. IGES Regional Centre

Project of Thailand and Japan: Capacity Development for Soil and Groundwater Contamination Countermeasure in Thailand (Training Manual) (FY2010)

- Proceedings Regional Workshop on Mainstreaming Climate Change Adaptation Into EIA in Asia (October 2011)
- Environmental Governance and Short-lived Climate Pollutants (SLCPs): The Case of Open Burning in Thailand (IGES Working Paper)
- All network's publications and resources are made available at <http://www.aecen.org>.

- APAN held the Adaptation Forum, a flagship regional conference of the network in 2010, 2012, and March 2013; organised sub-regional and thematic conferences as well as workshops and trainings for capacity development of policy makers on adaptation with APAN's Nodes; produced policy briefs and technical papers on needs and gaps, and other priority and emerging issues; provided a wide array of information and knowledge products through its upgraded website and monthly newsletters. This Adaptation Forum has attracted 500-800 participants and gained larger recognition over the years. It has become one of the most significant venues for adaptation in the region, attended by representatives from the African and Latin regional adaptation networks. Similarly, sub-regional conferences and other events organised by Nodes also gained recognition and grew larger with additional resources from other organisations. A number of workshops and training sessions contributed to the capacity development of over 500 government officials in the region in their mainstreaming adaptation into development planning. APAN increased its knowledge management capacity with support from USAID's ADAPT Asia-Pacific project. After merging with AKP, the web-portals and databases of both projects were integrated and upgraded to create one streamlined portal to better serve adaptation practitioners within and outside the region. APAN has over 5,000 subscribers to its regular newsletters.

- Major External Fund: MOEJ (2010-2012/approx. total JPN 286 million), ADB (2010-2012/approx. total USD150K), SIDA (2010-2011/ approx. total 100K), other cash/in-kind contribution from Nodes, etc.
- Main publications:
  - Proceedings Asia-Pacific Climate Change Adaptation Forum (2010, 2012)
  - Proceedings of APAN Sub-regional and thematic conferences, workshops and trainings
  - Conference Summary Report: International Conference on Climate Change Impacts and Adaptation for Food and Environmental Security
  - Proceedings Report: Pacific Climate Change and Finance workshop, 25-26 October 2012, Apia, Samoa
  - A Review of Issues and Challenges in Climate Change and Agriculture in Southeast Asia
  - All network's publications and resources are made available at <http://www.asiapacificadapt.net>.

## II. Report by each Group/Team

### J. IGES Regional Centre

- GEO5 to which IGES contributed its regional chapter and its summary for policy makers (SPM) was published in 2012. Regional Centre coordinated the work with IGES researchers in Hayama. Its launch was celebrated at multiple locations including ISAP 2012, and the SPM was used as a major contribution to the 2012 Rio+20 conference by UNEP. Follow up activities are continuing.
  - Major External Fund: UNEP
  - The Final report is available at <http://www.unep.org/geo/geo5.asp>.
- ADAPT Asia-Pacific organized an annual forum in 2012 and discussed access to adaptation finance and adaptation project preparation inviting government officials from project's target countries in Asia and the Pacific and experts in adaptation finance from major funding and bilateral/multilateral development agencies. Regional Centre also launched its web-based knowledge platform with close linkage with APAN and designed and piloted an interactive online community of practice. The project contributed to addressing one of the key issues in adaptation in the region, raising the knowledge base of the policy makers in charge, and strengthening APAN as a regional leading adaptation knowledge platform by increasing technical information and capacity.
  - Major External Fund: USAID (2011-2012/ approx. total USD 1 million)
  - Main publications:
    - ADAPT Asia-Pacific 1st Annual Forum Final Report (2012)
    - All network's publications and resources are made available at <http://www.adaptasiapacific.org>.
- As an overseas satellite office of IGES, the Bangkok Office/Regional Centre has maintained and strengthened close collaboration and communication with key stakeholders such as multilateral and bilateral organisations government offices and research institutes located in Bangkok and other cities in Southeast Asia. The stakeholders engaged with include: UNESCAP, UNEP, UNDP, International Labour Organization (ILO), FAO, World Bank, ADB, AfDB, USAID, SIDA, GIZ, IUCN, AIT, SEI, and government offices and research institutes located in Bangkok and other cities in the region. In 2012 the Regional Centre facilitated a collaborative agreement with ILO in implementing ILO's Global Green Jobs Programme.
- Also in 2012, the Regional Centre initiated an informal gathering of like-minded environmental practitioners in Bangkok to discuss timely environmental topics called Evening Café.

#### (4) Self-evaluation

- The work implemented by the Bangkok Office/Regional Centre has a sharper focus on the capacity development of stakeholders, with a special emphasis on government officials, through the operation of networks and knowledge sharing than conducting and publishing research being done by other groups at IGES. The Bangkok Office/Regional Centre utilised these networks as a delivering mechanism for capacity development. The operations of regional networks gives the Regional Centre leverage to directly engage with the target stakeholders that aimed and thus more direct impact generation is expected.

## II. Report by each Group/Team

### J. IGES Regional Centre

- Overall, conferences and workshops that these networks organised during ISRP5 were generally well-received by the participants based on the evaluation conducted at each of these events. While larger events may have created larger impacts on the officials and representatives from participating organisations, the workshops (20-30 participants) offered relatively more hands-on learning opportunities on specific topics and created impacts more on the individual level. Further efforts are needed for successful capacity development through event-based approach by identifying relevant topics to discuss, producing quality value-added knowledge products, improving Monitoring and evaluation (M&E) for impact assessment, and strengthening knowledge management for wider and effective knowledge sharing.
- As the Bangkok Office/Regional Centre continued to provide various learning opportunities through these networks and technical support to regional activities (GEO5 and others), IGES has gained better recognition. This impression was greatly facilitated by having an overseas office, especially as it is located in Bangkok from where many organisations operate. There is now a sense of IGES belonging to the community in Bangkok, and as a result, the number of visitors and inquiries has increased.
- Continued activities also helped to mobilise larger resources. For example, APAN succeeded in securing new donors, i.e. the Korean government for the Adaptation Forum in 2012 and UNEP DTIE for training workshops.

**Chapter 3**  
**Programme Management Office (PMO)**  
**Activities**





### III. Programme Management Office (PMO)

#### Programme Management Office (PMO)

##### 1. Overview as Group/Team

###### (1) Objectives and Goals / Targets

The Programme Management Office (PMO) was set up in April 2007, based upon the “IGES Research Strategy beyond FY2006” tabled at BOD/BOT in February 2007. Its objective is prescribed as to “plan and coordinate each strategic research theme from an integrative point of view and implement the IGES strategic research as a whole in an integrative manner”. Specific responsibilities described in the “Integrative Strategic Research Programme of IGES for the Fifth Phase (ISRP5)” include: (i) planning and coordination of all IGES matters and events; (ii) networking and partnership with international and regional organisations and processes; (iii) implementation of cross cutting studies and activities; (iv) handling of emerging issues; (v) facilitation of fund raising; (vi) quality assurance of IGES publications mainly for policy makers; and (vii) communication and coordination with satellite offices.

ISRP5 emphasised the importance of PMO to make necessary overall planning and coordination, while responsibilities for implementation should be decentralised and shared with divisions concerned. For example, “networking and partnership” related operations should be shared with Bangkok Office and Beijing Office to great extent as their operations focuses on promoting multilateral and bilateral collaborations respectively. Furthermore, it was considered necessary for PMO and the Governance and Capacity Group, in particular, to work as a team to take the necessary leadership on handling “emerging issues”. Last but not least, PMO was expected to develop/enhance IGES-wide impact generation strategy in close consultation with all other divisions.

###### (2) Research Structure /Outline of Activities Conducted

Having the aforementioned objectives and responsibilities, PMO’s activities covered a wide range of issues. However, they can be sorted into three main activities, namely (i) facilitation and implementation of IGES-wide operations for priority and emerging opportunities; (ii) IGES flagship activities for strengthening networking and strategic operations; and (iii) other substantive and administrative matters for programme level management.

The first set of activities included, but were not limited to:

- ‘Promotion of Clean Asia Initiative (CAI)’ focusing on forward-looking modality of environmental cooperation in the context of ASEAN+3 and ASEAN+6 regional policy processes;
- ‘Monitoring, evaluation and advisory activities on Indonesia Climate Change Program Loan (ICCPL)’ for supporting developing countries’ efforts to mainstream climate change policies with JICA, French Development Agency (AFD) and World Bank;
- Contribution to United Nations Conference on Sustainable Development (Rio +20);
- Lessons Learnt From The Triple Disaster in East Japan (Triple Disaster Research); and

### III. Programme Management Office (PMO)

- Fukushima Action Research on Effective Decontamination Operations with due regard to Local Conditions (FAIRDO).

All of the above were aimed at making the most of IGES expertise to contribute to the on-going policy processes at the time.

The second set of activities, the so-called IGES flagship activities, included:

- Annual convening of International Forum for Sustainable Asia and the Pacific (ISAP); and
- Biennial publication of IGES White Paper.

The third set of activities on both substantive and administrative matters for programme management included, but were not limited to: overall coordination for the implementation of ISRP5; preparation of ISRP for the Sixth Phase (ISRP6); facilitation of fund raising; quality assurance of IGES publications; and staff members performance review.

#### (3) Major Outputs in the Context of Policy Impact

##### [Global]

- **Contribution to United Nations Conference on Sustainable Development (Rio +20)**
  - The summary of the discussion at ISAP2011 was presented to the Asia Pacific Regional Preparatory Meeting for UNCED (Seoul, October 2011) and incorporated into the IGES Proposal to Rio+20 which officially submitted to the UNDESA (Rio+20 Secretariat).
  - The interim outcome of the Triple Disaster Research was incorporated into the IGES Proposal to Rio+20, and thereby contributed to incorporate a concept of `resilience` as an important factor into the draft statement of the Rio+20.
  - Key IGES publications such as the IGES Proposal for Rio+20 were well received by relevant stakeholders and cited in some of UN documents, governments' policy reports and journal papers. IGES messages shared through those publications, presentations and periodic inputs to the Government of Japan were well reflected in the chair's summaries of relevant meetings and positions of key countries.

##### [Regional]

- Under the project namely Promotion of Clean Asia Initiative (CAI), IGES provided substantive inputs to the priority intergovernmental policy processes including: Japan-ASEAN Dialogue; ASEAN+3 Environmental Ministers' Meeting; East Asian Summit Environmental Ministers' Meeting (EAS-EMM) ; Senior Officials Meeting (SOM) of North-East Asian Subregional Programme for Environmental Cooperation.
- The White Paper IV executive summary was distributed as an official document at the Asia-Pacific Sub-regional Environmental Policy Dialogue hosted by UNEP in Hyderabad, India (October 2012)
- Under the collaboration with UNEP, UNESCAP and ADB, International Forum for Sustainable Asia and the Pacific (ISAP) has provided a platform for multiple stakeholders (including international organisations; central and local governments; research institutes; business; students and local citizens) to interact while sharing unique perspectives on the important agenda in the region.

### III. Programme Management Office (PMO)

#### [National]

- Through the project namely Monitoring, Evaluation and Advisory Activities on Indonesia Climate Change Policies (ICCPL), IGES contributed to developing climate policies in Indonesia through reporting the progress, attainments and challenges of policies as well as providing policy recommendations on future climate policies.

#### [Domestic]

- Under the project namely Action Research on Effective Decontamination Operations with due regard to Local Conditions in Fukushima (FAIRDO), key findings and recommendations for promoting effective decontamination operations were shared with relevant national policy makers including Vice Governor of Fukushima Prefecture and local officials in timely manner, and also presented at the international meeting including NERIS Working Group2 Meeting and TEMM Seminar.

#### (4) Self Evaluation

PMO has increasingly strengthened its capacity in carrying out its primary objective prescribed as to “plan and coordinate each strategic research theme from an integrative point of view and implement the IGES strategic research as a whole in an integrative manner” during the Fifth Phase (FY2010 - FY2012). One of the most significant achievements made by PMO has been the improvement of institutional capacity in addressing sustainable development issues in a cross-cutting and integrative manner through taking a leading role in planning, facilitating and implementing cross-sectoral and/or IGES-wide operations. Another major achievement is promotion of policy relevant research through actively involving the majority of research staff in on-going global, regional and national policy processes. As a consequence, an integrative approach as well as the policy relevance of IGES strategic research has been enhanced over time. Furthermore, IGES’s capacity in swiftly addressing priority and emerging opportunities has significantly improved, together with its enhanced network and partnership.

Meanwhile, there is significant space left for further improvement. In the Sixth Phase (FY2013 - FY2016), IGES aims to evolve itself and act as an Agent of Change to promote the global transition towards a sustainable, low-carbon and resource-saving society. Institutional capacity in creating real impacts to the relevant policy processes, production and consumption patterns, and business- and life-styles needs to be strengthened, for which PMO intends to further enhance its strategic planning and coordination activities including: (i) networking and outreach; (ii) quality management of research outputs; and (iii) knowledge management, capacity development and capacity building.

## 2. Reports by Research Component

### a. Promotion of Clean Asia Initiative (CAI)

#### (1) Outline

The overall goal of the operation is to contribute to the establishment and elaboration of effective international environmental cooperation mechanisms, in particular, in East Asia. Promotion of CAI is to support MOEJ activities of international environmental cooperation. IGES collected and analysed

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information and data related to environmental cooperation through networking and basic research from relevant governments, international organisations and the research community. Based on this knowledge, IGES contributed to the important inter-governmental policy process in the region.

#### (2) Major Findings / Results

- Provided liaison and coordination with the ASEAN Secretariat, relevant countries and international organisations and the research community in the region, as well as strengthening the network among them.
- Conducted studies on important / emerging environmental issues in the East Asia region grasped understanding of the needs of the present as well as the future.
- Enhanced information dissemination and raising awareness on CAI activities, both domestically and internationally.

#### (3) Major Impact Created

- Provided the priority intergovernmental policy processes with substantive inputs through supporting MOEJ. Key environmental meetings envisaged as the target policy processes included:
  - Japan-ASEAN Dialogue on Environmental Cooperation
  - ASEAN+3 Environmental Ministers' Meeting and its Preparatory Meeting (Senior Officer Meetings)
  - East Asian Summit Environmental Ministers' Meeting (EAS-EMM) and its Preparatory Meeting
  - Senior Officials Meeting (SOM) of North-East Asian Subregional Programme for Environmental Cooperation
  - Ministerial Roundtable on United Nations Conference on Sustainable Development (UNCSD/Rio+20)
- Facilitated process of environmental cooperation between Japan and other Asian Countries such as Indonesia, Myanmar, Vietnam, and etc.
- Conducted quick studies on emerging issues in East Asia (e.g. Governance of ASEAN, Microfinance in Addressing Climate Change, Analysis of Environmental Strategies)

#### (4) Major External Fund

- Promotion of CAI /MOE-J (95.500 Million JPY /FY2010)
- Promotion of CAI /MOE-J (51.450 Million JPY /FY2011)
- Promotion of CAI/MOE-J (38.840 Million JPY /FY2012)

### b. Monitoring, Evaluation and Advisory Activities on Indonesia Climate Change Programme Loan (ICCPL)

#### (1) Outline

The Indonesia Climate Change Programme Loan (ICCPL), an ODA programme by the Government of Japan (GOJ) aims to support the development and mainstreaming of climate change policies by the Government of Indonesia.

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IGES has been entrusted by Japan International Cooperation Agency (JICA) to conduct the CCPL Monitoring Support Activities, comprising of the activities as follows:

- a. To monitor the progress/attainments of the GOI's climate change policies which were summarised in the Policy Matrix agreed by the GOI and GOJ;
- b. To provide policy recommendations to GOI on its climate change policies;
- c. To analyse and evaluate the contribution of the ICCPL to the development of climate change policies in Indonesia;
- d. To provide policy recommendations to GOJ on its international cooperation programmes/projects addressing climate change issues; and
- e. To support the policy dialogues between GOI, GOJ and other donor agencies based on the above study and analysis.

#### (2) Major Findings / Results

- a. IGES monitored the progress/attainments of GOI's climate change policies stated in the Policy Matrix agreed by both governments;
- b. IGES provided policy recommendations to GOI on its climate change policies including:
  - Measures to promote implementations and recover delays;
  - Measures to improve medium- to long-term effects/impacts of the actions; and
  - Measures not stated in the Policy Matrix, yet could be important for further strengthening of climate policies.
- c. IGES conducted evaluation of the overall contribution of ICCPL Phase 2 (2010-2012) to the development and mainstreaming of climate policies in Indonesia.
- d. IGES provided policy recommendations to GOJ on its cooperation programmes to developing countries addressing climate change issues including:
  - Review/improvement of ICCPL Policy matrix;
  - Exploration of additional technical assistance schemes in Indonesia; and
  - Improvement of cooperation schemes on climate change in other developing countries.
- e. IGES supported policy dialogues (Technical Committees and Domestic Supporting Committees in June 2011 and October 2012, and Steering Committees in July 2011 and November 2012) through provision of summary of the above activities a, b, c, and d.

#### (3) Major Impact Created

- Provided analysis on the occasions of Domestic Supporting Committees (June 2011 and October 2012) to support GOJ in examination of the policies toward ICCPL Steering Committees.
- Provided analysis on the occasions of ICCPL Technical Committees (June 2011 and October 2012) and ICCPL Steering Committees (July 2011 and November 2012) to support GOI, GOJ and other donor agencies in sharing the attainments and challenges of climate policies and examination of further cooperation.
- Contributed to GOI, GOJ and other donor agencies in examination of further cooperation through reporting the experiences and lessons learned from ICCPL at the occasions of Indonesia Climate Change Policy Coordination Forum.
- Contributed to the high level policy dialogues between the ministers of GOI and Prof. Hamanaka, the chair of the CCPL domestic supporting committee (convened back to back with the steering committees) through provision of inputs to prepare the discussions.

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- Contributed to further development of climate policies in Indonesia through a) reporting the progress, attainments and challenges of policies as well as b) providing policy recommendations on future climate policies, summarised as CCPL Policy Matrix Monitoring Reports (October 2012 and March 2013).
- Contributed to further development/improvement of international cooperation programmes by GOJ through c) evaluating the overall contribution of ICCPL to development and mainstreaming of climate change policies in Indonesia, as well as d) providing policy recommendations on future cooperation schemes, summarised as CCPL 2010-2012 Programme Evaluation Report (March 2013).
- Reported the experiences of ICCPL and lessons learned in the form of a newspaper article (in Nikkei Shimbun, March 7, 2011) to promote discussions on effective measures of cooperation schemes addressing climate issues.
- Contributed to JICA-AFD Joint Evaluation on CCPL 2008-2010 through providing comments on the study plans and interim and draft final reports.

#### (4) Major External Fund

- JICA commissioned work, "Monitoring Support Activity for Indonesia Climate Change Program Loan (III)" (38.3 Million JPY/FY2010-2011)
- JICA commissioned work, "Monitoring Support Activity for Indonesia Climate Change Program Loan" (48.8 Million JPY/FY2011-2012)
- JICA commissioned work, "Support Activity for JICA-AFD Joint Post Evaluation of Indonesia Climate Change Program Loan" (1.7 Million JPY/FY2012)

### c. IGES Contribution to United Nations Conference on Sustainable Development (Rio +20)

#### (1) Outline

Overall objective of this IGES-wide operation is to actively contribute to and make the utmost impacts with IGES-wide inputs throughout, and even beyond, the preparatory process of United Nations Conference on Sustainable Development (hereinafter Rio+20), which took place in Rio de Janeiro in 2012. To effectively address and make the utmost impacts through these cross-cutting processes, all-IGES coordination of the relevant activities had been strengthened in the following three components;

- **Information collection and analysis for the preparatory and follow-up processes for and after Rio+20,**
  - UN processes: Preparatory Committee Meetings/Informal Intercessional Meetings of Rio+20; Rio+20 and its Side Events, Regular sessions of UN Commission on Sustainable Development (CSD); UNEP Governing Council/Global Ministerial Environmental Forum; and UNEP Global Environmental Outlook 5 (GEO5) preparation process, Post-2015 Development Agenda/Sustainable Development Goals (SDGs) processes etc.
  - Others: Japan National Preparatory Committee for Rio+20, and Major Groups related meetings etc.
- **Deepening discussions on key discussion points and two themes of Rio+20**
  - Organising internal meetings for information sharing

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- Sending out key messages through Rio+20 side events
- Deepening discussions using occasions such as ISAP
- Sending out fundamental messages through IGES key publications such as IGES White Paper IV

- **Contributing to the intergovernmental preparatory and follow-up processes for and after Rio+20**

- Contribution to intergovernmental preparatory and follow-up processes such as UNEP Governing Council through Rio+20 by commissioned works of the Ministry of the Environment, Japan and IGES own research activities.
- Contribution to Post-2015 Development Agenda/SDGs processes through publishing policy briefs etc. as well as establishing a research project for next three years.

#### (2) Major Findings / Results

- Provided substantive inputs to the Rio+20 official preparatory processes including intersessional meetings, informal negotiations, regional and sub-regional preparatory meetings in Asia-Pacific, and Rio+20 including side events (Oct. 2010-Jun. 2012), by submitting the IGES Proposal for Rio+20 to be incorporated into the zero-draft of Rio+20 outcome document (Nov. 2011), and distributing IGES Issue Brief series on specific topics such as sustainable development goals (SDGs).
- Followed the discussion of and provided substantive inputs to other preparatory and follow-up processes of Rio+20 including regular sessions of UN Commission on Sustainable Development (CSD); UNEP Governing Council/Global Ministerial Environmental Forum; and UNEP Global Environmental Outlook 5 (GEO5) preparation process, Post-2015 Development Agenda/SDGs, Japan National Preparatory Committee for Rio+20, and Major Groups related meetings etc. (Oct. 2010 – Jun. 2012).
- Published and presented the outcome of Asia-Pacific multi-stakeholder dialogue towards Rio+20 at Sub-regional preparatory meeting for Rio+20 in Northeast Asia and regional preparatory meeting for Rio+20 in Asia-pacific, as well as published Summary Report of Hakone Vision Factory 2011 and GEO5 report with partner organisations.
- Organised various side events during Rio+20 with partner organisations and disseminated IGES key messages on key themes such as green economy, SDGs, and resilience (June. 2012).
- Deepened discussions for and after Rio+20 using occasions such as ISAP and sent out fundamental messages through IGES key publications such as IGES White Paper IV.
- Contributed to intergovernmental preparatory and follow-up processes for Rio+20 by analysing country positions on Rio+20 themes and providing regular substantive inputs mainly to the Government of Japan.
- Strengthened outreach activities by establishing Rio+20 featured website, “Rio+20 Towards and Beyond,” and providing web-based discussion papers and commentaries.

#### (3) Major Impact Created

- Key IGES publications such as IGES Proposal for Rio+20, Policy Brief on UNEP governance, and several Issue Briefs submitted and distributed as an input to the Rio+20 preparatory processes were well received by relevant stakeholders and cited in some of UN documents, governments' policy reports and journal papers.
- IGES messages shared through key IGES publications mentioned above, presentations at preparatory meetings as well as Rio+20 side events, and periodic inputs to the Government of

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Japan were well reflected in the chair's summaries of relevant meetings and positions of key countries.

- IGES organised plenaries and parallel sessions on Rio+20 (ISAP2011) and its follow up (ISAP2012) and IGES messages were shared among the participants and incorporated in the ISAP summary reports as well as key IGES documents such as IGES White Paper IV.
- IGES outreach activities were also well received by both Japanese and Overseas audience.

#### (4) Major External Fund

- "Management of National Preparatory Committee for Rio+20"/Ministry of the Environment, Japan (FY2010-FY2012, JPY59 million)
- "Feasibility Study on Post-MDGs"/Ministry of the Environment, Japan (FY2012/total amount: JPY3 million)
- "Operation of the SDGs Advisory Committee"/Ministry of the Environment, Japan (FY2012/total amount: JPY1 million)

#### d. Triple Disaster Research

##### (1) Outline

Considering the huge impacts on environment, societies and economies caused by the Great East Japan Earthquake in March 2011, IGES decided that the IGES Strategic Fund in FY2011 should focus on disaster-related research as an IGES-wide initiative. Under the overall coordination of PMO, the Triple Disaster Research was carried out by the Climate Change group, the Economy and Environment group, the Natural Resource Management group (Adaptation team), the Governance and Capacity group, and the Programme Management Office (PMO).

The research aimed to identify what kind of measures would be effective to establish a resilient and sustainable society, and what kind of policy approach is necessary to establish such a society. In this context, IGES triple disaster research focused on the following three themes.

- **Theme 1: Post-Fukushima energy mix in Japan:**  
Policy recommendations based on the assessment on an implication of a long-term phase-out of nuclear energy supply in Japan toward 2050 and its economic analysis of replacement with renewable energy, utilising TIAMs model.
- **Theme 2: Energy-saving behaviour in the household sector:**  
Policy recommendations based on the analysis of the energy-saving behaviour in the household sector in Kanagawa Prefecture based on an on-line survey after the Great East Japan Earthquake
- **Theme 3: Ways for collaboration to take place among local governments toward building a resilient society:**  
Policy recommendations based on analysis of the coordination roles taken by local governments following the Great East Japan Earthquake and identification of effective collaborations among local governments towards building resilience society.

##### (2) Major results and Impacts

- The interim outcome of the research was presented in the ISAP 2011 and incorporated into the IGES Proposal to Rio+20, and thereby contributed to incorporate a concept of `resilience` as an important factor into the draft statement of the Rio+20.



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- An IGES Policy Report “Lessons Learnt from the Triple Disaster in East Japan” was compiled as an output of the triple disaster research, which was launched at the conferences in the Rio+20 in June 2012
- The results of this research became a basis of the following important research projects in the Sixth Phase, which include continuous research on energy-saving behavior, Fukushima Action Research on Effective Decontamination Operation (FAIRDO) Project, biodiversity related research projects, etc.
- Two peer-reviewed journal articles were published: “Effects of social participation and the emergence of voluntary social interactions on household power-saving practices in post-disaster Kanagawa, Japan” in *Energy Policy*; and “Japanese citizens’ preferences regarding voluntary carbon offsets: an experimental social survey of Yokohama and Kitakyushu” In *Environmental Science & Policy*

#### e. Fukushima Action Research on Effective Decontamination Operations with due regard to Local Conditions (FAIRDO)

##### (1) Outline

IGES launched a ‘Fukushima Action Research on Effective Decontamination Operations with due regard to Local Conditions (FAIRDO)’ from FY2012 to FY2013 receiving a competitive research grant from the Ministry of the Environment of Japan. In Fukushima prefecture and nearby regions, having a wide range of stakeholders namely the central government, prefectural governments, a number of local governments (city, town and villages) and local communities involved, decontamination work is accelerating. However, challenges remain, such as the development of decontamination strategies/local plans, implementation, securing workers’ safety, public participation and information-sharing. Aiming at providing substantive inputs to the ongoing decontamination operations, reflecting the realities of local conditions for effective designing and implementation, IGES conducts action research consisting of three research components with the participation of experts from Fukushima University, other experts involved in the Fukushima’s recovery processes, and selected international experts familiar with decontamination operations in Europe with their previous experiences with Chernobyl.

- **Governance for Effective Remediation/Decontamination Operations**
  - Provision of recommendations based on the analyses on gaps in information exchange, financial flow, roles and responsibilities, etc. among key stakeholders including the central government, prefectural governments, local governments (city, town and villages) and local communities
  - Identification of capacity development needs for effective remediation/ decontamination governance
- **Development of remediation/decontamination strategies reflecting the local conditions**
  - Development of a Japan optimal model (decision support system) based on the existing European model for developing and/or elaborating local remediation/decontamination strategies to attain the residents’ long-term additional radiation dose level lower than 1mSv/year.
- **Effective communications to promote collaboration with those affected in contaminated areas**
  - Development of an appropriate risk-communication methodology to build and enhance mutual trust among stakeholders, in particular those of local residents and communities,

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to central and prefectural governments, through which mutual understanding and consensus should be achieved.

#### (2) Major Findings / Results

Literature review and interviews were conducted with the aim to understand the current situations on decontamination. Major findings and activities are listed below.

##### [Major findings]

- **Governance for Effective Remediation/Decontamination Operations**
  - Identifying roles of national and local governments as well as relevant organisations, securing quantity/quality and timely delivery of funds, sharing information in a vertical (between national and local governments, local governments and residents) and horizontal (among local governments) manner are important.
- **Development of remediation/decontamination strategies reflecting the local conditions**
  - ERMIN, model for residential area, from RODOS which was developed in Europe was tested based on decontamination data in Fukushima-city and Kashiwa-city, Chiba. The results showed feasibility of applying this kind of model to Japanese situations in considering difference on materials and structures of houses.
- **Effective communications to promote collaboration with those affected in contaminated areas**
  - There are differences between understanding of reducible radiation and recognition on health issues. Some local governments such as Fukushima city conduct participatory communication based on the past experience. Experience in Belarus on sharing information which utilises schools could be one of the useful examples for Japanese case.

##### [Major activities]

- Conducted field surveys in Date city, Minami-souma city, and Namie town (July, 2012)
- Organised the FAIRDO Expert Workshop (July, 2012)
- Organised the International Symposium: Effective Decontamination -Learning European Experience and Knowledge (July, 2012)
- Organised the ISAP Parallel Session Programme: Effective Decontamination in Fukushima and Experiences in Europe (July, 2012)
- Published discussion paper "Current Status and Issues of Decontamination in Fukushima" (Nov, 2012)
- Launched FAIRDO website (Nov, 2012)
- Organised FAIRDO Expert Workshop (Dec, 2012)

#### (3) Major Impact Created

- Fukushima Minpo and Fukushima Minyu covered International Symposium held in Fukushima in July, 2012 at their newspaper (July, 2012)
- Attended NERIS Working Group2 Meeting: EMERGENCY PREPAREDNESS AND STAKEHOLDER PARTICIPATION and make a presentation "Governance and Local Resident Communication. Report from Workshop and Public Symposium. Outline and initial findings of the Fukushima Action Research on Effective Decontamination Operation" (Nov, 2012)
- Attended TEMM Seminar on the Environmental Impact Caused by Natural Disasters Lessons Learned from the Great East Japan Earthquake and share preliminary results of FAIRDO

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“Recovering from the Great East Japan Earthquake and Addressing the Nuclear Plant Disaster” with experts from China, Korea and Japan (Feb, 2013)

- Attended the press briefing title “Now and Future: Looking at Fukushima”. Three newspapers from the Netherlands, China and Taiwan covered an article based on this press briefing (Feb, 2013)

#### (4) Major External Fund

- Suishin-hi/ MOEJ (FY2012-FY2013/ total amount: JPY85 million)

### f. International Forum for Sustainable Asia and the Pacific (ISAP)

#### (1) Outline

ISAP, based on the global networks and research results developed by IGES, aims to promote diverse discussions about timely topics in the context of sustainable development in Asia and the Pacific, and to provide opportunities to promote information-sharing and strengthen collaborative efforts with experts and related organisations. The forum was launched in 2009. It is made up of the three components: i) Open Sessions, ii) Expert Workshops, and iii) Network Meetings with the participation of front-line experts and diverse stakeholders from international organisations, governments, business and NGOs.

The forum is co-hosted by IGES and UNU-IAS in collaboration with UNEP, ESCAP and ADB.

#### (2) Major Results

- **ISAP2010** (July 12-13, 2010, Pacifico Yokohama)

##### “Low-carbon development in Asia and the Pacific”

13 Open Sessions, 10 Expert Workshops and one Network Meeting /780 participants over two days

- Focusing on climate change and sustainable consumption and production (SCP) together with important issues in the region including co-benefits, REDD, Clean Development Mechanism (CDM) and biofuels, the forum actively discussed challenges and potential measures.
- The Third IGES White Paper “Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained World” was launched.

- **ISAP2011** (26-27July, 2011, Pacifico Yokohama)

##### “New Asia-Pacific Perspectives towards Rio +20: Implications of the East Japan Disasters”

8 Open Sessions, 10 Expert Workshops and one Network Meeting /850 participants over two days

- In line with the main themes of Rio+20 to be held in 2012, the forum focused on the issues of a green economy in the context of sustainable development and poverty eradication, and the institutional framework for sustainable development.
- Special attention was paid to the triple disasters in Eastern Japan which obliged us to review our perspective on resilience and carefully consider the outlook for our current political and social systems in the face of climate change and natural disasters.

- **ISAP2012** (24-25July, 2012, Pacifico Yokohama)

##### “Steering towards a sustainable and resilient future: Beyond Rio+20”

19 Open Sessions 7 Expert Workshops and 2 Network Meetings /1,100 participants over three days

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- Timely review of results of Rio+20 held in June 2012, discussions on important agendas in the region such as climate change, green economy, resilience, sustainable development goals and biodiversity.
- Discussions were held on the implications of the triple disasters in Japan in 2011 – in particular the impact of the nuclear disaster in Fukushima. Participants reflected on resilience and the outlook of our current political, economic, and social systems, especially in the context of climate change and development trends.
- The fourth IGES White Paper “Greening Governance in Asia-Pacific” was launched.

#### (3) Major Results/Impacts

##### [In general]

- Under the collaboration with UNEP, UNESCAP and ADB, ISAP has provided a platform for multiple stakeholders (including international organisations; central and local governments; research institutes; business; students and local citizens) to interact while sharing unique perspectives on the important agenda in the region.
- The forum has generated certain opportunities for participants, including IGES, to explore future collaborations and start up new joint research projects. (e.g. FAIRDO project, microfinance research projects in Bangladesh).

##### [Individually]

- ISAP2010 launched the Third IGES White Paper on SCP and held discussions on the future directions of SCP among experts and stakeholders, strengthening collaborations in this field.
- The summary of the discussion at ISAP2011 was presented to the Asia Pacific Regional Preparatory Meeting for UNCSD (Seoul, October 2011) and incorporated into the IGES Proposal to Rio+20 which officially submitted to the UNDESA (Rio+20 Secretariat).
- At ISAP2011, IGES concluded a bilateral MOU with UNU-IAS and Yokohama City University to promote collaborative research and other activities.
- Held just one month after Rio+20, ISAP2012 was the first major public forum in the region to discuss the outcomes and future actions which will be important for Asia-Pacific and the world.
- ISAP2012 served as a platform to introduce the fourth IGES White Paper as well as two important publications from UNEP with contributions from IGES researchers - the fifth Global Environmental Outlook (UNEP/GEO5) and the Global Outlook on Sustainable Consumption and Production (SCP) Policies.

#### g. IGES White Paper

Every two years the Institute for Global Environmental Strategies (IGES) publishes a White Paper which ensures that the different parts of IGES come together and produce an overarching document on a key theme that is topical and addresses key policy challenges in the Asia Pacific region. The intention is that the White Paper should represent a synthesis of IGES research and views on topical issues across the research groups and will influence policy outcomes in the Asia-Pacific region.

##### (1) Outline

- **IGES White Paper III “Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained World”**

Launched at ISAP2010 (July 2010)

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In the Asia-Pacific region, with its rapid economic development and population increase, SCP has become an urgent issue. This is a timely subject to address in the Asia-Pacific region due to the increasing consumption demands of the emerging middle class of consumers contrasted with the very large parts of Asia struggling with intransient poverty - and the resulting environmental impacts.

This White Paper claims that sustainable production generated by sustainable consumption can lead to structural changes in the Asian economy. It looks at the role of the main stakeholders (consumers, communities, governments, business and NGOs) and sectors (agriculture, forestry, water resources and energy) as well as discussing cross-cutting themes facing Asia (climate change and regional integration).

Based on analysis of these issues, it presents a dynamic policy mix to promote SCP, and shows the region a viable pathway towards SCP.

#### ● IGES White Paper IV "Greening Governance in Asia-Pacific"

Launched at ISAP2012 (July 2012)

To challenge a transition to a low-carbon and resilient society under a green economy, Asia-Pacific cannot rely on global UN reforms alone, but must generate its own innovative approaches in the context of governance.

In fact, the Asia-Pacific region must provide global leadership in addressing these challenges, not only because the region is most vulnerable to the consequences of inaction but also because of its emerging economic and geo-political dominance on the global stage.

The common thread among the cases, analysis, and recommendations in this White Paper is the need for meaningful and useful information sharing and effective and accessible capacity development, and this paper recommends establishing a platform to address these needs as a first step towards a regional environmental organisation.

#### (2) Major Outcomes and Impacts

- In general, the White Paper series represents a synthesis of IGES research and views on topical issues, with the intention of influencing policy outcomes in the Asia-Pacific region, although the extent of such influence is difficult to measure.
- The White Paper series also allows for a major theme to be addressed at ISAP, where the White Paper is generally launched, thus providing a consolidated documentation of IGES views on the topic to be presented at this significant event.
- The White Paper launch is usually accompanied by press and other media coverage thus conveying important outcomes of IGES work to the general public.
- The White Paper receives several citations in work by other researchers, indicating that it has influence more generally on the relevant research communities and academia.

#### [White Paper III]

- White Paper III covered an extremely important topic in the context of future development scenarios for Asia-Pacific and has been influential in drawing attention to

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the importance of sustainable consumption if resource demands are to be constrained within the Earth's planetary boundaries.

- The results of the White Paper have been used in a number of subsequent workshops and conferences on the topic of SCP and have guided the continuing research work on the topic being conducted by IGES and other research groups. White Paper III is regularly cited in peer-reviewed publications on SCP.

#### [White Paper IV]

- Preliminary findings and outcomes produced within FY2011 were incorporated into the UNEP GEO5, IGES Proposal to Rio+20 and a series of Issue Briefs towards Rio+20.
- Executive summary was released at Rio+20.
- Complete document was publicised at ISAP2012 where it served as a major focal point for the discussions on the outcomes of Rio+20 and the future direction of sustainable development governance in Asia-Pacific.
- Distribution of the executive summary as an official document at the Asia-Pacific Sub-regional Environmental Policy Dialogue hosted by UNEP in Hyderabad, India (October 2012)

### 3. List of Publications (See Annex)

# **Appendix**

## **List of Publications**

**IGES Climate Change Group: List of publications (FY2010-2012)**

Publication Type	Published Date	Author(s)	title	series
Policy Brief	Mar-13	Zusman, Eric; Miyatsuka, Akiko; Romero, Jane; Mohammad Arif	アジアでの短寿命気候汚染物質（SLCPs）削減に向けて：研究と政策をつなぐ	Policy Brief
Policy Brief	Jan-13	Zusman, Eric; Miyatsuka, Akiko; Romero, Jane; Arif, Mohammad	Bridging Research and Policy on Short-Lived Climate Pollutants (SLCPs) in Asia	Policy Brief
Policy Brief	Dec-12	Jin, Zhen	中国の大気汚染防止の法制度および関連政策（?）	
Policy Brief	Oct-12	Fukuda, Koji; Tamura, Kentaro	From NAMAs to Low Carbon Development in Southeast Asia: Technical, Mainstreaming, and Institutional Dimensions	Policy Brief
Policy Brief	Sep-12	Jin, Zhen	中国の環境法の概要(2)	
Policy Brief	Jul-12	Jin, Zhen	中国の環境法の概要(1)	
Policy Report		Abdessalem Rabhi; Bhattacharya, Anindya; Fujisaki, Taiji; Fukuda, Koji; Fukui, Akiko; Huang, Jian; Ichihara, Jun; Jin, Zhen; Janardhanan, Nanda Kumar; Kataoka, Yatsuka; Katayama, Hidefumi; Kikusawa, Ikuyo; Kuriyama, Akihisa; Menikpura, Nirmala; Nakamura, Hidenori; Romero, Jane; Sang-Arun, Janya; Scheyvens, Henry; Shivakoti, Binaya Raj; Tamura, Kentaro; Watarai, Aya; Yamanoshita, Makino; Zusman, Eric; Premakumara Jagath Dickella Gamaralalage; Koakutsu, Kazuhisa;	Measurement, Reporting, and Verification (MRV) for low carbon development: Learning from Experience in Asia	
Policy Reports	Mar-13	Shimizu, Noriko; Fukuda, Koji	セーフガード政策比較調査 最終報告書 平成24年度 新メカニズムの構築に係る途上国等人材育成支援委託業務	
Policy Reports	Jul-12	Auther: Bhattacharya, Anindya; Janardhanan, Nanda Kumar; Kuramochi Takeshi / Contributor: Asuka, Jusen; Kojima, Satoshi / Advisors: Nishioka, Shuzo; Dr. Kainuma Mikiko; Dr. Oscar van Vliet; Dr. Keywan Riahi; Dr. Amit Kanudia	Balancing Japan's Energy and Climate Goals: Exploring Post-Fukushima Energy Supply Options	
Policy Reports	Jul-12	Auther: Koakutsu, Kazuhisa; Tamura, Kentaro / Contributor: Kuriyama, Akihisa   Ishinabe, Nagisa   Janardhanan, Nanda Kumar   Miyatsuka, Akiko   Guo, Jiangwen (Helen)   Ninomiya, Yasushi   Okubo, Nozomi	Green Economy and Domestic Carbon Governance in Asia	IGES White Paper IV 2012
Policy Reports	Jul-12	Auther: Koakutsu, Kazuhisa; Tamura, Kentaro / Contributor: Kuriyama, Akihisa; Ishinabe, Nagisa; Janardhanan, Nanda Kumar; Miyatsuka, Akiko; Guo, Jiangwen (Helen); Ninomiya, Yasushi; Okubo, Nozomi	アジアにおけるグリーン経済と国内におけるカーボン・ガバナンスについて	IGES White Paper IV 2012
Policy Reports	Mar-12	Zusman, Eric; Romero, Jane; Miyatsuka, Akiko	平成23年度環境省請負業務 コベネフィット・アプローチの推進に係る国際パートナーシップ等事務局業務報告書	
Policy Reports	Mar-12	Zusman, Eric; Romero, Jane; Miyatsuka, Akiko	平成23年度環境省請負業務 コベネフィット・アプローチの推進に係る調査・検討業務報告書	
Policy Reports	Mar-12	Asuka, Jusen; Tamura, Kentaro; Fukuda, Koji; Yoshino, Madoka; Shimizu, Noriko	平成23年度気候変動次期枠組みに関する検討調査関連業務 最終報告書	
Policy Reports	Mar-12	Tamura, Kentaro; Fukuda, Koji; Shimizu, Noriko	平成23年度地球温暖化対策を巡る国際動向に関する調査・業務報告書	
Policy Reports	Mar-12	Takako Wakiyama	平成23年度低炭素社会国際研究ネットワーク運営実施委託業務報告書	



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Policy Reports	Mar-12	Takako Wakiyama, Jun Ichihara, Muchamad Muchtar	平成23年度低炭素社会国際研究ネットワーク運営実施委託業務報告書	
Policy Reports	Jan-12	Fukuda, Koji; Kato, Makoto; Mizutani, Yoshihiro	気候変動分野における途上国支援に対する測定・報告・検証（MRV）の運用に向けて： 資金、技術およびキャパシティビルディングの視点から	
Policy Reports	Nov-11	Fukuda, Koji; Kato, Makoto; Mizutani, Yoshihiro	Operationalising MRV of Support - Analysis of Finance, Technology and Capacity Building Support	IGES Policy Report 2011-05
Policy Reports	Mar-11	Fukuda, Koji; Tamura, Kentaro; Asuka, Jusen; Li Zhi Dong; Lu Xiang Chun; Guo, Jiangwen (Helen); Zusman, Eric; Janardhanan, Nanda Kumar	Negotiating a Low Carbon Transition in Asia: NAMAs and MRV	
Policy Reports	Feb-11	Ishinabe, Nagisa	Analyses of Japanese Business & Environmental Policies - From Interviews to Top Securities Analysts - (Provisional Translation)	
Policy Reports	Dec-10	Aizawa, Hirofumi; Asuka, Jusen; Morimoto, Takashi; Enoki, Takeshi; Tanabe, Kiyoto; Tamura, Kentaro; Fukuda, Koji; Kato, Makoto; Mizuno, Yuji; Fukui, Akiko; Yoshino, Madoka	Measurable, Reportable and Verifiable: Trends and Developments in Climate Change Negotiations	
Policy Reports	Dec-10	Aizawa, Hirofumi; Asuka, Jusen; Morimoto, Takashi; Enoki, Takeshi; Tanabe, Kiyoto; Tamura, Kentaro; Fukuda, Koji; Kato, Makoto; Mizuno, Yuji; Fukui, Akiko; Yoshino, Madoka	測定・報告・検証（MRV）： 気候変動次期枠組みへ向けた議論の潮流と展望	
Policy Reports	Sep-10	Ishinabe, Nagisa	トップ証券アナリストが説く日本の産業と環境：鉄鋼・非鉄、エネルギー、化学、自動車、紙パ・ガラス、太陽電池・半導体、家電、不動産、建設、運輸、IT	
Policy Reports	Jul-10	IGES Staff: Asuka, Jusen; Tamura, Kentaro; Fukuda, Koji; Yoshino, Madoka; Munekata, Izumi / Author: IGES Climate Change Group	Handbook for climate change negotiations	
Policy Reports	Jun-10	Romero, Jane	Fast-tracking Renewable Energy: Pathways to Sustainable, Low-carbon Energy Utilisation	IGES White Paper III: Chapter 9
Policy Reports	Jun-10	Muzones, Maricor De Leoz; Zusman, Eric; Ling, Frank Hiroshi; Kimura, Hitomi; Kobashi, Takuro	Sustainable, Low-carbon Buildings and Transportation: Climate Imperatives in Urbanising Asia	IGES White Paper III: Chapter 11
Policy Reports	Jun-10	Romero, Jane	再生可能エネルギーへの迅速な移行：持続可能な低炭素エネルギー利用への道	IGES白書III：第9章
Policy Reports	Jun-10	Muzones, Maricor De Leoz   Zusman, Eric   Ling, Frank Hiroshi   Kimura, Hitomi   Kobashi, Takuro / Contributor: Watabe, Atsushi   Otsuka, Takashi   Romero, Jane	持続可能で低炭素型の建物と輸送：都市化の進むアジアにおける気候上の最重要課題	IGES白書III：第11章
Peer Reviewed Article	Jul-12	Wanxin Li; Eric Zusman; Jining Chen	The State, Society, and Waste Management Co-benefits in Suzhou, China: A Political-Economy Perspective	
Peer Reviewed Article	2012	Zusman, Eric; Fukuda, Koji; Yoshino, Madoka; Ichihara, Jun	Why the United States Lacks a Federal Climate Policy: Divisions in the Democratic Party*	
Peer reviewed articles	Mar-13	Jin, Zhen; Kuramochi Takeshi; Asuka, Jusen	Energy and CO2 intensity reduction policies in China: Targets and Implementation	Global Environmental Research
Peer reviewed articles	Mar-13	Kuramochi, T. (lead author); Ramírez, A.;Turkenburg, W.; Faaij, A.	Techno-economic prospects for CO2 capture from distributed energy systems.	Renewable and Sustainable Energy Reviews
Peer reviewed articles	Feb-13	LCS-RNet	"Climate Policy: Low carbon drivers for a sustainable world, Special Issue Vol. 13 Supplement 1" 02/2013	

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Peer reviewed articles	Sep-12	Kuramochi, T. (lead author), Ramírez, A., Turkenburg, W., Faaij, A.	Effect of CO2 capture on the emissions of air pollutants from industrial processes.	International Journal of Greenhouse Gas Control
Peer reviewed articles	Oct-11	Hasanudin, A.; Haryanto, A; Romero, Jane	Effect of stove types on in-kitchen air quality: case study at Way Isem Village, Lampung Province, Indonesia	
Non peer reviewed articles	2013-	Shimizu, Noriko	気候資金における世界銀行の関与を巡るNGOのアドボカシー活動	
Non peer reviewed articles	Aug-12	Jin, Zhen; Asuka, Jusen; Kuramochi Takeshi	中国における省エネ政策について—目標再分配制度を中心に	
Non peer reviewed articles	Jun-12	Contributor: IGES Climate Change Group; IGES Economy and Environment Group	IGES 50年のCO2削減目標 脱原子力依存も可能	
Non peer reviewed articles	Jun-12	Contributor: IGES Climate Change Group	グリーン経済 視点強調 地球環境戦略研究機関 政策考えるシンポ	
Non peer reviewed articles	Jun-12	Contributor: IGES Climate Change Group; IGES Economy and Environment Group	原発依存度低下でも2050年に二酸化炭素80%減? ~理想的なシナリオだが不確実な技術に依拠	
Non peer reviewed articles	Jun-12	Wakiyama, Takako	低炭素開発とグリーン投資に向けて 知識共有プラットフォームと官民学の役割	環境ビジネスウォッチ アジアの疾風
Non peer reviewed articles	Jun-12	Asuka, Jusen	電力危機防止 節電したくなる制度つくれ	私の視点
Non peer reviewed articles	May-12	Organisers: IGES	The Road to the Durban Platform: New Framework, Market Mechanisms and MRV in Asia	ENB on the SIDE
Non peer reviewed articles	May-12	Author: 遠藤幸宏 / Contributor: IGES	どうなる エネルギー・CO2削減施策	
Non peer reviewed articles	Mar-12	Fukuda, Koji	新たな支援枠組み「緑の気候基金」とは何か	
Non peer reviewed articles	Feb-12	Tamura, Kentaro	ダーバン会議の結果と次期枠組みの行方	
Non peer reviewed articles	Feb-12	石川智子	「低炭素社会に向けた研究の促進に向けて-低炭素社会国際研究ネットワーク (LCS-RNet) の取り組み」	環境研究2012 No.165
Non peer reviewed articles	Jan-12	脇山尚子	In Business i ENECO	
Non peer reviewed articles	Jan-12	西岡秀三	「地球温暖化対応：自然の摂理とエネルギー安全保障・経済成長の狭間で の国家の選択」	環境情報科学 2012 年 40-4
Non peer reviewed articles	Nov-11	Romero, Jane	Energy efficient brick and pottery industry: the case of rice husk gasification technology in Viet Nam	
Non peer reviewed articles	Nov-11	Fukuda, Koji	気候変動と資金メカニズム —「緑の気候基金」における民間資金活用とその可能性—	Asia Watch
Non peer reviewed articles	Jul-11	Yan Peng / IGES Staff: Zusman, Eric; Miyatsuka, Akiko	Make Co-benefits Work: China Case	Asian Co-benefits Partnership (ACP) Factsheet
Non peer reviewed articles	Jul-11	Romero, Jane; Miyatsuka, Akiko	温室効果ガス排出削減を越えた交通コベネフィット・アプローチの推進に向けて	世界の環境潮流 Asia Watch
Non peer reviewed articles	Jun-11	Asuka, Jusen	温暖化対策にまつわる7つの神話	

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Non peer reviewed articles	May-11	Asuka, Jusen	「原発だめなら石炭火力」は近視眼	
Non peer reviewed articles	May-11	Asuka, Jusen	CO2急増し異常気象	
Non peer reviewed articles	May-11	Auther: Janardhanan, Nanda Kumar / Advisors: Yoshino, Madoka	インドの気候政策と市場メカニズムが意味するもの	Asia Watch
Non peer reviewed articles	Apr-11	Asuka, Jusen	Post-Earthquake Climate Policy in Japan: Proposal on the Policy Transformation and Issuance of Low Carbon Recovery Bonds	
Non peer reviewed articles	Mar-11	Asuka, Jusen	東日本大震災 予防原則の議論重ねよう	オピニオン
Non peer reviewed articles	Dec-10	Zusman, Eric	COP16 and Co-benefits	Asian Co-benefits Partnership (ACP) Factsheet
Non peer reviewed articles	Oct-10	Miyatsuka, Akiko; Zusman, Eric	What are co-benefits?	Asian Co-benefits Partnership (ACP) Factsheet
Policy Report	Jul-12	Johan C.I. Kuylenstierna and May Antoniette Ajero (Coordinating Lead Authors) Lead authors: Drew Shindell; Eric Zusman; Frank Murray; Geir Braathen; Kevin Hicks (Lead Authors)	UNEP, Global Environmental Outlook (GEO) – 5, Atmosphere Chapter	
Research reports & Occasional papers	Nov-12	Jane Romero	Green Jobs Mapping Study in Malaysia: An overview based on initial desk research	
Research reports & Occasional papers	Oct-12	Yoshino, Madoka	A System for Implementation Review for the Two Degree Goal in the Future Climate Regime: Comparative Insights from Multilateral Environmental Agreements <sup>1</sup>	
Research reports & Occasional papers	Jun-12	Jane Romero	Green Jobs Mapping in the Philippines: An overview based on initial desk research	
Research reports & Occasional papers	Feb-12	Editor: Ling, Frank Hiroshi; Mori, Hideyuki; Srinivasan, Ancha	Climate Smart Development in Asia: Transition to Low Carbon and Climate Resilient Economies	
Research reports & Occasional papers	Feb-12	Auther: Tamura, Kentaro; Fukuda, Koji / Editor: Kameyama, Yasuko; Takamura, Yukari	気候資金を巡る国際交渉と今後の展望	
Research reports & Occasional papers	Jan-12	Editor: Zusman, Eric; Srinivasan, Ancha; Dhakar, Shobhakar	Low Carbon Transport in Asia: Strategies for Optimizing Co-benefits	
Research reports & Occasional papers	Nov-11	Auther: Fukuda, Koji / Contributor: Janardhanan, Nanda Kumar / Editor: Kameyama, Yasuko; Takamura, Yukari	インドの気候変動政策	気候変動と国際協調
Research reports & Occasional papers	Nov-11	Auther: Tamura, Kentaro; Kameyama, Yasuko; Takamura, Yukari / Editor: Kameyama, Yasuko; Takamura, Yukari	気候変動レジームの行方	気候変動と国際協調
Research reports & Occasional papers	Nov-11	Tamura, Kentaro / Editor: Kameyama, Yasuko   Takamura, Yukari	国際気候変動レジームにおける中国の交渉ポジションと国内政治	気候変動と国際協調
Research reports & Occasional papers	Nov-11	IGES Climate Change Group; Asuka, Jusen; Yoshino, Madoka; Miyatsuka, Akiko; Janardhanan, Nanda Kumar; Kuramochi Takeshi; Shimizu, Noriko / Contributor: Shinichiro Asayama	東日本大震災および福島第一原子力発電所事故後のエネルギー及び気候変動政策に関するアンケート調査	
Comissioned Report	Mar-11	Asuka, Jusen; Tamura, Kentaro; Fukuda, Koji; Yoshino, Madoka	平成22年度気候変動将来枠組みに関する検討調査関連業務報告書	

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Comissioned Report	Mar-13	西岡秀三、石川智子、脇山尚子	平成24年度BOCM-MRVの能力向上のためのアジア低炭素成長戦略・低炭素ロードマップ策定支援委託業務報告書	
Comissioned Report	Mar-13	西岡秀三、石川智子、脇山尚子	平成24年度低炭素社会国際研究ネットワーク運営実施委託業務報告書	
Comissioned Report	Mar-13	Asuka, Jusen; Tamura, Kentaro; Fukuda, Koji; Kuramochi, Takeshi; Yoshino, Madoka; Shimizu, Noriko; Jin, Zhen; Janardhanan, Nandakumar; Romero, Jane; Zusman, Eric; Miyatsuka, Akiko; Wakiyama, Takako	各国気候変動政策の概要（PPT & ワード版）	
Comissioned Report	Mar-13	Janardanan, Nandakumar	新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業委託業務 業務報告書（1/8） ①インド	
Comissioned Report	Mar-13	Zusman, Eric; Romero, Jane; Miyatsuka, Akiko; Tamura, Kentaro; Fukuda, Koji	新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業委託業務 業務報告書（2/8） ②インドネシア	
Comissioned Report	Mar-13	Tamura, Kentaro; Fukuda, Koji	新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業委託業務 業務報告書（3/8） ③カンボジア	
Comissioned Report	Mar-13	Zusman, Eric; Romero, Jane; Miyatsuka, Akiko; Tamura, Kentaro; Fukuda, Koji	新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業委託業務 業務報告書（4/8） ④タイ（上）	
Comissioned Report	Mar-13	Jin, Zhen	新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業委託業務 業務報告書（6/8） ⑤中国	
Comissioned Report	Mar-13	Zusman, Eric; Romero, Jane; Miyatsuka, Akiko; Tamura, Kentaro; Fukuda, Koji	新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業委託業務 業務報告書（7/8） ⑥フィリピン ⑦ベトナム	
Comissioned Report	Mar-13	Zusman, Eric; Romero, Jane; Miyatsuka, Akiko; Tamura, Kentaro; Fukuda, Koji	新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業委託業務 業務報告書（8/8）⑧モンゴル ⑨ラオス ミャンマー、ウクライナ等東欧諸国	
Comissioned Report	Mar-13	Zusman, Eric; Romero, Jane; Miyatsuka, Akiko	平成24 年度 環境省請負業務 大気汚染分野におけるコベネフィット・アプローチの推進に係る調査・検討業務 業務 報告書	
Comissioned Report	Mar-13	Zusman, Eric; Romero, Jane; Miyatsuka, Akiko	平成24 年度環境省請負業務 コベネフィット・アプローチ推進に係る国際パートナーシップ等事務局業務 業務報告書	
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Comissioned Report	Mar-13	明日香壽川、金振、ナンダクマール・ジャナルダナン	平成24年度 環境省委託事業 新メカニズムの構築に係る途上国等人事育成支援委託業務 報告書 1/4	
Comissioned Report	Mar-13	明日香壽川、金振、ナンダクマール・ジャナルダナン	平成24年度 環境省委託事業 新メカニズムの構築に係る途上国等人事育成支援委託業務 報告書4/4	
Comissioned Report	Mar-13	Asuka, Jusen; Jin, Zhen; Janardhanan, Nanda Kumar; Kuramochi Takeshi	平成24年度環境研究総合推進費（アジア地域の低炭素型発展可能性とその評価のための基盤分析調査研究）による研究委託業務 委託業務結果報告書	

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Comissioned Report	Mar-13	Auther: Asuka, Jusen; Tamura, Kentaro; Fukuda, Koji; Kuramochi Takeshi; Shimizu, Noriko; Yoshino, Madoka / Contributor: Jin, Zhen; Janardhanan, Nanda Kumar; Yamanoshita, Makino	平成24年度気候変動将来枠組みに関する検討調査関連業務報告書	
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Comissioned Report	Nov-12	Yoshino, Madoka; Shimizu, Noriko	気候変動交渉ハンドブック Ver 4.5	
Comissioned Report	Mar-12	脇山尚子、NKSJ Risk Management, Inc	H 2 3 クリーンアジア・イニシアティブ推進事務局等運営業務：概要調査 2 一環境リスクを移転する仕組みに関する基礎的情報調査	
Comissioned Report	Mar-11	西岡秀三、石川智子、脇山尚子	平成23年度低炭素社会国際研究ネットワーク運営実施委託業務報告書	
Discussion papers & Conference Papers	Jan-12	Contributor: IGES	8割以上が日本の脱原発を支持 IGESのアンケート調査結果	
Discussion papers & Conference Papers	Mar-13	Wakiyama, Takako	"Needs for knowledge sharing and collaborative research for Asian low-carbon development Japan's achievement of energy conservation as an example"	
Discussion papers & Conference Papers	Mar-13	LCS-RNet secretariat	"Synthesis report of the LCS-RNet/LoCARNet Cambodia WS organised in May 2012 "Designing and Establishing Cambodian Low-Carbon Development Plan"	
Discussion papers & Conference Papers	Dec-12	LCS-RNet secretariat	"LCS-Rnet Newsletter Vol.10"	
Discussion papers & Conference Papers	Dec-12	Ishikawa, Tomoko	"気候危機回避に向けて、人類の知恵も結集し始めた世界"	
Discussion papers & Conference Papers	Dec-12	Wakiyama, Takako	?気候資金の鍵を握る民間資金の導入に向けて－緑の気候基金（GCF）における民間資金への期待と課題－	
Discussion papers & Conference Papers	Dec-12	Wakiyama, Takako	?世界で注目されてきた気候変動対策としての省エネの役割－排出削減に向けた各国の省エネ政策の実施動向－	
Discussion papers & Conference Papers	Dec-12	Tamura, Kentaro	気候変動に伴う損失と被害：途上国にとっての譲れない一線	
Discussion papers & Conference Papers	Dec-12	Shimizu, Noriko	適応基金を巡る議論 –運用化から2年が経過して–	
Discussion papers & Conference Papers	Nov-12	LCS-RNet secretariat	"LoCARNet Newsletter Vol.1" 11/2012	
Discussion papers & Conference Papers	Nov-12	LCS-RNet secretariat	LCS-RNet第4回年次会合統合報告書	
Discussion papers & Conference Papers	Nov-12	LCS-RNet secretariat	LoCARNet第1回年次会合統合報告書	
Discussion papers & Conference Papers	Oct-12	LCS-RNet secretariat	"LCS-Rnet Newsletter Vol.9"	

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Discussion papers & Conference Papers	Jan-12	LCS-RNet secretariat	"LCS-RNet Newsletter Vol.7"	
Discussion papers & Conference Papers	Jan-12	石川智子	第二回低炭素アジア研究プロジェクト国際シンポジウム・ワークショップ報告	国立環境研究所 CGER ニュース
Discussion papers & Conference Papers	Nov-11	LCS-RNet secretariat	"LCS-RNet Newsletter Vol.5"	
Discussion papers & Conference Papers	Nov-11	LCS-RNet secretariat	"LCS-RNet Newsletter Vol.6 (Special Issue)"	
Discussion papers & Conference Papers	Nov-11	LCS-RNet secretariat	「低炭素社会国際研究ネットワーク（LCS-RNet）第三回年次会合」	「CAIニューズレター第6号」特集2
Discussion papers & Conference Papers	Nov-11	LCS-RNet secretariat	Scientific Approach to Low Carbon Development Planning in Cambodia -Stakeholders' Dialogue on the Cambodian Low-Carbon Development Research Need	
Discussion papers & Conference Papers	Oct-11	LCS-RNet secretariat	LCS-RNet第3回年次会合統合報告書	
Discussion papers & Conference Papers	Oct-11	LCS-RNet secretariat	Transition towards Low Carbon Societies in Thailand and Asia – Dialogue between Policy-makers and Researchers and Cross-sectoral Approach	
Discussion papers & Conference Papers	Jul-11	LCS-RNet secretariat	"A Low-Carbon Asia: from Malaysia to Asia"	
Discussion papers & Conference Papers	Jul-11	LCS-RNet secretariat	"LCS-RNet Newsletter Vol.4"	
Discussion papers & Conference Papers	Dec-10	Asuka, Jusen; Kei-Ichiro Kanamoto; Lu Xiang Chun	Emissions Trading and International Competitiveness: Case Study for Japanese Industries	IGES CC Working Paper 2010-004
Discussion papers & Conference Papers	Dec-10	Guo, Jiangwen (Helen); Zusman, Eric	Negotiating a Low Carbon Transition in China: Aligning Reforms and Incentives in the 12th Five Year Plan	CC Working Paper
Discussion papers & Conference Papers	Dec-10	Janardhanan, Nanda Kumar	Shaping the Climate Change Agenda in India: Nationally Appropriate Mitigation Actions (NAMA) and Measurement, Reporting and Verification (MRV)	CC Working Paper
Discussion papers & Conference Papers	Nov-10	Fukuda, Koji   Tamura, Kentaro	AN ANALYSIS OF NON-ANNEX I PARTIES NAMAs: Challenges for Designing International Support and Implementing an Effective MRV Framework	CC Working Paper
Discussion papers & Conference Papers	Nov-10	LCS-RNet secretariat	International Research Network for Low-Carbon Societies - Newsletter, Volume 3 (November 2010)	
Discussion papers & Conference Papers	Nov-10	Asuka, Jusen; LU, Xiangchun	Quantified emissions reduction target of China: Assessing the Chinese target of 40-45% reduction in CO2 intensity	CC Working Paper
Discussion papers & Conference Papers	Nov-10	Asuka, Jusen; Li Zhi Dong; Lu Xiang Chun	What constitutes meaningful participation from China?: An analysis of the Chinese intensity targets	CC Working Paper
Discussion papers & Conference Papers	Oct-10	LCS-RNet secretariat	LCS-RNet第2回年次会合統合報告書	

Publication Type	Published Date	Author(s)	title	series
Discussion papers & Conference Papers	Jan-13	Asuka, Jusen; Tamura, Kentaro; Yoshino, Madoka; Jin, Zhen; Ichihara, Jun; Shimizu, Noriko; Miyatsuka, Akiko; Wakiyama, Takako	クライメート・エッジ Vol.16	IGES気候変動グループ ニュースレター
Discussion papers & Conference Papers	Nov-12	Asuka, Jusen; Kuramochi Takeshi; Janardhanan, Nanda Kumar; Yoshino, Madoka; Jin, Zhen; Miyatsuka, Akiko	クライメート・エッジ Vol.15	The Climate Edge
Discussion papers & Conference Papers	Sep-12	Asuka, Jusen; Tamura, Kentaro; Zusman, Eric; Janardhanan, Nanda Kumar; Romero, Jane; Miyatsuka, Akiko; Kuramochi Takeshi; Jin, Zhen; Kojima, Satoshi, Takako Wakiyama	クライメート・エッジ Vol.14	IGES気候変動グループ ニュースレター
Discussion papers & Conference Papers	Jun-12	Asuka, Jusen; Zusman, Eric; Fukuda, Koji; Yoshino, Madoka; Kuramochi Takeshi; Miyatsuka, Akiko; Jin, Zhen; Janardhanan, Nanda Kumar;	クライメート・エッジ Vol.13	IGES気候変動グループ ニュースレター
Discussion papers & Conference Papers	Jan-12	IGES Climate Change Group	クライメート・エッジ Vol.12	IGES気候変動グループ ニュースレター
Discussion papers & Conference Papers	Jan-12	Tamura, Kentaro; Yoshino, Madoka; Ninomiya, Yasushi; Asuka, Jusen; Fukuda, Koji	クライメート・エッジ Vol.12 新年・増刊号： ダーバン合意を読み解く	IGES気候変動グループ ニュースレター
Discussion papers & Conference Papers	Dec-11	Auther: Asuka, Jusen; Tamura, Kentaro; Zusman, Eric; Fukuda, Koji; Janardhanan, Nanda Kumar; Ichihara, Jun / Contributor: Miyatsuka, Akiko	クライメート・エッジ Vol.11	IGES気候変動グループ ニュースレター
Discussion papers & Conference Papers	Aug-11	IGES Climate Change Group; Asuka, Jusen; Tamura, Kentaro; Guo, Jiangwen (Helen); Miyatsuka, Akiko	月刊クライメート・エッジ Vol.10	IGES気候変動グループ ニュースレター
Discussion papers & Conference Papers	Jun-11	Asuka, Jusen; Fukuda, Koji; Zusman, Eric; Janardhanan, Nanda Kumar; Ishinabe, Nagisa; Guo, Jiangwen (Helen); Miyatsuka, Akiko	月刊クライメート・エッジ Vol.9	The Climate Edge
Discussion papers & Conference Papers	May-11	Auther: Asuka, Jusen; Janardhanan, Nanda Kumar / Editor: Miyatsuka, Akiko	月刊クライメート・エッジ Vol.8	
Discussion papers & Conference Papers	Mar-11	Asuka, Jusen; Tamura, Kentaro; Zusman, Eric; Romero, Jane; Miyatsuka, Akiko; Guo, Jiangwen (Helen) ; Janardhanan, Nanda Kumar	月刊クライメート・エッジVol.7	The Climate Edge
Discussion papers & Conference Papers	Jan-11	Auther: Hamanaka, Hironori; Asuka, Jusen; Tamura, Kentaro; Ishinabe, Nagisa; Janardhanan, Nanda Kumar; Guo, Jiangwen (Helen); Miyatsuka, Akiko / Editor: Miyatsuka, Akiko	月刊クライメート・エッジ Vol. 6	The Climate Edge
Discussion papers & Conference Papers	Dec-10	Asuka, Jusen; Fukuda, Koji; Janardhanan, Nanda Kumar; Guo, Jiangwen (Helen); Ninomiya, Yasushi; Kobayashi, Masanori; Editor: Miyatsuka, Akiko	月刊クライメート・エッジ Vol. 5	The Climate Edge
Discussion papers & Conference Papers	Nov-10	Auther: Nishimura, Mutuyoshi; Miyatsuka, Akiko; Yoshino, Madoka; Editor: Miyatsuka, Akiko	月刊クライメート・エッジ Vol. 4	The Climate Edge
Discussion papers & Conference Papers	Oct-10	Auther: Ueda Kazuhiro; Zusman, Eric / Editor: Miyatsuka, Akiko	月刊クライメート・エッジ Vol. 3	The Climate Edge
Discussion papers & Conference Papers	Sep-10	Auther: Janardhanan, Nanda Kumar; Tamura, Kentaro; Asuka, Jusen / Editor: Miyatsuka, Akiko	月刊クライメート・エッジ Vol. 2	The Climate Edge
Discussion papers & Conference Papers	Aug-10	Auther: Asuka, Jusen / Editor: Miyatsuka, Akiko	月刊クライメート・エッジ Vol. 1	The Climate Edge
Discussion papers & Conference Papers	Jun-10	LCS-RNet secretariat	International Research Network for Low-Carbon Societies - Newsletter, Volume 2 (June 2010)	
Discussion papers & Conference Papers	Apr-10	LCS-RNet secretariat	Introduction to Low Carbon Societies	
Discussion papers & Conference Papers	Apr-10	LCS-RNet secretariat	Towards Sustainable Low-Carbon Development and Green Growth in Indonesia and Asia-Linking Research and Policy-	

Publication Type	Published Date	Author(s)	title	series
Working Papers	Nov-12	Zusman, Eric; Miyatsuka, Akiko; Romero, Jane; Mohammad Arif	Bridging Research and Policy on Short-Lived Climate Pollutants (SLCPs) in Asia	IGES Working Paper
Working Papers	Nov-12	Fukuda, Koji; Shimizu, Noriko	Designing Adaptation Finance for the Green Climate Fund: Challenges and Opportunities Drawn from Existing Multilateral Funds	IGES Working Paper
Working Papers	Nov-12	Janardhanan, Nanda Kumar; Manish Kumar Shrivastava	MRV Challenges of Integrating National Initiatives into International Mechanisms: A Case of Perform, Achieve and Trade Mechanism in	IGES Working Paper
Working Papers	Nov-12	Kuramochi Takeshi; Shimizu, Noriko; NAKHOODA, SMITA; FRANSEN,	The Japanese Fast-Start Finance Contribution	WRI Working Paper
Working Papers	Nov-12	Kuramochi Takeshi; Asuka, Jusen	革新的エネルギー・環境戦略を考える	IGES Working Paper-CC-2012-01
Working Papers	Oct-12	Asuka, Jusen	今後の温暖化対策国際枠組みと気候単独主義	IGES Working Paper
Working Papers	Aug-12	Asuka, Jusen	Future Climate Regime and Climate Unilateralism	IGES Working Paper
Working Papers	Mar-12	Ishinabe, Nagisa; Fujii, Hidemichi; Managi, Shunsuke	日本の国際競争力 世界1000社のカーボンコスト	CC Working Paper
Working Papers	Feb-12	Miyatsuka, Akiko; Wakiyama, Takako / Contributor: Zusman, Eric	Increasing Clean Development Mechanism (CDM) Projects in Asia's Least Developed Countries - A Strategy for Enhancing Readiness	
Working Papers	Feb-12	Romero, Jane	NAMAs, CDM and MRV: the case of transport sector	IGES Working Paper-CC-2011-10
Working Papers	Feb-12	Janardhanan, Nanda Kumar	Transition to Energy Secure Future: Policies Enabling Energy Transition in India	IGES Working Paper-CC-2011-09
Working Papers	Jan-12	Pradeep, Tharakan; Crisha, Naeeda; Romero, Jane; Morgado, David	Biofuels in the Greater Mekong Subregion: Energy Sufficiency, Food security, and Environmental Management	ADB Southeast Asia Working Paper No. 8
Working Papers	Nov-11	Romero, Jane	Biofuels - from CDM to NAMAs	IGES Working Paper CC-2011-04
Working Papers	Nov-11	Wakiyama, Takako	Designing Climate Finance to Enhance Low-Carbon Investment through Local Intermediaries: Applying a Concept of Direct Access to	IGES Working Paper-CC-2011-08
Working Papers	Nov-11	Fukuda, Koji; Wakiyama, Takako   Shimizu, Noriko	Financial Support to the Implementation of Adaptation Measures	IGES Working Paper-CC-2011-03
Working Papers	Nov-11	Asuka, Jusen	Hayama Proposal: Post 2013 International Framework on Climate Change	IGES Working Paper-CC-2011-02
Working Papers	Nov-11	Tamura, Kentaro; Zusman, Eric	The Politics of Climate Policy in China: Interests, Institutions and Ideas	IGES Working Paper-CC-2011-07
Working Papers	Nov-11	Zusman, Eric; Fukuda, Koji; Yoshino, Madoka; Ichihara, Jun	Why the United States Lacks a Federal Climate Policy: Collective Action Problems, Tea Parties, and Blue Dogs	IGES Working Paper-CC-2011-05
Working Papers	Oct-10	Fukuda, Koji; Tamura, Kentaro	AN ANALYSIS OF NON-ANNEX I PARTIES NAMAs: Challenges for Designing International Support and Implementing an Effective MRV	



**IGES Forest Conservation Team: List of publications (FY2010-2012)**

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Policy Brief	Oct-10	Author: Scheyvens, Henry   Lopez-Casero, Federico	Customs Collaboration to Combat the International Trade in Illegal Timber	Policy Brief	English		#11
Policy Brief	Nov-10	Author: Scheyvens, Henry   Lopez-Casero, Federico	違法な木材貿易阻止に向けた税関間の協力	Policy Brief	Japanese		#11
Policy Brief	Oct-12	Author: Scheyvens, Henry	Community-based Forest Monitoring for REDD+: Lessons and reflections from the field	Policy Brief	English		Number 22
Policy Brief	Oct-12	Author: Scheyvens, Henry   Yamanoshita, Makino   Fujisaki Taiji	REDD+のためのコミュニティ主体の森林モニタリング：現場から得られた教訓と考察	Policy Brief	Japanese		Number 22
Policy Reports	Jun-10	Author: Scheyvens, Henry   Lopez-Casero, Federico   Ibarra Gene, Enrique   Hyakumura, Kimihiko	Conserving Tropical Forests: Reforming the Tropical Forest Products Trade towards Sustainable Consumption and Production	IGES White Paper III: Chapter 8	English	Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained World	Vol III, 2010
Policy Reports	Jun-10	Author: Scheyvens, Henry   Lopez-Casero, Federico   Ibarra Gene, Enrique   Hyakumura, Kimihiko	熱帯林の保全：持続可能な消費と生産に向けた熱帯林産物取引の改革	IGES白書 III：第8章	Japanese	アジア太平洋における持続可能な消費と生産：資源制約を乗り越えてアジアは豊かさを実現できるか	2010
Policy Reports	Sep-10	Editor: Scheyvens, Henry	DEVELOPING NATIONAL REDD-PLUS SYSTEMS: PROGRESS CHALLENGES and WAYS FORWARD		English		
Policy Reports	Jan-11	Editor: Scheyvens, Henry / Author: Ashish Kothari   Neema Pathak   Arshiya Bose   Lim Teck Wyn   Robert J. Fisher   Peter W. Walpole   Dallay Annawi	Critical Review of Selected Forest Regulatory Initiatives: Applying a Rights Perspective		English		
Policy Reports	Jun-12	Author: Ibarra Gene, Enrique	Indonesia National REDD+ Readiness and Activities		English		
Policy Reports	Jul-12	Author: Ibarra Gene, Enrique   Scheyvens, Henry   Lopez-Casero, Federico	Community Forest Management and REDD+: Opportunities and challenges	IGES White Paper IV 2012	English	Greening Governance in Asia-Pacific	Chapter 5
Policy Reports	Jul-12	Author: Ibarra Gene, Enrique   Scheyvens, Henry   Lopez-Casero, Federico	コミュニティによる森林管理とREDD+,その可能性と課題	IGES White Paper IV 2012	Japanese	アジア太平洋地域のグリーン・ガバナンス：低炭素で持続可能なアジア太平洋に向けて	Chapter 5
Policy Reports	Feb-13	Author: Scheyvens, Henry   Sagara, Miho   Ibarra Gene, Enrique	REDD+ projects: A review of selected REDD+ project designs		English		
Policy Reports	Apr-13	Author: Fujisaki, Taiji   Ibarra Gene, Enrique   Scheyvens, Henry / Editor: Yamanoshita, Makino	REDD+ 進捗と課題		Japanese		

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Research reports & Occasional papers	Jan-11	Author: Amanda Bradley	Review of Cambodia's REDD Readiness: Progress and Challenges	Forest Conservation Project Occasional Paper	English		No. 4
Research reports & Occasional papers	Dec-11	Author: Scheyvens, Henry   Ibarra Gene, Enrique   Yamanoshita, Makino   Hyakumura, Kimihiko	Participatory Approaches to Forest Carbon Accounting to Mitigate Climate Change, Conserve Biodiversity, and Promote Sustainable Development - APN Progress Report 2011		English		
Research reports & Occasional papers	Apr-12	Author: RECOFTC   IGES   NORAD	Putting Free, Prior, & Informed Consent into Practice in REDD Initiatives		English	Training Manual	
Research reports & Occasional papers	Aug-12	Author: Lopez-Casero, Federico   Kad, Shashi	Promoting the ingenious use of a plant invasive, Lantana camara, to enhance the livelihood of the forest dwelling communities in India. Draft Report on Gold Award Winning Case Study-APFED		English		
Research reports & Occasional papers	Oct-12	Author: Cadman, Timothy   Maraseni, Tek   Lopez-Casero, Federico	Drafting a national quality-of-governance standard for the forest sector and REDD+ in Nepal		English		
Peer reviewed articles	Jan-12	Author: Scheyvens, Henry   Ibarra Gene, Enrique	A beginner's guide to payments for ecosystems services - Generating income from standing forests		English	Forest Matters: Make it work!	
Peer reviewed articles	May-12	Author: Scheyvens, Henry   Lopez-Casero, Federico   Sang-Arun, Janya	Exploring the links between community-based adaptation and microfinance		English		
Peer reviewed articles	Sep-12	Author: Hyakumura, Kimihiko   Scheyvens, Henry	Financing REDD+: A review of options and challenges		English	Economics of Biodiversity and Ecosystems Services (book)	
Peer reviewed articles	Jun-12	Author: Yamanoshita, Makino   Amano, Masahiro	A/R CDM におけるコミュニティの能力向上の必要性		Japanese	海外の森林と林業	84
Peer reviewed articles	May-13	Author: Sagara, Miho   Hyakumura, Kimihiko / Contributor: Scheyvens, Henry   Ibarra Gene, Enrique	REDD+におけるディスプレイメントと地域コミュニティの関与		Japanese	林業経済	Vol.66 No.2
Peer reviewed articles	Mar-13	Author: Yamanoshita, Makino	京都議定書第二約束期間に向けたA/R CDMの改善方策	早稲田大学モノグラフ	Japanese	京都議定書第二約束期間に向けたA/R CDMの改善方策	84
Peer reviewed articles	Apr-13	Author: Lopez-Casero, Federico   Maraseni, Tek   Neupane, Prem	An assessment of the impacts of the REDD+ pilot project on community forests user groups (CFUGs) and their community forests in Nepal		English		
Peer reviewed articles	Apr-13	Author: Ibarra Gene, Enrique   Lopez-Casero, Federico	Comparative analysis of four REDD+ project designs in Indonesia and Cambodia		English	International Forestry Review	
Non peer reviewed articles	Oct-10	Author: Hyakumura, Kimihiko	森林の減少・劣化防止による地球温暖化への取り組み－REDD+の動向－		Japanese	Business i ENECO	2010年10月号

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Non peer reviewed articles	Apr-11	Author: Scheyvens, Henry   Lopez-Casero, Federico   Sagara, Miho	後を絶ため違法伐採 その対策と課題は	アジアウォッチ	Japanese	Business i ENECO	April 2011 Vol.44 No.4
Non peer reviewed articles	Jan-11	Author: Scheyvens, Henry	Can REDD-plus Save Asia's Tropical Rainforests?		English		
Non peer reviewed articles	Nov-11	Author: Yamanoshita, Makino	REDD+ ～森林保全の新しい原動力	国際森林年に 森林について 考える	Japanese	Global Net 12月号253号	
Non peer reviewed articles	Jan-12	Author: Hyakumura, Kimihiko   Scheyvens, Henry   Ibarra Gene, Enrique   Sagara, Miho	住民参加による炭素計測手法の開発の試み - 有効で公正なREDDプラスを目指して -		Japanese	海外の森林と林業	No.83/Jan .2012
Non peer reviewed articles	Mar-12	Author: Scheyvens, Henry   Ibarra Gene, Enrique   Yamanoshita, Makino   Hyakumura, Kimihiko	Participatory approaches to forest carbon accounting to mitigate climate change, conserve biodiversity and promote sustainable development		English	APN Science Bulletin	Issue 2, march 2012
Non peer reviewed articles	Oct-12	Author: Scheyvens, Henry   Sagara, Miho   Fujisaki, Taiji	期待高まる「REDD+」の進歩と課題	環境ビジネス ウォッチ アジアの疾風	Japanese	Business i ENECO	Oct-12
Discussion papers & Conference Papers	Apr-11	Author: Nguyen Quang Tan	Payment for Environmental Services in Vietnam: An Analysis of the Pilot Project in Lam Dong Province		English		
Discussion papers & Conference Papers	Aug-11	Author: Lopez-Casero, Federico	IGES Briefing Note on international REDD-plus negotiations. UN Climate Change Conference in Bonn, 6-17 June 2011		English		
Discussion papers & Conference Papers	Feb-12	Author: Yamanoshita, Makino	COP17 REDD+ Report	IGES Conference Report-FC- 2011-01	Japanese		
Discussion papers & Conference Papers	May-12	Author: RECOFTC	Putting Free, Prior, & Informed Consent into Practice in REDD+ Initiatives		English		
Discussion papers & Conference Papers	Jun-12	Author: Scheyvens, Henry   Kipp, Robert David   Hayashi, Shinano   Kobayashi, Masanori	ISAP2011 Building Resilient Societies Discussion Paper		English		
Discussion papers & Conference Papers	Aug-12	Author: Shivakoti, Binaya Raj   Lopez-Casero, Federico   Kataoka, Yatsuka	Impacts of changing rainfall pattern and water scarcity on agriculture and livelihood in rural Nepal		English		

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Discussion papers & Conference Papers	Jul-12	Author: Scheyvens, Henry   Hayashi, Shinano   Lopez-Casero, Federico   Sang-Arun,Janya	Financing Innovations for Building Resilience to Climate-Change Related and Other Natural Disasters		English		
Discussion papers & Conference Papers	Jul-12	Author: Lopez-Casero, Federico / Contributor: Yamanoshita, Makino   Srivatava, Nalin	IGES Briefing Note on REDD+ negotiations: Kokuren Kikou Hendou Kaigi (2012/5/14 – 25). SB 36	IGES Conference Report-FC-2012-01	Japanese		
Discussion papers & Conference Papers	Jul-12	Author: Lopez-Casero, Federico / Contributor: Yamanoshita, Makino   Srivastava, Nalin	IGES Briefing Note on REDD+ Negotiations: UN Climate Change Conference, Bonn, Germany, 14-25 May 2012. SB 36	IGES Conference Report-FC-2012-01	English		
Discussion papers & Conference Papers	Aug-12	Author: Scheyvens, Henry	Papua New Guinea REDD+ Readiness - State of Play		Japanese		
Discussion papers & Conference Papers	Oct-12	Author: Yamanoshita, Makino	IGES Briefing Note on REDD+ Negotiations: バンコク気候変動会議 AWG-LCA15	IGES Conference Report FC-2012-02	Japanese		
Discussion papers & Conference Papers	Dec-12	Author: Fujisaki, Taiji	Lao PDR: REDD+ readiness - state of play		English		
Discussion papers & Conference Papers	Mar-13	Author: Lopez-Casero, Federico / Contributor: Yamanoshita, Makino	IGES Briefing Note on REDD+ Negotiations: UNFCCC COP 18, Doha		English		
Discussion papers & Conference Papers	Mar-13	Author: Ibarra Gene, Enrique	Indonesia REDD+ Readiness - State of play: November 2012	IGES Discussion Paper No. FC-2012-04	English		
Discussion papers & Conference Papers	Apr-13	Author: Lopez-Casero, Federico   Cadman, Tim   Maraseni, Tek	Quality-of-governance standards for carbon emissions trading. Developing REDD+ governance through a multi-stage, multi-level and multi-stakeholder approach	IGES Discussion Paper No. FC-2012-02	English		
Working Papers	Nov-10	Author: Ibarra Gene, Enrique / Contributor: Aliadi, Arif	REDD (Reducing Emissions from Deforestation and Forest Degradation): Mitigation, Adaptation and the Resilience of Local Livelihoods	Asia Security Initiative Policy Series	English		Working Paper No. 8

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Working Papers	Nov-12	Author: Scheyvens, Henry   Fujisaki, Taiji   Bun, Yati A.   Winai, Mark   Zamang, Linzon	Community-based Forest Monitoring Manual - Papua New Guinea		English		
Proceedings	Nov-11	Author: Ben Vickers   Scheyvens, Henry   Yamanoshita, Makino	REDD+ in Pacific Island Countries - Summary of Asia Pacific Forestry Week 2011 Side Event		English		
Proceedings	Feb-12	Author: ANSAB   IGES   USQ	Stakeholder Forum Workshop on a voluntary national draft quality-of-governance standard for sustainable management and use of forest biomass in Nepal		English		
Proceedings	May-12	Author: Yamanoshita, Makino   Amano, Masahiro	森林カーボンプロジェクトにおけるコミュニティの能力向上の必要性		Japanese	第22回日本熱帯生態学会年次大会要旨集	
Proceedings	Dec-12	Author: Lopez-Casero, Federico   Maraseni, Tek   Neupane, Prem	Development of draft quality-of-governance standards for climate change mitigation and beyond. Groundtruthing of developed verifiers in REDD+ pilot area, Nepal		English		
Database & online resources	Mar-12	Author: IGES Forest Conservation team (Natural Resources Management Group)	IGES REDD+ online database		English		

**Freshwater sub-group: List of publications (FY2010-2012)**

Publication Type	Date	Author(s)	title	series	Language	Media Name	Issue
Policy Brief	12-Jul	Author: Mitra, Bijon Kumer   Bhattacharya, Anindya	長期電力シナリオと水利用—インドのケーススタディ	Policy Brief	Japanese		Number 20
Policy Brief	12-Jul	Author: Mitra, Bijon Kumer   Bhattacharya, Anindya	Long Term Electricity Scenario and Water Use: A Case Study on India	Policy Brief	English		#20
Policy Reports	10-Jun	Author: Kataoka, Yatsuka   Shrestha, Sangam	水の有効利用の促進：経済的手法の適用	IGES白書III：第7章	Japanese	アジア太平洋における持続可能な消費と生産：資源制約を乗り越えてアジアは豊かさを實現できるか	2010
Policy Reports	10-Jun	Author: Kataoka, Yatsuka   Shrestha, Sangam	Promoting Wise Use of Water: Application of Economic Instruments	IGES White Paper III: Chapter 7	English	Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained World	Vol III, 2010
Policy Reports	12-Mar	Author: Kataoka, Yatsuka   Kuyama, Tetsuo   Goto, Ayumi   Mitra, Bijon Kumer   Acharya, Bhim Nath	WEPA Outlook on Water Environmental Management 2012 - Summary Report		English	WEPA Outlook on Water Environmental Management	
Policy Reports	12-Mar	Author: Kataoka, Yatsuka   Kuyama, Tetsuo   Goto, Ayumi	WEPA Outlook on Water Environmental Management 2012		English	WEPA Outlook on Water Environmental Management 2012 (Summary Report)	
Policy Reports	12-Mar	Author: Kataoka, Yatsuka   Kuyama, Tetsuo   Goto, Ayumi	WEPAアウトルック アジアの水環境管理2011 (概要版)		Japanese	WEPAアウトルック アジアの水環境管理2012 (概要版)	
Policy Reports	13-Mar	Author: Kataoka, Yatsuka   Kuyama, Tetsuo   Goto, Ayumi	平成23年度アジア水環境パートナーシップ事業業務報告書		Japanese		
Policy Reports	13-Mar	Author: Kataoka, Yatsuka   Kuyama, Tetsuo   Goto, Ayumi	WEPAアジア水環境管理アウトルック2011		Japanese		
Policy Reports	5-Mar	Author: Shivakoti, Binaya Raj   Kataoka, Yatsuka	Chapter14: Wastewater: MRV Proposal Based on the Lessons from Waste-to-energy Projects in Thailand	IGES Policy Report	English	Measurement, Reporting, and Verification (MRV) for low carbon development: Learning from Experience in Asia	2012-03

Publication Type	Date	Author(s)	title	series	Language	Media Name	Issue
Non peer reviewed articles	11-May	Author: Kataoka, Yatsuka	アジアの地下水管理 (第8章)		Japanese	地下水流動 - モンスーンアジアの資源と循環	
Non peer reviewed articles	11-Jun	Author: Acharya, Bhim Nath   Kataoka, Yatsuka	持続可能な水資源管理に必要な統合的経済アプローチ	世界の環境潮流 Asia Watch	Japanese	ENECO	11-Jun
Non peer reviewed articles	12-Jan	Author: Kuyama, Tetsuo	発展するアジアと生活排水処理の今後	世界の環境潮流 Asia Watch	Japanese	ENECO	第45巻 / 第1号 / 2012.01
Non peer reviewed articles	13-Jan	Author: Mitra, Bijon Kumer	水不足がアジアの電力部門を直撃 発電用水の利用効率化でビジネスチャンス	環境ビジネスウォッチ アジアの疾風	Japanese	Business i ENECO	13-Jan
Non peer reviewed articles	13-Feb	Author: Goto, Ayumi	企業のグリーン・メガパートナーシップ 巨額の資金調達への挑戦	環境ビジネスウォッチ アジアの疾風	Japanese	Business i ENECO	13-Feb
Proceedings	12-Mar	Author: Shivakoti, Binaya Raj   Kataoka, Yatsuka	アジアの都市の地下水、水供給、衛生設備		Japanese		
Proceedings	12-Mar	Author: Kataoka, Yatsuka   Kuyama, Tetsuo   Goto, Ayumi	平成23年度アジア水環境パートナーシップ事業業務報告書		Japanese		
Proceedings	12-Mar	Author: Kataoka, Yatsuka	平成23年度アジア水環境パートナーシップ事業業務報告書		Japanese		

**Adaptation team: List of publications (FY2010-2012)**

Publication Type	Date	Author(s)	title	series	Language	Media Name
Non peer reviewed articles	Sep-11	Tsurita, Izumi	アジアにおける気候変動適応策とアグリビジネスの展望	世界の環境潮流 Asia Watch	Japanese	ENECO
Policy Reports	Jun-10	Sano, Daisuke   Prabhakar, SVRK   Srivastava,Nalin	アジア太平洋地域における食の安全：その現状と政策の展望、実現方法	IGES白書III：第10章	Japanese	アジア太平洋における持続可能な消費と生産：資源制約を乗り越えてアジアは豊かさを実現できるか
Non peer reviewed articles	Mar-12	Prabhakar, SVRK	アジア農村地域の産業振興：成功例と課題	アジアウォッチ	Japanese	Business i. ENECO
Non peer reviewed articles	Sep-10	Prabhakar, SVRK   Elder, Mark	バイオ燃料は必ずしも悪ではない		Japanese	UNU Our World 2.0
Research reports & Occasional papers	Jun-11	Tsurita, Izumi   Pacamalan, Apollo, Jose   Pansacala, Jane, Mary	沿岸域における環境問題解決への課題		Japanese	日本環境学会研究発表会予稿集
Policy Reports	Jul-12	Hayashi, Shinano   Watabe, Atsushi   Tsurita, Izumi   Kipp, Robert David   Mori, Hideyuki	災害に対するレジリエンス（対応力）再考：東日本大震災における自治体連携の活用		Japanese	
Non peer reviewed articles	Aug-10	Contributor: Tsurita, Izumi	政策と現場双方の視点から環境問題に挑む		Japanese	国際開発ジャーナル社
Conference paper	Jul-12	Prabhakar, SVRK   R. Kotru, ICIMOD   D. Mohan, TERI   N. Heider, BCAS / IGES Staff: S. Hayashi, IGES	Adaptation effectiveness indicators: Moving towards Local Adaptation Index	Adaptation Metrics	English	4th International Conference on Climate Change
Conference paper	Nov-12	Prabhakar, SVRK   Misa Aoki	Does adaptive policies mean effective policies? Implications for climate change adaptation and disaster risk reduction	Adaptive Policies	English	International Workshop on Natural Disasters and Climate Change in Asia
Conference paper	Dec-11	Tsurita, Izumi   Prabhakar, SVRK   Sano, Daisuke   Hayashi, Shinano	Does Japan need to think about adaptation within its own agriculture sector? A case study of initiatives in rice production	Barriers to mainstreaming CCA	English	8th International Conference of NAPSIPAG 2011
Conference paper	Dec-11	Prabhakar, SVRK   R. Mashimo   M. Aoki   Tsurita, Izumi   Hayashi, Shinano	How adaptive policies are in Japan and can adaptive policies mean effective policies? Some Implications for Governing Climate Change Adaptation	Adaptive policies	English	8th International Conference of NAPSIPAG 2011
Conference paper	Jan-13	Prabhakar, SVRK   Misa Aoki	Do Adaptive Policies Mean Effective Policies? Implications for Climate Change Adaptation and Disaster Risk Reduction	Adaptive Policies	English	Earth System Governance Tokyo Conference
Conference paper	Mar-13	Prabhakar, SVRK / Contributor: R. Kotru, ICIMOD   G. Rabbani, BCAS   D. Mohan, TERI / IGES Staff: Hayashi, Shinano	Local Adaptation Index for Measuring Climate Change Adaptation Effectiveness: Some Considerations for the Drought Prone Areas of Gangetic Basin	Adaptation metrics	English	11th International Conference on Dryland Development : "Global Climate Change and its Impact on Food & Energy Security in the Dry lands"
Non peer reviewed articles	Sep-10	Prabhakar, SVRK   Elder, Mark	Not all biofuels are bad: A rural India case	Biofuels	English	UNU Our World 2.0



Publication Type	Date	Author(s)	title	series	Language	Media Name
Peer reviewed articles	Mar-13	Prabhakar, SVRK   M. Aoki, Kyoto University   R. Mashimo, IGES / Editor: Huong Ha,   T. N. Dhakal	How Adaptive Policies are in Japan and Can Adaptive Policies Mean Effective Policies? Some Implications for Governing Climate Change Adaptation	Adaptive Policies	English	Governance approaches for mitigation and adaptation to climate change in Asia
Peer reviewed articles	Feb-11	Editor: J.J.Pereira   J. M. Pulhin   Prabhakar, SVRK   R. Shaw & R.R. Krishnamurthy	Climate Change Adaptation: Perspectives in the Asia Pacific	Mainstreaming climate change adaptation	English	Asian Journal of Environment and Disaster Management
Peer reviewed articles	Feb-11	A.A. Nambi   Prabhakar, SVRK	Mainstreaming Adaptation to Climate Change in Agriculture and Water Sectors in India: Current Status, Issues and Barriers	Mainstreaming climate change adaptation	English	Asian Journal of Environment and Disaster Management
Peer reviewed articles	Feb-11	Prabhakar, SVRK   Matsumoto, Kyoko	Mainstreaming Climate Change Adaptation in Agriculture and Water Sectors in the Asia Pacific Region: Current Status, Issues and Way Forward	Mainstreaming climate change adaptation	English	Asian Journal of Environment and Disaster Management
Peer reviewed articles	Feb-11	Prabhakar, SVRK   Kobashi, Takuro   Ancha, Srinivasan	Monitoring Progress of Adaptation to Climate Change: The Use of Adaptation Metrics	Adaptation Metrics	English	Asian Journal of Environment and Disaster Management
Peer reviewed articles	Oct-11	K. Yasuhara   M, Tamura   Prabhakar, SVRK   S. Herath	Overcoming barriers to climate adaptation: Role and comparison of international networks		English	Journal of Japan Society of Civil Engineers Series G
Peer reviewed articles	Jan-12	Prabhakar, SVRK / Contributor: Y. Iwata   R. Shaw   J. N. Soulakova   Y. Takeyuchi	Climate Change Implications for Disaster Risk Management in Japan: A Case Study on Perceptions of Risk Management Personnel and Communities in Saijo City	Climate Change Adaptation and disaster risk reduction	English	Journal of Environmental Hazards
Peer reviewed articles	Feb-12	Prabhakar, SVRK	Climate Risks to Agriculture/Food Security in the GMS Countries and Early Warning Systems in the Context of the Food-Water-Energy Nexus	Food-Water-Energy nexus	English	International conference on GMS 2020: Balancing Economic Growth and Environmental Sustainability
Peer reviewed articles	Jun-12	Hayashi, Shinano   Tsurita, Izumi   Watabe, Atsushi   Kipp, Robert David   Mori, Hideyuki	Proposals for Building Resilient Society: Observation of Inter-municipality approaches in Northeast Japan Earthquake		English	IGES Disaster Research Paper
Peer reviewed articles	Feb-13	Prabhakar, SVRK / Contributor: S. Suryahadi   I. Las   A. Unadi   P. Setyanto	Mitigation Co-Benefits of Adaptation Actions in Agriculture: An Opportunity for Promoting Climate Smart Agriculture in Indonesia	Co-benefits	English	Asian Journal of Environment and Disaster Management
Peer reviewed articles	Mar-13	Tsurita, Izumi   Prabhakar, SVRK   Sano, Daisuke	Approaches for Climate Change Adaptation: A Case Study of Agriculture Initiatives in Japan	Adaptation in developed countries	English	Enhanced governance approaches for mitigation and adaptation to climate change ? An Asia Focus
Peer reviewed articles	Mar-13	Prabhakar, SVRK / Contributor: M. Aoki   R. Mashimo	How Adaptive Policies are in Japan and Can Adaptive Policies Mean Effective Policies? Some Implications for Governing Climate Change Adaptation	Adaptive policies	English	Enhanced governance approaches for mitigation and adaptation to climate change ? An Asia Focus

Publication Type	Date	Author(s)	title	series	Language	Media Name
Policy Reports	Apr-12	Prabhakar, SVRK   Gattineni Srinivasa Rao   Fukuda, Koji   Hayashi, Shinano / Editor: Philipp Schmidt-Thom? and Joerg Knieling	Promoting Risk Insurance in the Asia-Pacific Region: Lessons from the Ground for the Future Climate Regime under UNFCCC	Risk Insurance	English	Implementing Climate Change Adaptation Strategies
Policy Reports	Jun-10	Prabhakar, SVRK   Sano, Daisuke   Srivastava,Nalin	Food Safety in the Asia-Pacific: Current status, policy perspectives, and a way forward	Food and Agriculture	English	Sustainable Consumption and Production in a Climate Constrained World: Perspectives for the Asia Pacific
Policy Reports	Jul-10	Prabhakar, SVRK / Editor: Ryo Fujikura and Masato Kawanishi	Commentary on Cases of Climate Change Adaptation in Africa	Climate Change Adaptation and International Development	English	Climate Change Adaptation and International Development: Making Development Cooperation More Effective
Policy Reports	Jul-10	Prabhakar, SVRK / Editor: R. Shaw, J. Pulhin and J. Pereira	Promoting Adaptation and Disaster Risk Reduction in the Post-Kyoto Climate Regime	Community, Environment and Disaster Risk Reduction	English	Climate Change Adaptation and Disaster Risk Reduction: Asian Perspectives
Policy Reports	Oct-10	N. Huy   R. Shaw   Prabhakar, SVRK / Editor: R. Shaw   J. Pulhin   J. Pereira	Climate change adaptation and disaster risk reduction in Cambodia	Community, Environment and Disaster Risk Management	English	Climate Change Adaptation and Disaster Risk Reduction: Asian Perspectives
Policy Reports	Oct-10	Prabhakar, SVRK / Editor: UNFCCC	Technical capacity development for climate change adaptation planning in the Asia-Pacific region		English	UNFCCC: Action on the ground: A synthesis of activities in the areas of education, training and awareness-raising for adaptation
Policy Reports	Apr-11	AKK: Abdullah Mamun & BM Alauddin   Prabhakar, SVRK	Final Evaluation Report of the APFED Showcase Project New Climate Risk Management Project (NCRMP)	APFED Showcase	English	
Policy Reports	Oct-11	Prabhakar, SVRK / Editor: S. Yadav, B. Redden, J. L. Hatfield, H. Lotze-Campen and A. Hall	Climate Change Impacts in Japan and Southeast Asia: Implications for Crop Adaptation	Crop adaptation	English	Crop Adaptation to Climate Change
Policy Reports	Jan-12	Prabhakar, SVRK   Md. Sekender Ali   Kang Kroesna   Silinthone Sacklokham   Burmaa Badral   Ram Bhakta Shrestha   T. Okayama	Scientific Capacity Development of the Trainers and Policy Makers for Climate Change Adaptation Planning in Asia and the Pacific	APAN, Capacity Building Climate Change Adaptation	English	Research Report to the Asia Pacific Network for Global Change Research
Policy Reports	Feb-12	Prabhakar, SVRK   H. Wright   Tsurita, Izumi   L. Jones   M. Spearman   P.S. Villanueva   J. Ayers   C. Ehrhart   Hayashi, Shinano   T. Rossing / Editor: J. Ayers, H. Reid, E.L.F. Schipper, S. Huq and A. Rahman	Monitoring and Evaluation of Progress in Adaptation to Climate Change: Advances, Challenges, and Ways Forward	Adaptation metrics	English	Scaling up Community-based adaptation
Policy Reports	Apr-12	Sano, Daisuke   Prabhakar, SVRK / Contributor: Kiki Kartikasari   Doddy Juli Irawan / Editor: Schmidt-Thome Philipp	Developing adaptation policies in the agriculture sector: Indonesia's experience	Mainstreaming Adaptation	English	Implementing Climate Change Adaptation
Policy Reports	Apr-12	Prabhakar, SVRK / Editor: M. Sivakumar, WMO   R. Lal, OSU   R. Selvaraju, FAO   R. Hamdan, WMO	Possible Financial Innovations and Market Mechanisms at the National Level to Cope with Climate Change in WANA region	Adaptation Financing	English	Climate Change and Food Security in West Asia and North Africa

Publication Type	Date	Author(s)	title	series	Language	Media Name
Policy Reports	Mar-12	Prabhakar, SVRK / Contributor: R. Kotru, ICIMOD   N. Pradhan, ICIMOD   D. Mohan, TERI   G. Rabbani, BCAS / IGES Staff: Hayashi, Shinano	ADAPTATION EFFECTIVENESS INDICATORS IN AGRICULTURE: Experiences from Gangetic Basin	Adaptation metrics	English	IGES Research report
Policy Reports	Mar-12	Prabhakar, SVRK   A. Arpah, UUM   A. Chatterjee, ADB   C. Claudio, EIA   H.V.Hung, HAU	PROMOTING RISK FINANCING IN THE ASIA-PACIFIC REGION:: LESSONS FROM AGRICULTURE INSURANCE IN MALAYSIA, PHILIPPINES AND VIETNAM	Risk Insurance	English	IGES Research Report
Presentation	Aug-11	Prabhakar, SVRK	Fitting the Radiation Safety Piece into the Jigsaw Puzzle: Restoring Agriculture and Food Sector Aftermath the Great Tohoku Disaster	Disaster Management in Japan	English	Internal presentation to the Disaster Management Project Team of IGES
Proceedings	Jan-10	Prabhakar, SVRK   Mark Svoboda   R. Shaw   Sano, Daisuke   Tsurita, Izumi	Defining and monitoring drought using the Standardized Precipitation Index (SPI) in India: An opportunity for climate change adaptation	Adaptation Metrics	English	Proceedings of International Symposium on Promoting Synergies Among Adaptation Networks in the Asia-Pacific Region
Proceedings	Jan-10	Le, Huong Thi Thu   Prabhakar, SVRK   Tsurita, Izumi / Organisers: Okayama, Toshinao	Training Needs Assessment for Scientific Capacity Development of the Trainers and Policy-Makers for Climate Change Adaptation Planning in Asia and the Pacific	Capacity Building-Climate change adaptation	English	1st Training Needs Assessment Meeting
Research reports & Occasional papers	Mar-12	Prof. Dr. Kang Kroesna, RUA / Editor: Prabhakar, SVRK	TRAINING MODULES FOR CLIMATE CHANGE ADAPTATION IN AGRICULTURE: PROVINCE AND SUB-PROVINCE LEVEL AGRICULTURE OFFICERS OF CAMBODIA	Capacity building for CCA	English	IGES Research Report
Research reports & Occasional papers	Mar-13	Prabhakar, SVRK   J. J. Pereira, UKM, Malaysia   A.A. Nambi, MSSRF, India   N.V. Thang, IMHEN, Vietnam   T.C.Tan, UKM, Malaysia	Strengthening Capacity for Policy Research on Mainstreaming Adaptation to Climate Change in Agriculture and Water Sectors	Adaptive policies, adaptation metrics, and barriers to mainstreaming climate change	English	APN CRP Project
Research reports & Occasional papers	Mar-13	Md. Sekender Ali   KBD. Md. Fazlul Karim   Dr. Abul Kalam Azad / Editor: Prabhakar, SVRK	TRAINING MODULES FOR CLIMATE CHANGE ADAPTATION IN AGRICULTURE: SUB-DISTRICT AND DISTRICT LEVEL AGRICULTURE OFFICERS OF BANGLADESH	Capacity building for CCA	English	Research report
Working Papers	Nov-10	Prabhakar, SVRK   Fukuda, Koji	Promoting Risk Insurance in the Asia-Pacific Region: A Convergence Approach for the Future Climate Regime	Risk Insurance	English	IGES Working Paper Series

**IGES Sustainable Consumption and Production Group: List of publications (FY2010-2012)**

Publication Type	Published	Author(s)	Title	Language	Media Name	Issue
Policy Brief	12-Oct	Menikpura, Nirmala   Sang-Arun,Janya   Bengtsson, Magnus	Towards Climate-Friendly Waste Management: The Potential of Integrated Municipal Solid Waste Management	English		#24
Policy Brief	12-Oct	Menikpura, Nirmala   Sang-Arun,Janya   Bengtsson, Magnus   Totoki, Yoshiaki	気候変動に配慮した廃棄物管理に向けて：統合型都市廃棄物管理の可能性	Japanese		#24
Policy Brief	12-Sep	Bengtsson, Magnus   Sang-Arun,Janya   Menikpura, Nirmala	Sustainable Management of Organic Waste: The need for coordinated action at national and local levels	English		Number 21
Policy Brief	12-Sep	Bengtsson, Magnus   Sang-Arun,Janya   Menikpura, Nirmala	有機性廃棄物の持続的管理：国・地方レベルでの協調行動の必要性	Japanese		Number 21
Policy Brief	12-May	Bengtsson, Magnus   Sang-Arun,Janya   Menikpura, Nirmala	Sustainable management of organic waste: The need for enabling policy packages at national and local levels	English		
Policy Brief	12-Mar	Akenji, Lewis	Applying EPR in developing countries	English	IGES Rio+20 Issue Brief	Vol.3
Policy Brief	12-Mar	Hotta, Yasuhiko	Global Resource Crisis or Sustainable Resource Management? Proposals towards Resource-efficient Global Economy	English	IGES Rio+20 Issue Brief	Vol.4
Policy Brief	11-Sep	Akenji, Lewis   Bengtsson, Magnus   Hotta, Yasuhiko   Hayashi, Shiko	EPR Policies for Electronics in Developing Asia: A Phase-in Approach	English		Number 14
Policy Brief	11-Sep	Akenji, Lewis   Hotta, Yasuhiko   Bengtsson, Magnus   Hayashi, Shiko	アジア発展途上国の電気・電子製品に対する拡大生産者責任政策：「段階的導入アプローチ」の提案	Japanese		Number 14
Policy Reports	13-Mar	Sang-Arun,Janya   Menikpura, Nirmala   Totoki, Yoshiaki	Developing a policy framework for NAMA on municipal solid waste management in developing countries based on a lifecycle and co-benefits approaches	English	FY2012Commissioned report on MRV Capacity Building in Asia toward the Establishment of New Market Mechanism	5月8日
Policy Reports	13-Mar	Sang-Arun,Janya   Wanpen, Piya   Li, Jinhui   Modak, Prasad   Theng, Lee Chong	Draft final report: RETA 7450 Project Preparation Support for Livable Cities; Component 2: Regional Knowledge Sharing (IGES Component) - Study area 2 Promoting recycling in municipal solid waste management through sustainable business models	English		
Policy Reports	13-Mar	Aoki-Suzuki, Chika	平成24年度 UNEP持続可能な資源管理に関する国際パネル支援業務	Japanese		
Policy Reports	13-Mar	Editor: Hotta, Yasuhiko / Contributor: Akenji, Lewis	平成24年度アジア資源循環研究推進業務報告書	Japanese		
Policy Reports	12-Oct	Fei GUO   Sang-Arun,Janya   Premakumara Jagath Dickella Gamaralalage   Akenji, Lewis   Bengtsson, Magnus	Interim Report: RETA 7450 Project Preparation Support for Livable Cities; Component 2: Regional Knowledge Sharing (IGES Component)	English		
Policy Reports	12-Oct	Akenji, Lewis   Bengtsson, Magnus   Chiu, Anthony   Briggs, Emily   Daconto, Giuseppe   Fadeeva, Zinaida   Fotiou, Stefanos   Gandhi, Rajan   Mohanty, Brahmanand   Salem, Janet   Sang-Arun,Janya   Schandl, Heinz   Tabucanon, Mario	Sustainable consumption and production: A handbook for policy makers, with cases from Asia and the Pacific	English		First edition

Publication Type	Published	Author(s)	Title	Language	Media Name	Issue
Policy Reports	12-Jul	Akenji, Lewis   Bengtsson, Magnus   Schandl, Heinz   Foran, Tira   Hosking, Karin   Wiedmann, Thomas   Fotiou, Stefanos / Contributor: Bhattacharya, Tania Ray   Guo, Fei   Heyenga, Sonja   Walker, Paul	Capacity Building and Policy Needs Assessment on Sustainable Consumption and Production	English		
Policy Reports	12-Jul	Hotta, Yasuhiko   Kojima, Satoshi	Policy Framework for International Collaboration towards Sustainable Resource Circulation and Management in Asia	English	IGES White Paper IV 2012: Greening Governance in Asia-Pacific	Chapter 8
Policy Reports	12-Jul	Hotta, Yasuhiko   Kojima, Satoshi	持続可能な資源循環及び管理に向けた国際連携のための政策枠組	Japanese	IGES White Paper IV 2012: アジア太平洋地域のグリーン・ガバナンス：低炭素で持続可能なアジア太平洋に向けて	Chapter 8
Policy Reports	13-Jun	Barber, Jeffrey   Akenji, Lewis   Bengtsson, Magnus   Orthank, Karen	Sustainable Consumption and Lifestyles: A Review of UNEP and Stakeholder Publications	English		
Policy Reports	12-Jun	Sharp, Alice   Sang-Arun,Janya	A guide for sustainable urban organic waste management in Thailand: Combining food, energy, and climate co-benefits	English		12-Feb
Policy Reports	12-Jun	Sang-Arun,Janya   Chau Kim Heng   Uch Rithy   Sam Phalla	Makutés samrab chea chumnuoy smarodey knongkar samrach chet chroesusroeus ning aknouwat komroung teanhyork bror'yoch py samnorl sareyreang nov brortés kampuchea	Khmer		
Policy Reports	12-Jun	Sharp, Alice   Sang-Arun,Janya	Naew Thang Karn Jatkarn Khaya Insri Nai Tua Muang Yang Yungyuen Nai Prated Thai: Pheu Phon Prayod Ruam Cheung Aharn, Palang Ngan Lae Saparp Pumi Akard	Thai		12-Feb
Policy Reports	12-May	Korakanh Pasomsouk / Editor: Sang-Arun,Janya	Guideline for the promotion of organic municipal waste utilisation in Lao PDR	English		
Policy Reports	12-May	Sharp, Alice   Sang-Arun,Janya	Recommendations for sustainable urban organic waste management in Thailand	English		
Policy Reports	12-Apr	Akenji, Lewis / Contributor: Bengtsson, Magnus   Olsen, Simon Hoiberg	Global Outlook on SCP Policies: Asia - Pacific	English	Global Outlook oon sustainable Consumption and Production Policies:	2012
Policy Reports	2012-	Akenji, Lewis   Bengtsson, Magnus   Heinz Schandl, Sonja Heyenga, Karin Hosking   Tania Ray Bhattacharya, Tira Foran, Rajan Gandhi, Paul Walker, Thomas Wiedmann /	SWITCH-ASIA Policy Support Component: Capacity Building and Policy Needs Assessment on Sustainable Consumption and Production	English		
Policy Reports	12-Mar	Akenji, Lewis   Several authors / collaborator: Bengtsson, Magnus   Olsen,	Global Outlook on Sustainable Consumption and Production (SCP) Policies (Executive Summary)	English	Global Outlook on Sustainable Consumption and Production (SCP)	
Policy Reports	12-Mar	Editor: Hotta, Yasuhiko	アジア資源循環研究推進業務 -平成23年度 各国課題研究報告書	Japanese		
Policy Reports	12-Mar	Editor: Hotta, Yasuhiko / Contributor: Aoki-Suzuki, Chika   Akenji, Lewis   Sang-Arun,Janya   Bengtsson, Magnus   Hayashi, Shiko   Hotta, Yasuhiko	アジア資源循環研究推進業務 -平成23年度 地域横断的政策研究報告書	Japanese		
Policy Reports	12-Mar	Sang-Arun,Janya   Menikpura, Nirmala   Totoki, Yoshiaki   Fei GUO   Akenji, Lewis	新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業業務報告書(2/7)	Bilingual (English/Japanese)		
Policy Reports	12-Mar	Aoki-Suzuki, Chika   Totoki, Yoshiaki   Kojima, Satoshi   Yano, Takashi	平成23年度UNEP「持続可能な支援管理に関する国際パネル」支援検討調査業務報告書	Japanese		

Publication Type	Published	Author(s)	Title	Language	Media Name	Issue
Policy Reports	12-Mar	Editor: Hayashi, Shiko	平成23年度アジア資源循環研究推進業務：ベトナム3R協力事業化検討事前調査報告書	Japanese		
Policy Reports	12-Mar	Editor: Hotta, Yasuhiko	平成23年度アジア資源循環研究推進業務報告書	Japanese		
Policy Reports	12-Mar	Maeda,Toshizo   Hayashi, Shiko   Mekaru,	平成23年度マレーシア国有機廃棄物管理プロジェクト支援業務報告書	Japanese		
Policy Reports	12-Feb	Sang-Arun,Janya   Chau, Kim Heng   Uch, Rithy   Sam, Phalla	A guide for technology selection and implementation of urban organic waste utilisation projects in Cambodia	English		11-Jun
Policy Reports	12-Jan	Sang-Arun,Janya   Bengtsson, Magnus   Mori, Hideyuki	Naew tang karn patibat peor pattana karn jatkarn khaya insri: prayod tang saparp pumi akad phan matakarn 3Rs nai pated	Thai		
Policy Reports	11-Oct	Premakumara Jagath Dickella Gamaralalage   Sang-Arun,Janya   Fei GUO   Akenji, Lewis	Inception Report RETA 7450 Project Preparation Support for Livable Cities; Component 2: Regional Knowledge Sharing (IGES	English		
Policy Reports	11-Oct	Sang-Arun,Janya   Bengtsson, Magnus   Mori, Hideyuki	Koo mur karn patibad samrab karn pabpung karn jatkarn khi yeour: phondee tor pum akad phan karn patibad 3Rs nai banda pated kamlang pattana khong Asia	Laotian		
Policy Reports	11-Sep	UNEP / collaborator: Division of Ecosystem Sciences, CSIRO, Australia   University of Western Sydney, Australia   IGES   TERI, India   Institute of Policy and Management Science, Chinese Academy of Sciences, China / Contributor: Bengtsson, Magnus   Akenji, Lewis   Hotta, Yasuhiko   Hayashi, Shiko	Resource Efficiency: Economics and Outlook for Asia and the Pacific (REEO)	English		
Policy Reports	11-Aug	Sang-Arun,Janya   Bengtsson, Magnus   Mori, Hideyuki	Makutés anuwat samrab bangkoeun bror'sethak'pheap loeu kar'ngea krobkrorng samnorl sareyreang - kunsambath kolkar katbanthoiy broeubras loeungvinh ke`chney loeu karngea tobskat bamre`bamruol akastheat nov brortés kampong apiwat knong damban asia	Khmer		
Policy Reports	11-Jun	Sang-Arun,Janya / Contributor: Bengtsson, Magnus   Mori, Hideyuki	Practical guide for improved organic waste management: climate benefits through the 3Rs in developing Asian countries	English		
Policy Reports	11-Apr	Contributor: Bengtsson, Magnus   Hayashi, Shiko   Totoki, Yoshiaki	Information on Chemicals in Electronic Products: A study of needs, gaps, obstacles and solutions to provide and access information on chemicals in electronic products	English		
Policy Reports	2011-	Sang-Arun,Janya   Bengtsson, Magnus	Sustainable solid waste management for developing Asian countries: a case study of Phitsanulok Municipality, Thailand	English	Handbook of Sustainability Management	
Policy Reports	11-Mar	Aoki-Suzuki, Chika	3-1 case study of Japan	Japanese	section 3 Improved governance for 3R policy implementation in アジア資源循環研究推進業務 -平成22年度 地域横断的政策研究報告書 『3 R 政策実施へ向けたガバナンスの	
Policy Reports	11-Mar	Aoki-Suzuki, Chika   Hotta, Yasuhiko   Bengtsson, Magnus	Controlling Trade in used electrical and electronic equipment (UEEE): an analysis of international agreements and national trade policies in Asia	English	アジア資源循環研究推進業務 -平成22年度 地域横断的政策研究報告書 『3 R 政策実施へ向けたガバナンスの改善』 -	
Policy Reports	11-Mar	Sang-Arun,Janya   Bengtsson, Magnus   Sharp, Alice   Chau, Kim Heng	Promoting urban organic waste utilization in developing Asian countries: the case of Cambodia and Thailand	English	Regional Development Dialogue (RDD)	31/2/Autumn 2010

Publication Type	Published	Author(s)	Title	Language	Media Name	Issue
Policy Reports	11-Mar	Aoki-Suzuki, Chika	アジアにおける資源生産性等マテリアルフロー指標の政策への適用可能性に関する調査 -持続可能な天然資源管理に向けたアジアの潜在的政策動機	Japanese	平成22年度 UNEP「持続可能な資源管理に関する国際パネル」支援検討調査業務	
Policy Reports	11-Mar	Editor: Hotta, Yasuhiko / Contributor: Geng Yong   P. Agamuthu   C. Visvanathan	アジア資源循環研究推進業務 -平成22年度 各国課題研究報告書： 中国、マレーシア、技術移転-	Japanese		
Policy Reports	11-Mar	Hotta, Yasuhiko / Contributor: Bengtsson, Magnus   Aoki-Suzuki, Chika   Hayashi, Shiko   Hotta, Yasuhiko   Sang-Arun,Janya   Serrona, Kevin   Akenji, Lewis	アジア資源循環研究推進業務 -平成22年度 地域横断的政策研究報告書『3 R 政策実施へ向けたガバナンスの改善』 -	Japanese		
Policy Reports	11-Mar	Totoki, Yoshiaki / Contributor: Kuriyama, Akihisa   Hotta, Yasuhiko   Bengtsson,	化学物質国際動向調査業務報告書	Japanese		
Policy Reports	11-Mar	Aoki-Suzuki, Chika   Totoki, Yoshiaki / Contributor: Hotta, Yasuhiko	平成22年度 UNEP「持続可能な資源管理に関する国際パネル」支援検討調査業務報告書	Japanese		
Policy Reports	11-Mar	Hotta, Yasuhiko	平成22年度アジア資源循環研究推進業務報告書(平成22年度環境省請負業	Japanese		
Policy Reports	11-Mar	Maeda,Toshizo   Hayashi, Shiko   Teoh, Shom	平成22年度マレーシア国有機廃棄物管理プロジェクト支援業務報告書	Japanese		
Policy Reports	10-Jun	Akenji, Lewis   Bengtsson, Magnus	Is the Customer Really King? Stakeholder Analysis for Sustainable Consumption and Production Using the Example of the Packaging Value Chain	English	Chapter 2 in IGES White Paper III: Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained	Vol III, 2010
Policy Reports	10-Jun	Akenji, Lewis   Bengtsson, Magnus	容器包装のバリューチェーンを事例とする持続可能な消費と生産のステークホルダー分析	Japanese	IGES白書III：アジア太平洋における持続可能な消費と生産：資源制約を乗り越えてアジアは豊かさを実現できるか 第二章	2010
Research reports & Occasional papers	13-Mar	Sang-Arun,Janya   Chau, Kim Heng   Totoki, Yoshiaki   Uch, Rithy   Menikpura, Nirmala	Pilot Project to Promote Organic Waste Utilization for Climate Change Mitigation in Battambang City, Cambodia: promoting organic waste separation at source for composting	English		
Research reports & Occasional papers	12-Sep	Sang-Arun,Janya	Promoting sustainable use of waste biomass in Cambodia, Lao PDR and Thailand: Combining food security, bio-energy and climate protection benefits: Final Report	English		APN project: CBA2010-01CMY-
Research reports & Occasional papers	12-Jan	Sharp, Alice   Sang-Arun,Janya	Koo mur peor karn jadkarn khaya insri nai tua muaeng yang yangyuen nai pated Thai	Thai		
Research reports & Occasional papers	11-Nov	Totoki, Yoshiaki / Contributor: Hayashi, Shiko   Hotta, Yasuhiko   Mori, Hideyuki	電気製品の適正なりサイクルのための情報共有に関する研究	Japanese	第22回廃棄物資源循環学会研究発表会	
Research reports & Occasional papers	11-Oct	Koradanh Pasomsouk / Editor: Sang-Arun,Janya	Koo mur karn songserm karn namxai khi yeour jak tuamuaeng nai so po po Lao	Laotian		
Research reports & Occasional papers	12-May	Aoki-Suzuki, Chika   Bengtsson, Magnus   Hotta, Yasuhiko	Controlling Trade in Electronic Waste: An Analysis of International Agreements and National Trade Policies in Asia	English	earthscan: E-waste Management: From Waste to Resource	Eds. by K. Hieronymi, R. Kahhat, and E. Williams

Publication Type	Published	Author(s)	Title	Language	Media Name	Issue
Research reports & Occasional papers	11-Mar	Mori, Hideyuki   Koyanagi, Hideaki   Ogihara, Akira   Bengtsson, Magnus   Hotta, Yasuhiko   Aoki-Suzuki, Chika   Totoki, Yoshiaki   Hayashi, Shiko   Yu, Jeongsoo   Ori, Akemi   Mori, Hideyuki   Bengtsson, Magnus   Hotta, Yasuhiko   Aoki-Suzuki, Chika   Totoki, Yoshiaki   Hayashi, Shiko   Yu, Jeongsoo   Ori, Akemi   Tasaki, Tomohiro	適正な国際資源循環を目指した製品中の有害物質及び有用物質の管理のあり方に関する研究 (K2016, K2116, K22095) 平成22年度 循環型社会形成推進科学研究費補助金 総合研究報告書	Japanese		
Research reports & Occasional papers	11-Mar	Mori, Hideyuki   Bengtsson, Magnus   Hotta, Yasuhiko   Aoki-Suzuki, Chika   Totoki, Yoshiaki   Hayashi, Shiko   Yu, Jeongsoo   Ori, Akemi   Tasaki, Tomohiro	適正な国際資源循環を目指した製品中の有害物質及び有用物質の管理のあり方に関する研究 (K22095) 平成22年度 循環型社会形成推進科学研究費補助金 総合研究報告書	Japanese		
Research reports & Occasional papers	10-Dec	Reddy, Veerabaswant   Sang-Arun,Janya	Promoting coconut-based agro-ecosystem and efficient product utilization for augmenting on-farm income, improving quality of environment and conserving natural resources	English		
Research reports & Occasional papers	10-Mar	Mori, Hideyuki   Bengtsson, Magnus   Hotta, Yasuhiko   Aoki-Suzuki, Chika   Totoki, Yoshiaki   Hayashi, Shiko   Yu, Jeongsoo   Ori, Akemi   Tasaki, Tomohiro / Editor: Mori, Hideyuki   Hayashi, Shiko / Contributor:	適正な国際資源循環を目指した製品中の有害物質及び有用物質の管理のあり方に関する研究 (K2116) 平成21年度 循環型社会形成推進科学研究費補助金研究報告書	Japanese		
Research reports & Occasional papers	2010-	Sang-Arun,Janya   Yamaji, Eiji   Boonwan, Jureerat	Promoting plant residue utilization for food security and climate change mitigation in Thailand	English	Sustainability in food and water: an Asian perspective (Alliance for Global Sustainability Book series)	
Peer reviewed articles	13-Apr	Menikpura, Nirmala   Sang-Arun,Janya   Bengtsson, Magnus	Climate Co-benefits of Energy Recovery from Landfill Gas in Developing Asian Cities: A Case Study in Bangkok	English	Waste Management & Research	(under final review)
Peer reviewed articles	13-Apr	Menikpura, Nirmala   Sang-Arun,Janya   Bengtsson, Magnus	Integrated Solid Waste Management: An Approach for Enhancing Climate Co-benefits through Resource Recovery	English	Journal of Cleaner Production	DOI:10.1016/j.jclepro.2013.03.0
Peer reviewed articles	12-Aug	Aoki-Suzuki, Chika   Bengtsson, Magnus   Hotta, Yasuhiko	Policy Application of Economy-Wide Material Flow Accounting: International Comparison and Suggestions for Capacity Development in Industrializing Countries	English	Journal of Industrial Ecology	
Peer reviewed articles	11-Sep	Hotta, Yasuhiko	Is Resource Efficiency a Solution for Sustainability Challenges? Japan's Sustainable Strategy and Resource Productivity Policy in the	English	S.A.P.I.EN.S	Vol.4 No.2
Peer reviewed articles	11-Jul	Akenji, Lewis   Hotta, Yasuhiko   Bengtsson, Magnus   Hayashi, Shiko	EPR policies for electronics in developing Asia: an adapted phase-in approach	English	Waste Management & Research	Onlinefirst, July 5,
Peer reviewed articles	11-Mar	Hotta, Yasuhiko	アジアにおける持続可能な資源循環へ向けた段階別アプローチ - 3 R イニシアティブの国際展開の経験に基づいて-	Japanese	廃棄物資源循環学会誌	Vol. 22 No. 2
Peer reviewed articles	11-Jan	Tsydenova, Oyuna   Bengtsson, Magnus	Chemical hazards associated with treatment of waste electrical and electronic equipment	English	Waste Management	31 (1)
Non peer reviewed articles	12-Nov	Aoki-Suzuki, Chika	環境ビジネスウォッチ アジアの疾風 廃棄物管理と化学物質管理の融合 全ライフサイクルでの物質・資源管理の国際動向	Japanese	Business i ENECO	12-Nov
Non peer reviewed articles	12-Jun	Bengtsson, Magnus	資源制約の増大をビジネスチャンスにー新たな「産業革命」に向けた企業戦略の重要性	Japanese	Business i ENECO	12-Jul
Non peer reviewed articles	12-Jun	Hiroko Kono / Contributor: Bengtsson, Magnus	資源消費地球1.5個分 国連取り組み10年足踏み	Japanese	読売新聞	13 June, 2012
Non peer reviewed articles	11-Oct	Contributor: IGES Sustainable Consumption and Production Group	効率的な使用へ強力な政策介入必要に	Japanese	化学工業日報	2011/10/3



Publication Type	Published	Author(s)	Title	Language	Media Name	Issue
Non peer reviewed articles	11-Oct	Hayashi, Shiko	途上国で静脈ビジネスを展開するには何が必要か: ベトナムの事例から	Japanese	ENECO	第44巻 第十号
Non peer reviewed articles	11-Sep	Sang-Arun,Janya	Organic Waste in Asia: 3Rs Tackle Climate Change	English	Waste Management World	Volume 12, Issues 5, September 2011
Non peer reviewed articles	11-Jul	Hotta, Yasuhiko	アジアにおける循環政策の状況と持続可能な資源循環へのアプローチ – 我が国の今後の国際協力の方向性 –	Japanese	季刊 環境研究	2011 No.162
Non peer reviewed articles	12-Jun	Hotta, Yasuhiko	Japan for Sustainability: Opportunities, Challenges, Strategies, and Practices	English	Handbook of Sustainability Management	edited by Madu C.N. and C. Kuei
Non peer reviewed articles	2010-	Hotta, Yasuhiko	Comment to Atienza V. "Benefits and Strategies to Improve the Condition of the Informal Sector in Waste Management"	English	Regional Development Dialogue	Vo. 31, No. 2, Autumn 2010
Non peer reviewed articles	10-Nov	Contributor: Hotta, Yasuhiko	未来成長への実践課題 – 資源制約をどう乗り越えるか?	Japanese	JP環境フォーラム	2010年11月
Non peer reviewed articles	10-Sep	Totoki, Yoshiaki	アジアでの安全な資源循環に向け、企業に求められる対応	Japanese	ENECO 2010-09	Asia Watch Vol.6
Discussion papers & Conference	13-Mar	Hotta, Yasuhiko   Michikazu Kojima   C. Visvanathan / Editor: Hotta, Yasuhiko	Recycling Rate and Target	English	3R Policy indicators factsheets series	Ver. 1, March 2013
Discussion papers & Conference	13-Mar	Guo, Jiangwen (Helen) / Editor: Hotta, Yasuhiko	The structure, content and implementation of green procurement	English	3R Policy indicators factsheets series	Ver. 1, March 2013
Discussion papers & Conference	13-Mar	Michikazu Kojima   Agamuthu Pariatamby / Editor: Hotta, Yasuhiko	Hazardous Waste Management	English	3R Policy indicators factsheets series	Ver. 1, March 2013
Discussion papers & Conference	13-Mar	Naoya Abe   Didham, Robert James	Measuring Public Awareness and Actions for 3Rs	English	3R Policy indicators factsheets series	Ver. 1, March 2013
Discussion papers & Conference	13-Mar	C. Visvanathan / Editor: Hotta, Yasuhiko	Measuring Waste Reduction, Reuse and Recycling through Industrial Symbiosis	English	3R Policy indicators factsheets series	Ver. 1, March 2013
Discussion papers & Conference	13-Mar	Sang-Arun,Janya   Menikpura, Nirmala	Promoting full-scale use of agriculture biomass residue and livestock waste	English	3R Policy indicators factsheets series	Ver. 1, March 2013
Discussion papers & Conference	13-Mar	Hotta, Yasuhiko   Tomohiro Tasaki   Michikazu Kojima / Editor: Hotta, Yasuhiko	Recycling Legislation based on the Concept of Extended Producer Responsibility (EPR)	English	3R Policy indicators factsheets series	Ver. 1, March 2013
Discussion papers & Conference	13-Mar	Sunil Herat / Editor: Hotta, Yasuhiko	Standards for Collection, Storage, Transport, Recovery, Treatment and Disposal to Ensure Environmentally Sound Management of E-waste	English	3R Policy indicators factsheets series	Ver. 1, March 2013

Publication Type	Published	Author(s)	Title	Language	Media Name	Issue
Discussion papers & Conference	13-Mar	Kousuke Kawai   Tomohiro Tasaki / Editor: Hotta, Yasuhiko	Total MSW generation and MSW generation per capita	English	3R Policy indicators factsheets series	Issue: Ver.1, March
Discussion papers & Conference Papers	13-Mar	Hotta, Yasuhiko   C. Visvanathan   Michikazu Kojima	Performance Indicators in 3Rs and Resource Efficiency: Monitoring the Progress of 3R Efforts Towards a Green Economy	English	Background Paper for the 4th Regional 3R Forum in Asia	
Discussion papers & Conference Papers	13-Mar	Akenji, Lewis   Bengtsson, Magnus   Timmer, Vanessa   Prinet, Emmanuel   Appleby, Dwayne   Reese, William   Timmer, Dagmar   Shaikh, Sharlene	Reducing Environmental Degradation & Unsustainable Consumption Trends & Impacts on Nature & Society	English		
Discussion papers & Conference	13-Mar	Akenji, Lewis	Sustainable Consumption or Consumer Scapegoatism?	English		
Discussion papers & Conference	12-Sep	Menikpura, Nirmala   Sang-Arun, Janya   Bengtsson, Magnus	Mechanical Biological Treatment as a Solution for Mitigating Greenhouse Gas Emissions from Landfills in Thailand	English	The ISWA World Solid Waste Congress 2012, 17-19 September 2012, Florence, Italy	
Discussion papers & Conference	12-Jul	Bengtsson, Magnus	資源制約の増大をビジネスチャンスに新たな「産業革命」に向けた企業戦略の重要性	Japanese	地球環境とエネルギー	7
Discussion papers & Conference Papers	12-Jul	Hotta, Yasuhiko   Totoki, Yoshiaki   Hayashi, Shiko	Towards Harmonized Recycling Certification in Asia -Exploring the Feasibility and Potential Benefits of Harmonized Recycling Certification -	English	Background Paper for the Special Event on Possible Introduction of Recycling Certification in Asia at Greater Mekong Sub-region (GMS) Sub-regional training workshop on building capacity to deal with the illegal shipments of e-waste and near-	10 July 2012, Hanoi, Viet Nam
Discussion papers & Conference Papers	12-Jun	Akenji, Lewis	Consumer Scapegoatism and Limits to Green Consumerism	English	Global Research Forum on SCP workshop - "Global and Regional Research on Sustainable Consumption and Production Systems: Achievements, Challenges and	
Discussion papers & Conference	12-Apr	Bengtsson, Magnus	CAPACITY STRENGTHENING ON SCP POLICIES: OUTLINE OF A RESOURCE-KIT FOR THE SWITCH ASIA POLICY SUPPORT COMPONENT	English		
Discussion papers & Conference	11-Nov	Akenji, Lewis	ASEAN Forum for SCP: A Proposal to the ASEAN member states through the ASOEN Chair of ASEAN	English		
Discussion papers & Conference	11-Oct	Akenji, Lewis	Asia-Pacific Outlook on Sustainable Consumption and Production Policies	English		
Discussion papers & Conference	12-Mar	Hotta, Yasuhiko   Aruga, Kentaka   Shinkuma, Takayoshi	国際資源循環と国内リサイクルの比較評価とインフォーマルセクターの類型化	Japanese	成23年度環境経済の政策研究 アジアを中心とした資源循環システムの環境的、経済的、社会的影響評価に関する研究 最終研究報告書	
Discussion papers & Conference	12-Mar	Hotta, Yasuhiko	資源利用抑制政策手段の検討	Japanese	平成23年度環境経済の政策研究 アジアを中心とした資源循環システムの環境的、経済的、社会的影響評価に関する研究 最終研究報告書	

Publication Type	Published	Author(s)	Title	Language	Media Name	Issue
Discussion papers & Conference	11-Mar	Hotta, Yasuhiko	資源利用抑制政策ツールの検討：3RのReduce政策に関連して	Japanese	平成22年度環境経済の政策研究 アジアを中心とした資源循環システムの環境的、経済的、社会的影響評価に関する研究	
Discussion papers & Conference	11-Feb	Contributor: Bengtsson, Magnus   Hayashi, Shiko   Totoki, Yoshiaki	Information on Chemicals in Electronic Products; A study of needs, gaps, obstacles and solutions to provide and access information on chemicals in electronic products	English	Workshop of the Chemicals in Products Project Geneva, Switzerland : March 16-18, 2011	
Discussion papers & Conference	10-Oct	Huynh Trung Hai   Nguyen Thi Anh Tuyet	Benefits of the 3R approach for agricultural waste management (AWM) in Vietnam: Under the framework of joint project on Asia Resource Circulation Research	English	Asia Resource Circulation Policy Research Working Paper Series	
Discussion papers & Conference	10-Oct	MA, Hwong-wen	Developing An Integrated Environmental Assessment Model of Waste Management and Resource Circulation: A Progress Report	English	Asia Resource Circulation Policy Research Working Paper Series	
Discussion papers & Conference	10-Oct	Chiu, Anthony SF.	The 3Rs and Poverty Reduction in Developing Countries: Lessons from Implementation of Ecological Solid Waste Management in the Philippines	English	Asia Resource Circulation Policy Research Working Paper Series	
Discussion papers & Conference	10-Jun	Hotta, Yasuhiko	廃棄物リサイクルのための制度構築支援の課題- 3R国家戦略策定支援の経験から-	Japanese	国際開発学会 第11回春季大会 2010年6月5日～6日	
Working Papers	12-Jun	Sang-Arun,Janya   Pasomsouk, Korakanh	A guide for improving municipal solid waste management and promoting urban organic waste utilization in lao PDR	English		SCP-2012-01
Working Papers	11-Sep	Hotta, Yasuhiko	アジアにおける持続可能な資源循環への段階的アプローチと資源消費抑制政策の必要性	Japanese	環境経済・政策学会2011年大会	September 23-24,
Working Papers	10-Sep	Hotta, Yasuhiko	Is Resource Efficiency a Solution for Sustainability Challenges? - Japan's Sustainable Strategy and Resource Productivity Policy in the 1990s to 2000s-	English	The 3rd International Wuppertal Colloquium on "Sustainable Growth and Resource Productivity - Harnessing Industry and Policy Towards Eco-	September 4-6, 2010
Proceedings	13-Mar	Hayashi, Shiko   Rie Murakami   Totoki, Yoshiaki   Aoki-Suzuki, Chika	アジアでのリサイクル認証制度の導入に向けた課題：各国のリサイクル許可制度の枠組みと実態	Japanese		
Proceedings	12-Sep	Menikpura, Nirmala   Sang-Arun,Janya   Bengtsson, Magnus	Mechanical Biological Treatment as a Solution for Mitigating Greenhouse Gas Emissions from Landfills in Thailand	English	The ISWA World Solid Waste Congress 2012	17-19 September 2012
Proceedings	11-Nov	Aoki-Suzuki, Chika / Contributor: Hayashi, Shiko   Totoki, Yoshiaki	使用済み電気・電子製品の国際資源循環の適正化—情報的 management の観点からの関連国際政策プロセスの今後のあり方に関する一考察—	Japanese	第22回 廃棄物資源循環学会研究発表会	
Proceedings	11-Nov	Hayashi, Shiko	循環資源の越境移動に対するトレーサビリティ管理方策に関する検討	Japanese	第22回 廃棄物資源循環学会研究発表会	
Database & online resources	13-Feb	Menikpura, Nirmala   Sang-Arun,Janya	GHG calculator for solid waste	English		

**IGES Economy and Environment Group: List of publications (FY2010-2012)**

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Policy Brief	Apr-10	Bhattacharya, Anindya	Renewable Energy: A Strategic Policy for Sustainable Development	Policy Brief	English		#10
Policy Brief	Oct-10	Bhattacharya, Anindya	持続可能な開発に向けたアジアの再生可能エネルギー戦略	Policy Brief	Japanese		#10
Policy Brief	Jun-11	Kojima, Satoshi   Kabaya, Kei   Yano, Takashi	Green Economy for Sustainable Development: Japan should lead the policy shift towards global poverty alleviation	Policy Brief	English		Vol. 12
Policy Brief	Jun-11	Kojima, Satoshi   Kabaya, Kei   Yano, Takashi	持続可能な開発につながるグリーン経済：日本は世界の貧困撲滅を重視した政策への転換を！	IGES Policy Brief	Japanese		Vol. 12
Policy Brief	Oct-11	Bhattacharya, Anindya   Kojima, Satoshi	Energy Market Integration in East Asia: What an Economic Analysis Tells Us?	Policy Brief	English		Number 15
Policy Brief	Oct-11	Bhattacharya, Anindya   Kojima, Satoshi	東アジアにおけるエネルギー市場統合：経済分析による政策含意	Policy Brief	Japanese		Number 15
Policy Brief	Jul-12	Bhattacharya, Anindya   Mitra, Bijon Kumer	Long Term Electricity Scenario and Water Use - A case study in India	Policy Brief	English		Number 20
Policy Brief	Jul-12	Bhattacharya, Anindya   Mitra, Bijon Kumer	長期電力シナリオと水利用－インドのケーススタディ	Policy Brief	Japanese		Number 20
Policy Reports	Jun-10	Kojima, Satoshi   Zhou, Xin   Bhattacharya, Anindya	団結こそ成功の鍵：持続可能な消費と生産のより広い捉え方から見た地域協力のあり方	IGES白書III：第12章	Japanese	アジア太平洋における持続可能な消費と生産：資源制約を乗り越えてアジアは豊かさを実現できるか	2010
Policy Reports	Jun-10	Kausik Gupta   Bhattacharya, Anindya	Impact of Integrated Watershed Projects on Sustainable Development in India		English		
Policy Reports	Jun-10	Kojima, Satoshi   Zhou, Xin   Bhattacharya, Anindya	United We Stand: Regional Cooperation from a Wider Perspective of Sustainable Consumption and Production	IGES White Paper III: Chapter 12	English	Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained World	Vol III, 2010
Policy Reports	Aug-10	Bhattacharya, Anindya   Kojima, Satoshi	Economic Impact Analysis of East Asia Energy Market Integration		English		
Policy Reports	May-11	Kojima, Satoshi / Contributor: Yano, Takashi	持続可能な社会構築に向けた資源消費抑制政策：アジアを中心とした資源循環システムの環境的、経済的、社会的影響評価に関する研究		Japanese	Kankyo Kenkyu	161
Policy Reports	May-11	Managi, Shunsuke / Contributor: Kojima, Satoshi   Kabaya, Kei	生物多様性と生態系サービスの経済分析		Japanese	Kankyo Kenkyu	161

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Policy Reports	Dec-11	Chu, Jang-Min   Li, Xiaoliang   Kojima, Satoshi   Kim, Yong-Gu   Park, Jun Hyun   Yoon, Hyerim   You, Eun-Sun	Green Growth and Green Economy of Korea, China and Japan: A Comparative Study		English		
Policy Reports	Dec-11	Bhattacharya, Anindya   Kojima, Satoshi	Pricing Reform and Enhanced Investment in the Energy Sector: A way towards East Asian Economic Development	ERIA Research Project 2010	English	Deepen Understanding and Move Forward: Energy Market Integration in East Asia	25
Policy Reports	Dec-11	Bhattacharya, Anindya   Kojima, Satoshi	Substitute of Nuclear Energy Supply - A Strategic Policy Decision for Asia	ERIA Research Project 2010	English	Deepen Understanding and Move Forward: Energy Market Integration in East Asia	25
Policy Reports	Mar-12	Bhattacharya, Anindya / Contributor: Amit Kanudia   Surya P. Sethi	An Indian Perspective of MRV-Way towards meeting the pledges		English		
Policy Reports	Jun-12	Bhattacharya, Anindya   Janardhanan, Nanda Kumar   Kuramochi Takeshi	Long Term Energy Sceario in Japan: Exploring Post Fukushima Supply Option	Japan Tripple Disaster Study	English		
Policy Reports	Mar-13	Zhou, Xin   Abdullah, Ambiyah	Accounting for the carbon footprints and embodied primary resources using multi-region input-output analysis		English	Report of PSEE Resource Study	
Policy Reports	Mar-13	Bhattacharya, Anindya	India: MRV and the Way towards Meeting the Pledges		English	Measurement, Reporting and Verification (MRV) for low carbon development: Learning from experience in Asia:Chapter 5	
Research reports & Occasional papers	Mar-11	Aruga, Kentaka	Report on AIM/Enduse Model	IGES-EE Technical paper	English		1
Research reports & Occasional papers	Oct-11	Managi, Shunsuke   Kojima, Satoshi   Kabaya, Kei / Editor: Managi, Shunsuke   IGES	生物多様性の経済学：経済評価と制度分析		Japanese		
Research reports & Occasional papers	Sep-12	Kabaya, Kei   Bhattacharya, Tania Ray   Kuriyama, Koichi   Shoji, Yasushi   Tsuge, Takahiro   Yoshida, Kentaro   Tsurumi, Tetsuya   Kuramashi, Kei   Ikkatai, Seiji   Kojima, Satoshi   Hyakumura, Kimihiko   Scheyvens, Henry   Higashida, Keisaku   Tanaka, Kenta   Aruga, Kentaka / Editor: Managi, Shunsuke	The Economics of Biodiversity and Ecosystem Services		English	The Economics of Biodiversity and Ecosystem Services	

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Peer reviewed articles	Jun-10	Zhou, Xin	国际贸易中的隐含碳排放核算及贸易调整后的国家温室气体排放 (Emissions Embodied in International Trade and Trade Adjustment to National GHG Inventory)		Chinese	Management Review	Vol. 22, No. 6
Peer reviewed articles	Jan-12	Bhattacharya, Anindya   Kojima, Satoshi	Power Sector Investment Risk & Renewable Energy: A Japanese Case Study Using Portfolio Risk Optimization Method		English	Energy Policy	40
Peer reviewed articles	2010-	Zhou, Xin	Chapter 14 Environmentally Extended Multi-Region Input-Output Model: Sharing Responsibility Across the Globe		English	THE SUSTAINABILITY PRACTITIONER'S GUIDE TO INPUT-OUTPUT ANALYSIS (Joy Murray and Richard Wood, Eds)	
Peer reviewed articles	2010-	Shinkuma, T.   Managi, Shunsuke	On the Effectiveness of a License Scheme for E-waste Recycling: The Challenge of China and India		English	Environmental Impact Assessment Review	30 (4)
Peer reviewed articles	2010-	Kumar, S.   Managi, Shunsuke	Service Quality and Performance Measurement: Evidence from the Indian Water Sector		English	International Journal of Water Resources Development	26 (2)
Peer reviewed articles	2010-	Barros, C.P.   Managi, Shunsuke   Y. Yoshida	Technical Efficiency, Regulation, and Heterogeneity in Japanese Airports		English	Pacific Economic Review	15 (5)
Peer reviewed articles	2011-	Zhou, Xin   Mori, Hideyuki	National institutional response to climate change and stakeholder participation: a comparative study for Asia		English	International Environmental Agreements: Politics, Law and Economics	Vol. 11/No.4
Peer reviewed articles	Apr-11	Zhou, Xin	中国区域生态足迹的研究 (A Study on China's Regional Ecological Footprints)		Chinese	Journal of Environmental Economics and Policy	Issue 2
Peer reviewed articles	Jun-11	Zhou, Xin / Contributor: Hiroaki Shirakawa   Manfred Lenzen	Aggregation Effect in Carbon Footprint Accounting by the Multi-region Input-Output Model		English	19th International Input-Output Conference, 13-17 June 2011, Alexandria, Virginia, USA	
Peer reviewed articles	Jun-11	Zhou, Xin / Contributor: Hiroaki Shirakawa   Hongtao Pan	Can Consumer Responsibility Help Address Carbon Leakage Concerns? An Analysis of Participation vs. Non-Participation in a Global Mitigation Regime		English	19th International Input-Output Conference, 13-17 June 2011, Alexandria, Virginia, USA	
Peer reviewed articles	Sep-11	Zhou, Xin   Yano, Takashi   Kojima, Satoshi	Addressing Carbon Leakage by Border Adjustment Measures		English	Climate Change - Research and Technology for Adaptation and Mitigation	Sep-11
Peer reviewed articles	Nov-11	Aruga, Kentaka   Managi, Shunsuke	Price linkages in the copper futures, primary, and scrap markets		English	Resources, Conservation and Recycling	56(1)
Peer reviewed articles	Nov-11	Aruga, Kentaka   Managi, Shunsuke	Testing the international linkage in the platinum-group metal futures markets		English	Resources Policy	36
Peer reviewed articles	Mar-12	Zhou, Xin / Contributor: Hiroaki Shirakawa   Hongtao Pan	Can Consumer Responsibility Help Address Carbon Leakage Concerns? An Analysis of Participation vs. Non-Participation in a Global Mitigation Regime		English	China-USA Business Review	Vol. 11, No. 3, March 2012

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Peer reviewed articles	Mar-12	Kabaya, Kei   Managi, Shunsuke	グローバルな生態系復元に関するプロジェクト・ポートフォリオ分析		Japanese		
Peer reviewed articles	2011-	Zhou, Xin / Contributor: Hidefumi Imura	How does consumer behavior influence regional ecological footprints? An empirical analysis for Chinese regions based on the multi-region input-output model		English	Ecological Economics	Vol. 71/2011
Peer reviewed articles	Mar-12	Zhou, Xin   Zhao Zhao   Minjun Shi	中国省区間投入産出モデルとアジア多国投入産出モデルの链接：以中日貿易为例 (Link of the Chinese Interregional Input-Output Model with the Asian International Input-Output Table: The Case of China and Japan)		Chinese	中国	Mar
Peer reviewed articles	Mar-12		中国省区間投入産出モデルとアジア多国投入産出モデルの链接：以中日貿易为例(Linking China's Interregional Input-Output Model with Asian International Input-Output Model: The Case of Sino-Japan Trade)	Chapter 3	Chinese	中国省区間投入産出モデルと区际经济联系 (China's Interregional Input-Output Model and Interregional Economic Linkage)	Mar-12
Peer reviewed articles	Mar-12	Zhou, Xin	中国省区間投入産出モデルとアジア多国投入産出モデルの链接：以中日貿易为例(Zhongguo Sheng Qujian Touru Chanchu Moxing yu Yazhou Duoguo Touru Chanchu Moxing de Lianjie: Yi Zhongri Maoyi Weili)	Chapter 3	Chinese	中国省区間投入産出モデルと区际经济联系	Mar-12
Peer reviewed articles	Jun-12	Hiroaki Shirakawa   Zhou, Xin	Block structural path analysis in a multiregional input-output system: An environmental application to Asia Pacific region		English	20th Conference of the International Input-Output Association	25-29 June 2012
Peer reviewed articles	Jun-12	Zhao Zhao   Zhou, Xin   Minjun Shi	Impacts of China's energy conservation policy on Japan-China Trade: Spatial analysis based on a re-constructed Japan-China multi-regional input-output model		English	20th Conference of the International Input-Output Association	25-29 June 2012
Non peer reviewed articles	Jan-10	Kojima, Satoshi	経済モデルシミュレーションを用いた環境政策支援		Japanese	計算工学	Vol.15, No.1, 2010
Non peer reviewed articles	Nov-10	Zhou, Xin / Contributor: Kojima, Satoshi   Yano, Takashi	Addressing Carbon Leakage by Border Adjustment Measures: Review of Current Studies		English		
Non peer reviewed articles	Nov-10	Bhattacharya, Anindya   Kojima, Satoshi	アジアにおける再生可能エネルギー分野への新たな投資戦略		Japanese	Busines	Asia Watch Vol.8
Non peer reviewed articles	Dec-10	Kabaya, Kei	アジアにおける生態系保全ビジネス		Japanese	月刊ビジネスアイエネコ	Vol.43 No.12
Non peer reviewed articles	Mar-11	Aruga, Kentaka   Managi, Shunsuke	金属スクラップ市場の価格の連動性の検証：銅のスクラップ市場は電気銅市場に対して価格連動性があるのか		Japanese		

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Non peer reviewed articles	Jan-12	Bhattacharya, Anindya	Is Japan Prepared to Accept Post-3.11 Energy Policy Change? - Future of Renewable Energy		English	Japan Spotlight	2012 Jan/Feb
Non peer reviewed articles	May-12	Contributor: Kabaya, Kei	グリーン経済移行めぐり対立	環境	Japanese	毎日新聞	28 May 2012
Non peer reviewed articles	Aug-12	Yano, Takashi	グリーン経済への移行と障害と将来性	環境ビジネス ウォッチ アジアの疾風	Japanese	Business i ENECO	Aug-12
Non peer reviewed articles	Oct-12	Kabaya, Kei / Advisors: Janusz Cofala	Impact Assessment of Energy Efficiency Improvement in the Residential Sector in Japan		English	IIASA YSSP Report	
Non peer reviewed articles	Dec-12	Kojima, Satoshi	Book Review for "Bankrupting Nature: Denying Our Planetary Boundaries" - Challenging "the dilemma of growth": the key to prosperity without bankrupting nature	Book Review	English		
Non peer reviewed articles	Dec-12	Zhou, Xin	Book Review for "Bankrupting Nature: Denying Our Planetary Boundaries" - Fundamental changes required to save our nature from bankruptcy	Book Review	English		
Non peer reviewed articles	Dec-12	Kojima, Satoshi	書評「Bankrupting Nature: Denying Our Planetary Boundaries」- 自然の破綻なき繁栄の鍵を握る「成長のジレンマ」への挑戦	Book Review	Japanese		
Discussion papers & Conference Papers	May-11	Aruga, Kentaka   Managi, Shunsuke	Linkage among the U.S. energy futures markets		English	34TH IAEE INTERNATIONAL CONFERENCE	
Discussion papers & Conference Papers	Feb-12	Kabaya, Kei	リオ+20におけるグリーン経済の論点		Japanese		
Discussion papers & Conference Papers	Mar-12	Kabaya, Kei	Key Issues on Green Economy at Rio+20		English		
Discussion papers & Conference Papers	Jul-12	Hiroaki Shirakawa   Zhou, Xin	ブロック構造経路分析を用いたCO2排出構造とその変化に関する研究		Japanese	環太平洋産業連関分析学会第23回(2012年度)大会	
Discussion papers & Conference Papers	Jul-12	Hiroaki Shirakawa   Zhou, Xin	ブロック構造経路分析を用いたCO2排出構造の解明		Japanese	SEEPS	
Discussion papers & Conference Papers	Oct-12	Zhou, Xin	Green Economy Policy in Japan: After East Japan Disaster and Fukushima Nuclear Accident		English	International Workshop on Green Economy	30-31 October 2012
Database & online resources	Feb-11	Zhou, Xin / Contributor: Kojima, Satoshi	Biofuels Data and Social Accounting Matrices Prepared for Policy Assessment Models based on the GTAP 7 Data Base		English		



**Governance and Capacity group: List of publications (FY2010-2012)**

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue
Policy Brief	Feb. 2012	Olsen, Simon Hoiberg   Elder, Mark	国連環境計画（UNEP）改革：環境ガバナンス強化に向けた段階的アプローチ	IGES Policy Brief	Japanese		Number 17
Policy Brief	Feb. 2012	Olsen, Simon Hoiberg   Elder, Mark	Upgrading the United Nations Environment Programme: A phased approach	IGES Policy Brief	English		Number 17
Policy Brief	Mar. 2012	Contributor: Elder, Mark   Yoshida, Tetsuro / Author: TERI   IGES	Energy and the discourse on IFSD at Rio+20		English	Learning from emerging energy innovations in Asia: Contributing to the discourse on an institutional framework for sustainable development	
Policy Brief	Jul 2011	Didham, Robert James   Hayashi, Shinano	国際環境CSRマルチステークホルダー・プラットフォームを通じた日本のリーダーシップ強化：日本の産業界、市民社会、公共セクターの連携による東アジアのグリーン市場の拡大	Policy Brief	Japanese		Number 13
Policy Brief	Jul 2011	Didham, Robert James   Hayashi, Shinano	Promoting Japanese Leadership through a Multi-Stakeholder Platform on International Environmental CSR: Linking Japanese Business-Industry, Civil Society, and Governmental Sectors to Strengthen Green Markets in East Asia	Policy Brief	English		Number 13
Policy Brief	Mar. 2013	Independent Research Forum on a Post-2015 Sustainable Development Agenda (IRF2015) / IGES Staff: Olsen, Simon Hoiberg   Elder, Mark	Post-2015: framing a new approach to sustainable development		English		
Policy Brief	Mar. 2013	Olsen, Simon Hoiberg   Elder, Mark / Contributor: Miyazawa, Ikuho   Yoshida, Tetsuro	The Role of Governance Post2015	IGES Issue Briefs on SDGs	English		1
Policy Brief	Apr. 2012	Nakamura, Hidenori   Elder, Mark	地方自治体による環境国際協力とのための資金調達		Japanese		
Policy Brief	Apr. 2012	Nakamura, Hidenori   Elder, Mark	Practical measures to promote Japanese local governments' environmental collaboration with developing countries with citizens' support		English		
Policy Reports	Mar. 2011	Nakamura, Hidenori / Contributor: Mori, Hideyuki   Bernadia Irawati Tjandradewi	Lessons Learnt from Regional Intercity Networking - To Promote Sustainable Cities in Asia -		English		
Policy Reports	Mar. 2011	Nakamura, Hidenori / Contributor: Mori, Hideyuki   Bernadia Irawati Tjandradewi	都市間ネットワークからの学習 - アジアにおける持続可能な都市の展開のために -		Japanese		
Policy Reports	Apr. 2010	Didham, Robert James	Japan Case Study of Education for Sustainable Consumption		English	Progress in implementing Educaiton for Sustainable Consumption: Comparision of three country case studies - Japan, Mexico and Mauritius	29-Apr-10

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue
Policy Reports	Jun 2010	Nakamura, Hidenori   Elder, Mark	アジアで持続可能な消費に向けた地域主導の取り組みを成功に導く要因：地方政府が果たすべき将来的な役割とは	IGES白書III：第5章	Japanese	アジア太平洋における持続可能な消費と生産：資源制約を乗り越えてアジアは豊かさを實現できるか	2010
Policy Reports	Jun 2010	Nakamura, Hidenori   Elder, Mark	Enabling Factors Promoting Local Initiatives for Sustainable Consumption in Asia: Potential Roles of Local Governments	IGES White Paper III: Chapter 5	English	Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained World	Vol III, 2010
Policy Reports	Jun 2010	Didham, Robert James   Choi, Mee Young	持続可能な消費を促すための道：政府が持続可能な消費の實現に向けて効果的な教育を始める方法とは	IGES白書III：第3章	Japanese	アジア太平洋における持続可能な消費と生産：資源制約を乗り越えてアジアは豊かさを實現できるか	2010
Policy Reports	Jun 2010	Choi, Mee Young   Didham, Robert James	Pathways for Promoting Sustainable Consumption: How Governments Can Initiate Effective Education for Sustainable Consumption	IGES White Paper III: Chapter 3	English	Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained World	Vol III, 2010
Policy Reports	Mar. 2012	Elder, Mark   Matsumoto, Naoko   Ogihara, Akira   Guo, Jiangwen (Helen)	平成23年度環境研究総合推進費「東アジアにおける広域大気汚染の解明と温暖化対策との共便益を考慮した大気環境管理の推進に関する総合的研究(テーマ3)」による研究委託業務		Japanese		March
Policy Reports	Mar. 2012	Nakamura, Hidenori   Mori, Hideyuki	International intercity collaboration and its potential application in low carbon development		English	Climate Change Mitigation and Development Cooperation	
Policy Reports	Mar. 2012	Matsumoto, Naoko	Perceptions on Transboundary Air Pollution among Scientists and Policymakers - Results from Interview Surveys in Japan -	IGES Working Paper No. GC-2011-01	English		
Policy Reports	Apr. 2012	Contributor: Elder, Mark   Yoshida, Tetsuro / Author: IGES   TERI   AEI	Learning from emerging energy innovations in Asia: Contributing to the discourse on an institutional framework for sustainable development		English	Learning from emerging energy innovations in Asia: Contributing to the discourse on an institutional framework for sustainable development	
Policy Reports	Jul 2011	Didham, Robert James   Hayashi, Shinano	Strengthening Japan's Environmental Cooperation Strategy as a Leader to Promote Green Markets in East Asia	IGES Policy Report	English		
Policy Reports	Oct 2011	Olsen, Simon Hoiberg   Elder, Mark	Strengthening international environmental governance by two-phased reform of UNEP: Analysis of benefits and drawbacks	IGES Policy Report 2011-04	English		
Policy Reports	Dec 2011	Editor: Didham, Robert James / Author: Tian, Qing   Sato, Masahisa   Nakahara, Hideki   Lee, So-Young   Kang, Jung Hwa   Didham, Robert James	The Role of Governments in Education for Sustainable Consumption: Strengthening capacity for effective implementation in China, Japan, and Republic of Korea	IGES Policy Report 2011-003	English		11-Dec
Policy Reports	2011-	Matsumoto, Naoko   Sano, Daisuke	Waste-based ethanol production and a sound material-cycle society -Case studies on construction and food wastes in Japan-	IGES Policy Report 2011-02	English		
Policy Reports	Feb. 2013	Nakamura, Hidenori	震災後のエネルギー制度改革・市場と市民の態度		Japanese		

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue
Policy Reports	Mar. 2013	Yoshida, Tetsuro   Kataoka, Yatsuka	環境省請負業務 平成24年度グリーン・アジア・イニシアティブ (CAI) 推進等業務 概要調査報告書「インドの環境への取組状況と課題 -水・大気・廃棄物・水銀分野の基礎調査-		Japanese		
Policy Reports	Mar. 2013	Didham, Robert James   Ofei-Manu, Paul	Monitoring and Evaluation of Education for Sustainable Development: A framework of factors and leverage points in the implementation of ESD in the Asia-Pacific Region	UNU-IAS/IGES Research Project on Monitoring and Evaluation of ESD	English		
Policy Reports	Mar. 2013	Elder, Mark   Ogihara, Akira   Matsumoto, Naoko / Contributor: Shimizu, Mika	(2) 主要関係国の環境政策の変遷とその要因を踏まえた交渉推進の制約要因と課題の研究 (サブテーマ2)		Japanese	平成24年度環境研究総合推進費「東アジアにおける広域大気汚染の解明と温暖化対策との共便益を考慮した大気環境管理の推進に関する総合的研究(テーマ3)」による研究委託業務 委託業務報告書	13-Mar
Policy Reports	May 2012	Elder, Mark   Ogihara, Akira   Matsumoto, Naoko / Contributor: Zhou, Xiaofeng	2) 主要関係国の環境政策の変遷とその要因を踏まえた交渉推進の制約要因と課題の研究		Bilingual(English/Japanese)	S-7 東アジア太平洋地域における広域大気汚染の解明と温暖化対策とのコベネフィットを考慮した大気環境管理の推進に関する研究 (3) 東アジアの大気汚染対策促進に向けた国際枠組とコベネフィットアプローチに関する研究	12-May
Policy Reports	Jun 2012	Antonio, Ella   Holtsberg, Christer   Niestroy, Ingeborg   Naoro, Giorgia   Olsen, Simon Hoiberg   Zondervan, Ruben	Global Architectures for Sustainable Development Delivery	Asia-Europe Strategies for the "Rio+20 Earth Summit" 2012	English		
Policy Reports	Jul 2012	Elder, Mark   Olsen, Simon Hoiberg	環境と持続可能な開発のためのガバナンス強化: アジア太平洋地域における能力・情報交換プラットフォームの構築の可能性	IGES White Paper IV 2012	Japanese	アジア	Chapter 2
Policy Reports	Jul 2012	Elder, Mark   Olsen, Simon Hoiberg	Strengthening Governance for Environment and Sustainable Development: The potential for a capacity and information exchange platform in Asia-Pacific	IGES White Paper IV 2012	English	Greening Governance in Asia-Pacific	Chapter 2
Policy Reports	Oct 2012	Didham, Robert James   Ofei-Manu, Paul	Education for Sustainable Development Country Status Reports: An evaluation of national implementation during the UN Decade of Education for Sustainable Development in East and Southeast Asia	UNU-IAS/IGES Research Project on Monitoring and Evaluation of ESD	English		
Policy Reports	Oct 2012	Ogihara, Akira	日本の環境協力を再構築する: ブラウン経済からグリーン経済への移行を目指して		Japanese		
Policy Reports	Nov 2012	Ofei-Manu, Paul   Didham, Robert James	Assessment of Learning Performance in Education for Sustainable Development: Investigating the key factors in effective educational practice and outcomes for sustainable development (A study of good practice cases from the Regional Centres of Expertise)	UNU-IAS/IGES Research Project on Monitoring and Evaluation of ESD	English		
Research reports & Occasional papers	Jul 2010	Contributor: Elder, Mark   Didham, Robert James   Sano, Daisuke / Author: Miyazawa, Ikuho	日中韓三カ国環境大臣会合に係る資料作成等支援業務報告書		Japanese		

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue
Research reports & Occasional papers	Apr. 2011	Miyazawa, Ikuho	深刻化する韓国の環境課題と政府主導のグリーン成長・低炭素戦略	OECC会報 第62号	Japanese		Vo. 62/April, 2011
Peer reviewed articles	Mar. 2011	Nakamura, Hidenori   Kato, Takaaki	自治体による環境国際協力に対する市民の支持構造：地球温暖化に関する国際都市間連携への示唆		Japanese	Kankyo kagaku kai shi (環境科学会誌)	24(2)
Peer reviewed articles	Jul 2011	Nakamura, Hidenori   Kato, Takaaki	Climate change mitigation in developing countries through interregional collaboration by local governments: Japanese citizens' preference		English	Energy Policy	39
Peer reviewed articles	Jul 2011	Kato, Takaaki   Nakamura, Hidenori	市町村のエコポイント事業を通じた市民の環境国際協力 -エコポイントの寄付に着目して		Japanese	Kankyo kagaku kai shi (環境科学会誌)	24(4)
Peer reviewed articles	Sep 2011	Nakamura, Hidenori   Elder, Mark   Mori, Hideyuki	The Surprising Role of Local Governments in International Environmental Cooperation: The Case of Japanese Collaboration with Developing Countries		English	The Journal of Environment and Development	20(3)
Peer reviewed articles	Nov 2011	Didham, Robert James	Viewpoint:: The highest priority political outcomes for Rio+20		English	Natural Resources Forum: A United Nations sustainable development journal	35/4/Nov. 2011
Peer reviewed articles	Dec 2010	Romero, Jane   Elder, Mark   Bhattacharya, Anindya	Strengthening ASEAN+3 Renewable Energy Strategies		English	International Energy Journal	11/4/December
Peer reviewed articles	Nov 2012	Nakamura, Hidenori   Kato, Takaaki	Japanese citizens' preferences regarding voluntary carbon offsets: an experimental social survey of Yokohama and Kitakyushu		English	Environmental Science & Policy	25
Peer reviewed articles	Dec 2012	Nakamura, Hidenori	Effects of social participation and the emergence of voluntary social interactions on household power-saving practices in post-disaster Kanagawa, Japan		English	Energy Policy	54 (2013)
Non peer reviewed articles	Jan. 2013	Matsumoto, Naoko   Ogihara, Akira	Voluntary approaches in VOC emission reduction policy in Japan -architecture and participation-		English	Paper submitted to Earth System Governance Tokyo Conference	
Non peer reviewed articles	Feb. 2013	Olsen, Simon Hoiberg	Updating Civil Society Participation for Governance Post-2015		English		
Non peer reviewed articles	Jun 2012	Olsen, Simon Hoiberg	Asia-Europe strategies for the Earth Summit 2012 Report	Rio+20 A Daily Multi-Stakeholder Magazine on Climate Change and Sustainable Development	English	Outreach	13 June, 2012
Non peer reviewed articles	Jul 2012	Matsumoto, Naoko	Why did Japan fall short of the short-term biofuel introduction target?		English	Biofuels	Vol.3 No.4
Non peer reviewed articles	Aug 2012	Elder, Mark	Reflections on Rio+20: The Glass is Half Full, But Stop Preaching to the Converted	Rio+20 Commentary	English		28-Aug-12

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue
Discussion papers	Jun 2010	Didham, Robert James   Choi, Mee Young	Education for Sustainable Consumption: Effective strategies to promote responsible consumer behaviour	Session E: Sustainable Lifestyles (11 June 2010, 11:30-13:20)	English	9th Asia-Pacific Roundtable for Sustainable Consumption and Production (APRSCP); 10-12 June 2010, Colombo, Sri Lanka	2010
Discussion papers	Jul 2010	Didham, Robert James   Choi, Mee Young	Cultivating Sustainable Livelihoods through Education and Capacity Building: Modelling "Education for Sustainable Development" to advance communities of practice.	Research Committee on Regional Development: Session - Sustainability and Learning Communities	English	International Sociological Association - XVII World Congress of Sociology	2010
Discussion papers	Aug 2010	Nakamura, Hidenori   Elder, Mark   Mori, Hideyuki	Explaining international environmental co-operation by Japanese municipal governments with developing countries		English		
Discussion papers	Oct 2010	Nakamura, Hidenori	Political factors facilitating practice adoption through Asian intercity network programmes for the environment	IGES Discussion Paper	English		
Discussion papers	Nov 2010	Nakamura, Hidenori   Kato, Takaaki	Motivation of Japanese Citizens to Utilize International Carbon Crediting and Individual Offsetting: An Experimental Survey Offering an Actual Offsetting Opportunity		English	EcoBalance 2010, 12 Nov. 2010	
Discussion papers	Dec 2010	Nakamura, Hidenori   Kato, Takaaki	自治体による環境国際協力に対する市民の認知と支持との関係		Japanese		
Discussion papers	Feb. 2012	Nakamura, Hidenori   Kato, Takaaki	Japanese Citizens' Views on Using Voluntary Carbon Offsets for Collaboration with Developing Countries: An Experimental Social Survey of Yokohama and Kitakyushu		English		
Discussion papers	Feb. 2012	Nakamura, Hidenori   Kato, Takaaki	カーボンオフセットを通じた途上国低炭素型発展支援の可能性：北九州市民の自動車利用に関するオフセット意向分析		Japanese		
Discussion papers	Mar. 2012	Ofei-Manu, Paul	Evaluating Learning Performance in Education for Sustainable Development (ESD): Case Studies from Regional Centres of Expertise on ESD in East Asia		English	PERL 2nd International Conference, Berlin	12-Mar
Discussion papers	Mar. 2012	Didham, Robert James	Evaluating the Effectiveness of Policies and Programmes on Education for Sustainable Consumption: A discussion of methodological challenges in investigating policy impacts towards sustainable consumption		English	The 2nd International Conference of the Partnership for Education and Research about Responsible Living (PERL): Beyond Consumption - Pathways to Responsible Living	19-20 March 2012
Discussion papers	Mar. 2012	Nakamura, Hidenori	Sub-national Carbon Governance in Asian Developing Countries: Cases of China, India, Indonesia and the Philippines		English		

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue
Discussion papers	Apr. 2012	Ogihara, Akira	パッケージ型インフラ事業の海外展開：国際協力政策へのインプリケーションおよびその課題		Japanese		
Discussion papers	Jul 2011	Olsen, Simon Hoiberg	Conference paper for isap: Triple open session on governance for sustainable development		English		
Discussion papers	Nov 2011	Didham, Robert James	Assessment of Capacity for Implementing Education for Sustainable Consumption: A comparative study of governmental capacity in China, Japan and the Republic of Korea		English		
Discussion papers	Nov 2011	Ofei-Manu, Paul   Shimano, Satoshi	In transition towards sustainability: Bridging the business and education sectors of RCE Greater Sendai using ESD-based social learning		English	The1st World Sustainability Forum	11-Nov
Discussion papers	Mar. 2013	Nakamura, Hidenori   Ramachandran, Mahadevan	National and Subnational Linkages to Enable Low Carbon Development at the Subnational Level in Developing Countries: The Cases of Thailand and the Philippines	IGES Discussion Paper	English		No. GC-2012-04
Discussion papers	Mar. 2013	Nakamura, Hidenori   Kato, Takaaki	Perception Effects of Local Government Subsidies: The Case of International Carbon Offsetting by Citizens in Kitakyushu, Japan	IGES Discussion Paper	English		GC-2012-03
Discussion papers	Jun 2012	Nakamura, Hidenori	神奈川県における震災後の家庭部門節電に対する社会ネットワークの効果		Japanese		
Discussion papers	Aug 2012	Editor: Ogihara, Akira   Imura, Hidefumi   Hayakawa, Yuka	YCU-IGES Joint Seminar on Low-Carbon and Smart Cities		English	YCU-IGES Joint Seminar on Low-Carbon and Smart Cities	
Discussion papers	Nov 2012	Kato, Takaaki   Himeshima, Eri   Hai Hoang   Qunag Van Tran   Nakamura, Hidenori	Bridging the Gap of International Intercity Environmental Cooperation: A Kitakyushu?Da Nang Survey		English	EcoBalance2012	23-Nov-12
Working Papers	Mar. 2012	Matsumoto, Naoko	越境大気汚染に関する科学者・政策決定者の認識についての研究 - 日本における聞き取り調査から -	IGES Working Paper	Japanese		GC-2011-01
Proceedings	Jan. 2011	Editor: Elder, Mark   Zhou, Xiaofeng	Proceedings of International Experts Workshop on International Framework and Co-benefits Approach to Promote Air Pollution Control in East Asia 2011		English	International Experts Workshop on International Framework and Co-benefits Approach to Promote Air Pollution Control in East Asia 2011	January 17-18, 2011
Proceedings	Mar. 2011	Fujikura, Ryo   Mori, Hideyuki   Hayashi, Shinano   Nakamura,	東アジアでの持続可能な都市・政策・技術シナリオのプラットフォーム		Japanese		
Proceedings	Mar. 2011	Nakamura, Hidenori   Hosei University	日本の自治体における低炭素社会構築及び地球環境問題への取り組み促進施策に関する研究		Japanese		
Proceedings	Apr. 2011	Editor: Didham, Robert James / Author: Aoyagi, Midori   Yang, Ke   Sato, Masahisa   Nakahara, Hideki   Lee, So-Young   Didham, Robert James	Proceedings of Session: Education for Sustainable Consumption in Northeast Asia		English	PERL (Partnership for Education and research about Responsible Living) International Conference on "Enabling Responsible Living"	14-15 March 2011

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue
Proceedings	Sep 2010	Kato, Takaaki   Nakamura, Hidenori	市民による環境保全活動と国際協力：エコポイント事業に着目して		Japanese	環境科学会シンポジウム「自治体における低炭素社会づくりおよび都市間連携の可能性」(2010年9月16日)	
Proceedings	Dec 2010	IGES Governance and Capacity Group / Editor: Didham, Robert James	Proceedings the East Asia Workshop on Education for Sustainable Consumption and Promoting Sustainable Lifestyles in China, Japan and Republic of Korea		English		
Proceedings	Mar. 2012	Editor: Elder, Mark   Matsumoto, Naoko   Vida Macikenaite	International Workshop on Strengthening the International Cooperation Framework and Science-Policy Interface to Promote Air Pollution Control in East Asia: Proceedings		English		GC-2011-2
Proceedings	Mar. 2012	Editor: Didham, Robert James   Ofei-Manu, Paul	Proceedings: Northeast Asia Reporting and Capacity Building Workshop on Monitoring & Evaluation of Education for Sustainable Development	UNU-IAS and IGES Research on Monitoring and Evaluation of Education for Sustainable Development	English		
Proceedings	Sep 2011	Nakamura, Hidenori   Kato, Takaaki	市民のカーボンオフセットによる国際連携の可能性と現状—横浜市民・北九州市民の事例—		Japanese	Kankyo Kagaku Kai 2011 Nen kai Shimpojiumu	
Proceedings	Mar. 2013	Editor: Elder, Mark   Shimizu, Mika	International Workshop on Strengthening the International Cooperation Framework and Science Policy Interface to Promote Air Pollution Control in East Asia 2013 Proceedings		English		1-Feb-13
Proceedings	May 2012	Editor: Ofei-Manu, Paul   Didham, Robert James	Proceedings: Southeast Asia Workshop on Monitoring and Evaluation of Education for Sustainable Development		English		
Proceedings	Dec 2012	Didham, Robert James   Ofei-Manu, Paul	Proceedings of Consultation: Strengthening Monitoring and Evaluation of Education for Sustainable Development in Asia and the Pacific - Elaborating regionally relevant Indicators of ESD		English		
Business Reports	Jul 2010	IGES	平成22年度日中韓3カ国環境大臣会合に係る資料作成等支援業務		Japanese		
Business Reports	Mar. 2012	Didham, Robert James   Ofei-Manu, Paul   Ogihara, Akira	Mid-term Progress Report on Research Project: Monitoring and Evaluation of Education for Sustainable Development in Asia-Pacific		English	Mid-Term report submitted to Ministry of Education, Japan (MEXT)	Submitted 6 April 2012
Business Reports	Mar. 2012	Murakmi, Emiko   Nakamura, Hidenori	都市計画による各セクターにおけるGHG 排出削減のMRV 手法		Japanese		
Business Reports	May 2011	Didham, Robert James	Annual Report of FY2010 work on Capacity Development and Edcation for Kanagawa Prefectrue		English		
Business Reports	Nov 2011	Tsinghua University	Carbon Governance at Sub-national Level in China		English		

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue
Business Reports	Nov 2011	The Energy and Resources Institute	Carbon Governance at Sub-national Level in India		English		
Business Reports	Nov 2011	CER Indonesia	Carbon Governance at Sub-national Level in Indonesia		English		
Business Reports	Nov 2011	Ateneo School of Government	Carbon Governance at Sub-national Level in the Philippines		English		
Business Reports	Dec 2012	Thailand Environment Institute	Support of the Capacity Development on Low Carbon Development Policies at the Sub-national Level through NAMAs in Thailand		English		
Business Reports	Dec 2012	Ateneo School of Government	Support of the Capacity Development on Low Carbon Development Policies at the Sub-national Level through NAMAs in the Philippines		English		



**IGES Kansai Research Centre: List of publications (FY2010-2012)**

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Policy Brief	May-12	Author: Shiga, Yuki   Abdessalem	アジアにおける地球温暖化対策としての技術移転	Policy Brief	Japanese		Number
Policy Brief	May-12	Author: Shiga, Yuki   Abdessalem Rabhi	Technology Transfer as a Measure to Tackle Global Warming in Asia	Policy Brief	English		Number 19
Policy Brief	Oct-11	Author: Abdessalem Rabhi	Environmental Performance Rating and Public Disclosure: Strategic Policy to Promote Corporate Environmental Management	Policy Brief	English		Number 16
Policy Brief	Oct-11	Author: Abdessalem Rabhi	環境パフォーマンス格付け情報開示：企業環境管理（CEM）を促す戦略的政策	Policy Brief	Japanese		Number 16
Policy Reports	Jul-12	Author: Abdessalem Rabhi   Shiga, Yuki	Achieving Environmentally Sound Development in Asia through the Transfer of Low Carbon Technology	IGES White Paper IV 2012	English	Greening Governance in Asia-Pacific	Chapter 6
Policy Reports	Jul-12	Author: Abdessalem Rabhi   Shiga, Yuki	低炭素技術の移転を通じたアジアにおける環境親和型開発の実現	IGES White Paper IV 2012	Japanese	アジア太平洋地域のグリーン・ガバナンス：低炭素で持続可能なアジア太平洋に向けて	Chapter 6
Policy Reports	Mar-12	Author: Abdessalem Rabhi	Measurement, Reporting, and Verification (MRV) for low carbon development: Learning from Experience in Asia		English		
Policy Reports	Jun-10	Author: Abdessalem Rabhi   Shishime, Tomohiro   Fujitsuka, Tetsuro   Iino, Hiroo   Liu, Xianbing	Corporate Environmental Information Disclosure: An Innovative Policy to Promote Sustainable Production	IGES White Paper III: Chapter 4	English	Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained World	Vol III, 2010
Policy Reports	Jun-10	Author: Abdessalem Rabhi   Shishime, Tomohiro   Fujitsuka, Tetsuro   Iino, Hiroo   Liu, Xianbing	企業の環境情報開示：持続可能な生産を推進するための革新的政策	IGES白書 III：第4章	Japanese	アジア太平洋における持続可能な消費と生産：資源制約を乗り越えてアジアは豊かさを実現できるか	2010
Research reports & Occasional papers	Sep-12	Author: Shiga, Yuki	Potential for Low Carbon Technology Transfer in Indian Investment Casting Units		English	Proceedings of the 20th Symposium Global Environment, 13-14 September 2012, Kyoto, Committee on Global Environment, Japan Society of Civil Engineers	
Research reports & Occasional papers	Apr-12	Author: Abdessalem Rabhi   Ryo Hiraga Ryo / collaborator: Iino, Hiroo	Promoting the application of co-benefit technologies in Asia: Findings from case study in Indonesia		English		
Research reports & Occasional papers	Mar-12	Author: Abdessalem Rabhi	MRV Methodologies regarding gas heat pump and electric heat pump technologies		English		

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Research reports & Occasional papers	Mar-12	Author: Abdessalem Rabhi	MRV methodologies regarding gas heat pump and electric heat pump technologies		Japanese		
Research reports & Occasional papers	Mar-12	Author: Abdessalem Rabhi / collaborator: Suzuki, Yutaka   Sudo Kinichi   Shiga, Yuki   Girish Sethi   Prosanto Pal   Gaurav Sharma   Upinder Dinghra / Contributor: Tsukasa Saito	Progress research report: Improving Air compressor System in Indian Small and Medium Enterprises (SME)		English		
Research reports & Occasional papers	Nov-10	Author: Liu, Xianbing   Shiga, Yuki   Abdessalem Rabhi	Proactive Policies and Business Strategies for Strengthening Corporate Environmental Management in Developing Asia		English		
Research reports & Occasional papers	Aug-10	Author: Shiga, Yuki   Fujitsuka, Tetsuro   Liu, Xianbing   Shishime, Tomohiro   Ogisu, Kazunori	Preliminary Survey on Environmental Information Disclosure in India		English	Proceedings of the 18th Symposium Global Environment, 27-28 August 2010, Chino, Committee on Global Environment, Japan Society of Civil Engineers	
Research reports & Occasional papers	2013	Author: Suzuki, Yutaka   Abdessalem Rabhi   Shiga, Yuki	インドにおける低炭素技術の適用促進に関する研究		Japanese		
Research reports & Occasional papers	2010	Author: Abdessalem Rabhi   Tomohiro Shishime	Assessment of Corporate Environmental Information Disclosure in Thailand		English	京都大学環境衛生工学研究会 第32回シンポジウム	
Peer reviewed articles	2013-	Author: Liu, Xianbing   Suk, Sunhee   Sudo Kinichi	Awareness and acceptability of Chinese companies on market-based instruments for energy saving: A survey analysis by sectors		English	Energy for Sustainable Development	In Press
Peer reviewed articles	2012-	Author: Liu, Xianbing   Dongjie Niu, Cunkuan Bao   Suk, Sunhee   Tomohiro Shishime	A survey study of energy saving activities of industrial companies in Taicang, China		English	Journal of Cleaner Production	26 (2012)
Peer reviewed articles	2012-	Author: Suk, Sunhee	韓国企業における省エネルギー及び温室効果ガス削減活動に関する調査研究		Japanese		
Peer reviewed articles	2012-	Author: Liu, Xianbing   Suk, Sunhee   Sudo Kinichi	GHG Emission Trading Schemes in Northeast Asia: An Overview and Analysis of Current Scenarios		English	Critical Issues in Environmental Taxation	
Peer reviewed articles	2011-	Author: Liu, Xianbing   Ogisu, Kazunori   Suk, Sanhee   Shishime,	Carbon tax policy progress in Northeast Asia		English	Critical Issues in Environmental Taxation	2011
Peer reviewed articles	2011-	Author: Liu, Xianbing   Yanli DONG, Can WANG, Tomohiro SHISHIME	Citizen Complaints about Environmental Pollution: A Survey Study in Suzhou, China		English	Journal of Current Chinese Affairs	3/2011

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Peer reviewed articles	2011-	Author: Liu, Xianbing   Wang Can   Shishime, Tomohiro   Fujitsuka, Tetsuro	Sustainable Consumption: Green Purchasing Behaviours of Urban Residents in China		English	Sustainable Development	2011
Peer reviewed articles	2011-	Author: Liu, Xianbing   Yang Jie   Qu Sixiao   Wang Leina   Shishime, Tomohiro   Bao Cunkuan	Sustainable Production: Practices and Determinant Factors of Green Supply Chain Management of Chinese Companies		English	Business Strategy and the Environment	2011
Peer reviewed articles	2011-	Author: Yanli Dong, Masanobu Ishikawa, Shigeyuki Hamori   Liu,	The determinants of citizen complaints on environmental pollution: an empirical study from China		English	Journal of Cleaner Production	19 (2011)
Peer reviewed articles	2010-	Author: Dong Yanli   Ishikawa Masanobu   Liu, Xianbing   Wang Can	An analysis of the driving forces of CO2 emissions embodied in Japan-China trade		English	Energy Policy	Volume 38 Issue 11
Peer reviewed articles	2010-	Author: Liu, Xianbing   Beibei Liu   Shishime, Tomohiro   Qinqin Yu   Jun Bi   Tetsuro Fujitsuka	An empirical study on the driving mechanism of proactive corporate environmental management in China		English	Journal of Environmental Management	
Peer reviewed articles	2010-	Author: Liu, Xianbing   Masanobu Ishikawa   Can Wang   Yanli Dong   Wenling Liu	Analyses of CO2 emissions embodied in Japan-China trade		English	Energy Policy	Volume 38 Issue 3
Peer reviewed articles	2010-	Author: Liu, Xianbing   Can Wang   Shishime, Tomohiro   Tetsuro Fujitsuka	Environmental activism of firm's neighboring residents: an empirical study in China		English	Journal of Cleaner Production	
Peer reviewed articles	2010-	Author: Liu, Xianbing   Qinqin Yu   Tetsuro Fujitsuka   Beibei Liu   Jun Bi   Shishime, Tomohiro	Functional mechanisms of mandatory corporate environmental disclosure: an empirical study in China		English	Journal of Cleaner Production	18(2010)
Peer reviewed articles	Apr-13	Author: Abdessalem Rabhi	Cobenefits of improving compressed air system in Indian small and medium enterprises		English		
Peer reviewed articles	Mar-13	Author: Liu, Xianbing   Suk, Sunhee   Sudo Kinichi	Company's affordability of increased energy costs due to climate policies: A survey by sector in China		English	Energy Economics	36(2013)
Peer reviewed articles	Feb-13	Author: Liu, Xianbing   Suk, Sunhee   Sudo Kinichi	Affordability of energy cost increases for companies due to market-based climate policies: A survey in Taicang, China		English	Applied Energy	102
Peer reviewed articles	Jan-13	Author: Liu, Xianbing   Suk, Sunhee   Sudo Kinichi	Awareness and acceptability of companies on market-based instruments for energy saving: a survey study in Taicang, China		English	Journal of Cleaner Production	39
Peer reviewed articles	Dec-11	Author: Liu, Xianbing   Leina Wang, Yanli Dong, Jie Yang, Cunkuan Bao	Case Studies of Green Supply Chain Management in China		English	International Journal of Economics and Management Engineering	Vol.1 No.1
Discussion papers & Conference	Jul-12	Author: Abdessalem Rabhi	India-Japan: Technology Cooperation towards Sustainable Development		English		

Publication Type	Published	Author(s)	Title	Series	Language	Media Name	Issue
Discussion papers & Conference Papers	Dec-11	Author: Yanli Dong   Liu, Xianbing	Driving Mechanism for Chinese Companies to Practice Green Supply Chain Management and the Induced Performance Changes		English	2011 Asian Conference of Management Science & Applications	December 21-23, 2011
Discussion papers & Conference Papers	Jul-11	Author: Shishime, Tomohiro   Shiga, Yuki   Abdessalem Rabhi	インドにおける低炭素技術適用に関する研究		Japanese	Environmental&Sanitary Engineering Research (環境衛生工学研究)	Vol.25 No.3
Discussion papers & Conference Papers	Jun-11	Author: Liu, Xianbing   Cunkuan Bao, Dongjie Niu   Tomohiro Shishime   Suk, Sunhee	Firm's Energy Saving Activities and the Determinant Factorss: A Survey Study in China		English	18th Annual Conference of European Association of Environmental and Resource Economists	29 June to 2 July
Discussion papers & Conference Papers	Feb-11	Author: IGES Kansai Research Centre	IGES-EUIJKansai-Kobe Univ.Symposium Report 2010/11/05		Japanese		
Discussion papers & Conference Papers	Nov-10	Author: Liu, Xianbing   Ogisu, Kazunori   Matsuo, Yusuke   Shishime, Tomohiro	Opportunities and Barriers of Implementing Carbon Tax policy in Northeast Asia: A Comparative Analysis		English	the 11th Global Conference on Environmental Taxation	2011
Discussion papers & Conference Papers	Aug-10	Author: Liu, Xianbing   Yang Jie   Wang Leina et al.	Practices and Opportunities of Green Supply Chain Management in China		English	the 1st Congress of East Asian Association of Environmental and Natural Resource Economics	2011
Discussion papers & Conference Papers	May-10	Author: Liu, Xianbing   Wang Can   Shishime, Tomohiro	An Empirical Study of Environmental Activisms of Firm's Neighboring Residents in China		English	Implementation of Environmental Policies in Urban and Rural China - Its Success, problems and Deficiencies	
Multimedia	Mar-12	Author: Abdessalem Rabhi	Gas heat pump (GHP) technology: Importance of air conditionioing in investment casting industry		English		
Non peer reviewed articles	Dec-12	Author: Suk, Sunhee	韓国の新・再生エネルギー産業政策と現状	アジアの疾風	Japanese	Business i ENECO	Dec-12
Non peer reviewed articles	Dec-11	Author: Shiga, Yuki	インドにおける気候変動対応策と環境ビジネス	Asia Watch	Japanese	Business i. ENECO	Vol.44 / No.12 / Dec.2011
Proceedings	Jul-12	Author: Abdessalem Rabhi	Reply to call for input from Technology Executive Committee		English		
Proceedings	Jan-12	Author: IGES Kansai Research Centre	2011年度IGES関西研究センターシンポジウム報告書：家庭の冬の節電に向けて～快適性にも配慮した節電・エコ対策～		Japanese		
Proceedings	Jan-11	Author: IGES Kansai Research Centre   EMECS International Center   APN Center	2010年度IGES-EMECS-APNシンポジウム「気候変動と沿岸域管理 ～適応策を考慮した沿岸域統合管理に向けて～」報告書		Japanese		

**IGES Kitakyushu Urban Centre: List of publications (FY2010-2012)**

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue	Copyright
Policy Brief	Apr-10	Maeda,Toshizo	堆肥化の推進と住民参加によるごみ削減：スラバヤ市の廃棄物管理モデル分析	Policy Brief (IGES/北九州イニシアティブ ポリシー・ブリーフ)	Japanese		#9	IGES
Policy Reports	Jun-12	Premakumara Jagath Dickella Gamaralalage	Solid Waste Management in Colombo City, Sri Lanka: Current Practices, Challenges and Opportunities		English/Japanese	Present State and Challenges for International Cooperation on Urban Solid Waste Management in Asian Mega		IGES
Policy Reports	Jul-12	Maeda,Toshizo	Networking Cities for Better Environmental Management: How networking functions can enhance local initiatives	IGES White Paper IV 2012	English	Greening Governance in Asia-Pacific	Chapter 7	IGES
Policy Reports	Jul-12	Maeda,Toshizo	環境管理能力向上のための都市間ネットワーク：ネットワーク機能により地域の取り組みを強化する方策とは	IGES White Paper IV 2012	Japanese	アジア太平洋地域のグリーン・ガバナンス：低炭素で持続可能なアジア太平洋に向けて	Chapter 7	IGES
Policy Reports	Jan-13	Premakumara Jagath Dickella Gamaralalage	Decentralized Composting in Asian Cities: Lessons Learned and Future Potential in Meeting the Green Economy	Local Sustainability-3	English	The Economy of Green Cities: A World Compendium on the Green Urban		IGES
Policy Reports	Mar-13	Theng Lee Chong   Maeda,Toshizo   Hayashi, Shiko	National Strategic Plan for Food Waste management in Malaysia (Draft)		English			Ministry of Housing and Local Government
Policy Reports	Apr-13	Hayashi, Shiko   Maeda,Toshizo	Solid Waste Management in Viet Nam: Policy Recommendation Report		English			IGES
Research reports & Occasional papers	Mar-11	Premakumara Jagath Dickella Gamaralalage	Towards Establishing a Zero-Waste Society in Japan: Case Studies of Minamata and Oki Towns		English			IGES
Research reports & Occasional papers	Dec-11	Yenneti, Komalirani   Premakumara Jagath Dickella Gamaralalage	Carbon Finance and Decentralised Composting Projects: Carbon Market Viability Assessment for Small-Scale Composting Projects		English			IGES
Peer reviewed articles	Jul-11	Premakumara Jagath Dickella Gamaralalage   Abe, Miwa   Maeda,Toshizo	Reducing Municipal Waste through Promoting Integrated Sustainable Waste Management (ISWM) Practices in Surabaya City, Indonesia		English	Ecology and the Environment	Vol. 144	IGES
Peer reviewed articles	Sep-11	Kikusawa, Ikuyo	日中環境協力の変遷と今後のビジネス展開－北九州市の事例－		Japanese	東アジアへの視点	2011.9	IGES
Peer reviewed articles	Sep-12	Komalirani Yenneti   Premakumara Jagath Dickella	Carbon Finance and Decentralized Composting in Asia: Potential and Future Considerations		English	Environment and Urbanization Asia	3(2)	IGES
Peer reviewed articles	May-13	Huang, Jian	中国における畜産由来温室効果ガス削減の取組と日本の対応		Japanese			IGES
Peer reviewed articles	Jun-13	Huang, Jian	互恵的な日中都市間連携の構築について－JICA草の根技術協力2事業への考察を通して－		Japanese			IGES
Non peer reviewed articles	Jan-11	Premakumara Jagath Dickella Gamaralalage   Maeda,Toshizo	Linking Community-Based Composting into Municipal Waste Management Policies in Surabaya: Lessons Learned		English	HELP-O Newsletter	Vol. 1 (No. 1)	HELP-O
Non peer reviewed articles	Feb-11	Premakumara Jagath Dickella Gamaralalage	Solid Waste Management in Nagoya City, Japan		English	HELP-O Newsletter	Vol. 2 (No.2)	HELP-O
Non peer reviewed articles	Apr-11	Contributor: Maeda,Toshizo	日本のグリーン技術の世界へ。(アジアの環境ビジネスの頭脳と実践を担う。)		Japanese	ソトコト	Apr-11	株式会社木楽舎

Publication Type	Published	Author(s)	title	series	Language	Media Name	Issue	Copyright
Non peer reviewed articles	Aug-11	Kikusawa, Ikuyo	再エネ促進の一翼を担うバイオガスエネルギー	世界の環境潮流 Asia Watch	Japanese	ENECO	Aug-11	ENECO
Non peer reviewed articles	Sep-12	Kikusawa, Ikuyo	急速に発展するスマートシティ	環境ビジネス ウォッチ アジア	Japanese	地球環境とエネルギー	第30回 2012年9月	Business i ENECO
Non peer reviewed articles	Apr-13	Contributor: IGES Kitakyushu Urban Center	Surabaya Indonesia, Muangklang Thailand, North Kuching malaysia	Innov ASEAN	English	Surabaya Indonesia, Muangklang Thailand, North Kuching malaysia	April 16,2013	US embassy
Discussion papers & Conference	Jun-11	Premakumara Jagath Dickella Gamaralalage	Survey on Household Waste Generation and Public Awareness on Waste Separation and Composting Practices in Cebu City		English			IGES
Discussion papers & Conference Papers	Sep-11	Premakumara Jagath Dickella Gamaralalage   Yoshimura, Teruhiko   Andrea, Clatterbuck	Local Governance and Environmental Sustainability in Minamata City: Beyond Deadlock and Conflict to Multi-Stakeholder Collaboration		English	11th International Congress on Planning for Sustainable Cities, Asian Planning Schools Association		IGES
Discussion papers & Conference	Oct-11	Huang, Jian	日本生物 質能利用及典型事例分析		Chinese			IGES
Discussion papers & Conference Papers	Nov-11	Premakumara Jagath Dickella Gamaralalage   Hirohata, Kazuyoshi   Tamura, Emiko	KitaQ System Composting and Its Applicability in Asia: Lessons Learned and Future Potential		English	22nd Annual Conference of Japan Society of Material Cycles and Waste Management	3-5, November 2011	Japan Society of Material Cycles and Waste Management
Discussion papers & Conference Papers	Nov-11	Tamura, Eriko   Premakumara Jagath Dickella Gamaralalage   Hirohata, Kazuyoshi	生ごみコンポスト事業に関するアジア都市間ネットワーク化支援		Japanese	22nd Annual Conference of Japan Society of Material Cycles and Waste Management	3-5, November 2011	Japan Society of Material Cycles and Waste Management
Discussion papers & Conference	Feb-12	Premakumara Jagath Dickella Gamaralalage	フィリピン・メトロセブ地域における住民参加型廃棄物管理システムの確立		English/Japanese			IGES
Discussion papers & Conference	Mar-12	Premakumara Jagath Dickella Gamaralalage	インドネシア・スラバヤ市における生ごみ堆肥化事業とアジアへの普及・拡大に対する支援		English/Japanese			IGES
Discussion papers & Conference Papers	Dec-12	Premakumara Jagath Dickella Gamaralalage   A2D Project-Research Group for Alternatives to Development Inc.	Best Practices and Innovations in Community-Based Solid Waste Management in Cebu		English			IGES
Discussion papers & Conference Papers	Mar-13	Premakumara Jagath Dickella Gamaralalage   Aloysius Mariae L. Canete   Masaya Nagaishi	Policy Implementation of the Republic Act (RA) 9003 in the Philippines: A Case Study of Cebu City		English	The 1st IWWG-ARB Symposium, 18-21 March 2013, Hokkaido University,		IGES
Proceedings	Oct-10	Premakumara Jagath Dickella Gamaralalage   Abe, Miwa	International Training Workshop for National Policy Framework on Municipal Solid Waste Management in Indonesia		English			IGES
Proceedings	Mar-11	Maeda, Toshizo   Teoh, Shom   Gilby Simon	3rd High Level Seminar on Environmentally Sustainable Cities Proceedings		English			IGES
Proceedings	Jul-11	Premakumara Jagath Dickella Gamaralalage   Hirohata,	A Networking Seminar on KitaQ System Composting in Asia		English			JICA and IGES
Proceedings	Jul-11	IGES Kitakyushu Urban Center   IGES Programme Management Office (PMO)   Yokohama City	IGES-YCU Joint Seminar on Low-Carbon and Smart Cities: Seeking for Local Energy Solutions after the Nuclear Crisis	IGES Conference Report-KUC-2011-01	English	International Forum for Sustainable Asia and the Pacific (ISAP2011)		IGES

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Proceedings	Aug-11	IGES Kitakyushu Urban Center	A Networking Seminar on KitaQ System Composting in Asia		English	the Networking Seminar on KitaQ System Composting in		IGES / JICA
Proceedings	Oct-11	IGES Kitakyushu Urban Center / Editor: Kikusawa, Ikuyo	平成23年度アジアにおける環境保全と持続可能社会の構築に関する調査業務報告書		English	Asian Environmental Cities Summit - Building Ecological Cities of the Future	12-Oct-11	Ministry of Environment, Japan
Proceedings	Nov-11	Kikusawa, Ikuyo   Huang, Jian	大連ワークショップーバイオガス事業の発展と水平展開に向けた都市		Japanese			IGES
Proceedings	Feb-12	Editor: Kikusawa, Ikuyo / Contributor: The Coalition of Local Government for Environmental Initiative	低炭素アジアに向けた日本・ベトナム・タイ共同国際都市ワークショップ2012		Japanese			IGES
Proceedings	Mar-12	Premakumara Jagath Dickella Gamaralalage   Hirohata,	Networking Meeting for Local Governments: Creating Low Carbon and Sustainable Cities		English			IGES
Proceedings	Jul-12	Premakumara Jagath Dickella Gamaralalage   Andante Hadi Pandyaswargo   Gilby, Simon	A Follow-up Seminar on KitaQ System Composting in Asia		English			IGES
Proceedings	Jun-13	Maeda,Toshizo   Teoh, Shom   Gilby, Simon	4th High Level Seminar on Environmentally Sustainable Cities		English			IGES
Business Reports	Mar-11	Premakumara Jagath Dickella Gamaralalage	Establishing a Sound Material-Cycle Society in Sri Lanka: Opportunities and Challenges		English			IGES
Business Reports	May-11	Editor: Kikusawa, Ikuyo	環境研究総合推進費 平成22年度研究成果報告書		Japanese			Ministry of Environment, Japan
Business Reports	Feb-12	Teoh, Shom	ASEAN ESC Model Cities Mid-Term Report		English			IGES
Business Reports	Mar-12	Kikusawa, Ikuyo / Contributor: Kyushu University   Hosei	国際都市間協働によるアジア途上国都市の低炭素型発展に関する研究委託業務報告書		Japanese			IGES
Business Reports	Apr-12	Teoh, Shom	ASEAN ESC Model Cities 2nd Year Proposal		English			IGES
Business Reports	Oct-12	Maeda,Toshizo   Huang, Jian   Kagawa, Harumi	『平成24年度 地域別研修「NAMA/MRV 能力強化 (A) 」コース J1204186 業務完了報告書』		Japanese			IGES
Proceedings	Mar-13	Maeda,Toshizo   Kagawa, Harumi	北九州市の環境改善及び低炭素都市計画の取組み (教材)		English/Japanese			IGES
Proceedings	Mar-13	Maeda,Toshizo   Huang, Jian   Kagawa, Harumi	平成24年度 新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業 業務報告書 北九州アーバンセンター版		English/Japanese			IGES
Proceedings	Mar-13	Maeda,Toshizo   Kagawa, Harumi   Teoh, Shom   Gilby	平成24年度 環境的に持続可能な都市に関する推進業務 業務報告書		English/Japanese			IGES
Proceedings	Mar-13	Author: Maeda,Toshizo   Kagawa, Harumi	平成23年度 環境的に持続可能な都市に関する推進業務 調査報告書		Japanese			IGES
Proceedings	Mar-13	Maeda,Toshizo   Kagawa, Harumi   Teoh, Shom   Gilby	平成23年度 環境的に持続可能な都市に関する推進業務 業務報告書		English/Japanese			IGES
Business Reports	Mar-13	Premakumara Jagath Dickella Gamaralalage	フィリピン・メトロセブ地域における廃棄物管理情報整備及び 研修プログラム企画案作成業務報告書 ～住民参加型廃棄物管理システム確立に向けたキャパシティ・ビルディング～		Japanese			IGES
Business Reports	Mar-13	Huang, Jian   Kikusawa, Ikuyo	『平成24年度TEMM「グリーン成長及び低炭素社会に関する共同研究」北九州市——公害都市から環境未来都市へ』		Japanese			IGES
Business Reports	Mar-13	Gilby, Simon   Nakamura, Masahiro	Policy Recommendations on Disseminating Local Governments' Initiatives for Promoting Green Growth Policies to the World		English			IGES

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Business Reports	Mar-13	Maeda, Toshizo   Huang, Jian   Kagawa, Harumi	平成24年度 新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業 業務報告書		Japanese			IGES
Business Reports	Mar-13	Hayashi, Shiko   Maeda, Toshizo	平成24年度ベトナム国3R・廃棄物管理分野における協力支援業務報		Japanese			IGES
Business Reports	Mar-13	Maeda, Toshizo   Hayashi, Shiko   Mekaru, Hiroshi	平成24年度マレーシア国有機廃棄物管理プロジェクト支援業務報告書		Japanese			IGES
Database & online resources	Mar-11	Gilby Simon   Teoh, Shom	Sustainable Cities Asia Knowledge Hub		English			IGES
Database & online resources	Sep-11	Gilby Simon   Teoh, Shom	ASEAN ESC Model Cities Programme Website		English			IGES
Database & online resources	Jan-12	Teoh, Shom   Gilby Simon	High Level Seminar on Environmentally Sustainable Cities Website		English			IGES
Database & online resources	Jul-12	Gilby, Simon	KitaQ System Composting Website		English			IGES
PR Materials	Feb-12	Teoh, Shom   Gilby Simon	ASEAN ESC Model Cities Programme Fact Sheets		English			IGES
PR Materials	Jun-12	Author: Teoh, Shom   Gilby Simon   Kagawa, Harumi	ASEAN ESC Model Cities Programme Fact Sheets		Japanese			IGES
PR Materials	Mar-12	Contributor: Premakumara Jagath Dickella Gamaralalage	生ごみコンポスト化の推進によるごみ減量のすすめ(ビデオ)		English/Japanese			IGES



**Beijing Office: List of publications (FY2010-2012)**

Publication Type	Date	Author(s)	title	series	Language	Media Name	Issue
Policy Reports	10-Apr	Koyanagi, Hideaki	環境問題のデパート中国		Japanese		2010.04
Peer reviewed articles	12-Jun	水落元之   Koyanagi, Hideaki   Kuyama, Tetsuo   常 杪	日本分散型生活污水处理技术与设施建设状况分析	ZHONGGUO JISHUI PAISHUI	Chinese	CHINA WATER & WASTEWATER	2012年6月VOL28 No12
Non peer reviewed articles	11-Jan	Koyanagi, Hideaki	中国環境問題の光と陰	アジアウォッチ	Japanese	Business i ENECO	Vol.44 No.1
Non peer reviewed articles	11-Jan	Koyanagi, Hideaki	第49話 地獄の沙汰も病院の処置も金次第	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	2011.Vol47.No.2
Non peer reviewed articles	11-Jan	Koyanagi, Hideaki	環境問題のデパート	今日の話題	Japanese	国際貿易	2011年1月25日
Non peer reviewed articles	11-Jan	Koyanagi, Hideaki	第48話 深刻な自動車による大気汚染	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	2011.01
Non peer reviewed articles	11-Feb	Koyanagi, Hideaki	本格化する中国のモータリゼーション	内側から見た中国最新環境事情	Japanese	グローバルネット 2月号	
Non peer reviewed articles	11-Feb	Koyanagi, Hideaki	日本に勝機はあるか	今日の話題	Japanese	国際貿易	2011年2月22日
Non peer reviewed articles	11-Feb	Koyanagi, Hideaki	最近の中国の気候変動対応と日本の環境汚染対策等支援		Japanese	環境研究	2011年2月No.160
Non peer reviewed articles	11-Mar	Koyanagi, Hideaki	12-5 計画下の環境対策	今日の話題	Japanese	国際貿易	2011年3月29日
Non peer reviewed articles	11-Mar	Koyanagi, Hideaki	第50話 本格化してきた中国の気候変動対策	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47 No.3 (2011)
Non peer reviewed articles	10-Apr	Koyanagi, Hideaki	内側から見た中国最新環境事情: 現地滞在レポート	連載	Japanese	グローバルネット (月刊環境情報誌)	No. 233
Non peer reviewed articles	11-Apr	Koyanagi, Hideaki	シャオリユウの東奔西走中国環境記		Japanese	資源環境対策	2007.02 -
Non peer reviewed articles	10-Jun	Koyanagi, Hideaki	気候変動対応 (2)		Japanese	Global Net 6月号	
Non peer reviewed articles	10-Jun	Koyanagi, Hideaki	第41話 信頼は最大の武器、悪評は最大の敵		Japanese	資源環境対策	46
Non peer reviewed articles	10-Jul	Koyanagi, Hideaki	急速に変化しつつある中国	連載 世界の環境潮流 アジアウォッチ (第4回)	Japanese	月刊Business i. ENECO	2010.07
Non peer reviewed articles	10-Jul	Koyanagi, Hideaki	第42話 温家宝総理の再訪日/水ビジネスを取り上げた環境白書		Japanese	資源環境対策	Vol.64
Non peer reviewed articles	10-Aug	Koyanagi, Hideaki	第44話 分散型生活排水処理モデル事業協力の意義	Shaoryu no Tohon Saiso Chugoku Kankyo Ki	Japanese	資源環境対策	Vol46, No.9
Non peer reviewed articles	10-Aug	Koyanagi, Hideaki	中国における環境規制の動向		Japanese	化学経済	2010年8月

Publication Type	Date	Author(s)	title	series	Language	Media Name	Issue
Non peer reviewed articles	10-Aug	Koyanagi, Hideaki	一筋縄ではいかぬ中国の水環境改善		Japanese	G l o b a l N e t 8月号	
Non peer reviewed articles	10-Aug	Koyanagi, Hideaki	第43話 上に政策あれば下に対策あり		Japanese	Shigen Kankyo Taisaku	Vol.46, No.8
Non peer reviewed articles	10-Sep	Koyanagi, Hideaki	環境：「3つの転換」政策は実現可能か		Japanese	JC Economic Journal	10-Sep
Non peer reviewed articles	10-Oct	Koyanagi, Hideaki	第45話 失敗は成功之母（失敗は成功の母）とはいうけれど		Japanese	資源環境対策	Vol.46, No.10 (2010)
Non peer reviewed articles	10-Nov	Koyanagi, Hideaki	第46話 再び新疆での白酒の話	Shaoryu no Tohon Saiso Chugoku Kankyo Ki	Japanese	資源環境対策	Vol.46 No.11
Non peer reviewed articles	10-Dec	Koyanagi, Hideaki	第12次5カ年計画下での気候変動対応の見通し	現地滞在レポート 第5回	Japanese	Global Net 12月号	
Non peer reviewed articles	10-Dec	Koyanagi, Hideaki	一筋縄ではいかぬ中国の水環境改善（2）		Japanese	Global Net 12月号	
Non peer reviewed articles	10-Dec	Koyanagi, Hideaki	日本污水处理施設建設運営資金機制的啓示		Chinese	Environmental Economy	2010.1-2
Non peer reviewed articles	10-Dec	Koyanagi, Hideaki	第47話 後ろから飛んでくる矢	シャオリユウの東奔西走中国環境記	Japanese	環境資源対策	Vol.46 No.12
Non peer reviewed articles	12-Jan	Koyanagi, Hideaki	第60話番外編 連載5周年を回顧	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.48/ No.1/ January 2012
Non peer reviewed articles	12-Feb	Koyanagi, Hideaki	第61話 改善されない北京の大気汚染	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.48/ No.2/ February 2012
Non peer reviewed articles	12-Feb	Koyanagi, Hideaki	野田総理の訪中	現地滞在レポート第12回	Japanese	Global Net 2月号255号	
Non peer reviewed articles	12-Mar	Koyanagi, Hideaki	中国第12次5カ年計画が示す環境問題解決への課題		Japanese	経営センサー	3月号 2012 No.140
Non peer reviewed articles	12-Mar	Koyanagi, Hideaki	第62話 友好で始まり友好で終わるなかれ	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.48/ No.3/ March 2012
Non peer reviewed articles	11-Apr	Koyanagi, Hideaki	中国発： 高度経済成長下の中国環境問題	中国発	Japanese	EIC NET	Vol.191 2011/4/15
Non peer reviewed articles	11-Apr	Koyanagi, Hideaki	中国の環境アセスメント事情	現地滞在レポート第7回	Japanese	Global Net 4月号	
Non peer reviewed articles	11-Apr	Koyanagi, Hideaki	第51話 第12次5カ年計画決定	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47 No.4 (2011)
Non peer reviewed articles	11-Apr	Koyanagi, Hideaki	曹妃甸エコ工業パーク	今日の話	Japanese	国際貿易	2011/4/26
Non peer reviewed articles	11-May	Koyanagi, Hideaki	第52話 第11次5カ年計画の回顧	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47 No.5 (2011)
Non peer reviewed articles	11-May	Koyanagi, Hideaki	進む環境統計の整備	今日の話	Japanese	国際貿易	2011/5/31
Non peer reviewed articles	11-Jun	Koyanagi, Hideaki	第53話 第13回日中韓3カ国環境大臣会合	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47 No.6 2011/06

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Non peer reviewed articles	11-Jun	Koyanagi, Hideaki	越境汚染	現地滞在レポート第8回	Japanese	Global Net 6月号	
Non peer reviewed articles	11-Jul	Koyanagi, Hideaki	第12次5カ年計画における環境問題への対応		Japanese	化学経済	2011年7月
Non peer reviewed articles	11-Jul	Koyanagi, Hideaki	日中グリーンエキスポ	今日の話	Japanese	国際貿易	2011年7月5日 第1940号
Non peer reviewed articles	11-Jul	Koyanagi, Hideaki	第54話 日中グリーンエキスポ	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47 No.7 2011/07
Non peer reviewed articles	11-Aug	Koyanagi, Hideaki	土壌・重金属汚染	現地滞在レポート第9回	Japanese	Global Net 8月号	
Non peer reviewed articles	11-Aug	Koyanagi, Hideaki	重金属汚染	今日の話	Japanese	国際貿易	2011年8月2日 第1944号
Non peer reviewed articles	11-Aug	Koyanagi, Hideaki	第55話 スピードは金なり	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47 No.8 2011/08
Non peer reviewed articles	11-Sep	Koyanagi, Hideaki	土壌・重金属汚染(2)	現地滞在レポート第10回	Japanese	Global Net 10月号251号	
Non peer reviewed articles	11-Sep	Koyanagi, Hideaki	社会監督	今日の話	Japanese	国際貿易	2011年9月6日 第1948号
Non peer reviewed articles	11-Sep	Koyanagi, Hideaki	第56話 東奔西走に鉄道は使いません！	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47 No.9 2011/09
Non peer reviewed articles	11-Oct	Koyanagi, Hideaki	第57話 再び日中環境ビジネス	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47 No.11 2011/10
Non peer reviewed articles	11-Oct	Contributor: Koyanagi, Hideaki	一票否決	今日の話	Japanese	国際貿易	2011年10月11日 第1952号
Non peer reviewed articles	11-Nov	Koyanagi, Hideaki	第58話 2011年秋も東奔西走の毎日	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47 No.12 2011/11
Non peer reviewed articles	11-Nov	Koyanagi, Hideaki	中国発：第12次5カ年計画下の重要環境政策文書出揃う	中国発	Japanese	EIC NET	Vol.200 2011/11/15
Non peer reviewed articles	11-Nov	Koyanagi, Hideaki	二匹目のどじょう	今日の話	Japanese	国際貿易	2011年11月15日 第1956号
Non peer reviewed articles	11-Dec	Mizuochi, Motoyuki   Koyanagi, Hideaki   Kuyama, Tetsuo	中国の水環境および下水処理場の現況について		Japanese	JOURNAL of ENVIRONMENTAL CONSERVATION	Vol.40 / 20 December 2011
Non peer reviewed articles	11-Dec	Koyanagi, Hideaki	不都合な情報	現地滞在レポート第11回	Japanese	Global Net 12月号253号	
Non peer reviewed articles	11-Dec	Koyanagi, Hideaki	北京の大気汚染	今日の話	Japanese	国際貿易	第1960号 / 2011年12月13日
Non peer reviewed articles	11-Dec	Koyanagi, Hideaki	第59話 省エネ・汚染物質排出削減の具体案固まる	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.47/ No.13/ December 2011
Non peer reviewed articles	13-Jan	Koyanagi, Hideaki	中国発：中国環境ビジネス－日本の環境企業が抱える課題	EICネット	Japanese	EICネット	

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Non peer reviewed articles	13-Jan	Koyanagi, Hideaki	第73話 オレオレ詐欺の教訓	シャオリユウの東奔西走中国環境記	Japanese	日中環境産業	第73話
Non peer reviewed articles	13-Jan	Koyanagi, Hideaki	中国発シリーズ	EICピックアップ	Japanese	EICネット	2005.02-
Non peer reviewed articles	13-Jan	Koyanagi, Hideaki	第72話 【連載六周年】 「協力の懸崖」	シャオリユウの東奔西走中国環境記	Japanese	日中環境産業	2013年1月号
Non peer reviewed articles	13-Jan	Koyanagi, Hideaki	最近の中国の環境保全と日本の関わり	日中環境産業	Japanese		2013年1月号
Non peer reviewed articles	13-Jan	Koyanagi, Hideaki	深刻な大気汚染、対策の行方は？		Japanese	国際貿易	2012年1月29日
Non peer reviewed articles	13-Feb	Koyanagi, Hideaki	中国発：中国環境ビジネス—中国環境企業等からみた日本の課題	EICネット	Japanese	EICネット	2013年2月1日
Non peer reviewed articles	13-Feb	Koyanagi, Hideaki	中国各地を襲った激甚大気汚染	Global Net	Japanese		13-Feb
Non peer reviewed articles	13-Feb	Koyanagi, Hideaki	環境協力、喫緊の課題		Japanese	日経産業新聞	2013年2月1日
Non peer reviewed articles	13-Mar	Koyanagi, Hideaki	第74話 大気汚染爆発！	日中環境産業	Japanese		第74話
Non peer reviewed articles	13-Mar	Koyanagi, Hideaki	第75話 続・大気汚染爆発！—黄砂も飛来して「爆表」	シャオリユウの東奔西走中国環境記	Japanese	環境パートナーズ	第75話
Non peer reviewed articles	13-Mar	Koyanagi, Hideaki	最近の越境大気汚染騒動に思う		Japanese	緑の地球	150号
Non peer reviewed articles	12-Apr	Koyanagi, Hideaki	中国環境ビジネスの展望	現地滞在レポート第13回	Japanese	Global Net 4月号257号	
Non peer reviewed articles	12-Apr	Mizuochi, Motoyuki   Arai, Goten   Kuyama, Tetsuo   Koyanagi, Hideaki   Wako, Takatoshi	土壌浸透浄化法—多段土壌層法による中国農村地域における生活排水処理への協力—	土壌浸透浄化法	Japanese	環境技術	2012年4月号
Non peer reviewed articles	12-Apr	Koyanagi, Hideaki	第63話 困難な窒素酸化物総量削減	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	vol.48/ No.4/ April 2012
Non peer reviewed articles	12-May	Koyanagi, Hideaki	戦略的日中水環境協力	特集：中国における水問題の最新事情（その1）	Japanese	資源環境対策	Vol48/No.6/June2012
Non peer reviewed articles	12-May	Koyanagi, Hideaki	第64話 東奔西走の守り神	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.48/No.5/ May 2012
Non peer reviewed articles	12-Jun	Koyanagi, Hideaki	中国発：2011年中国環境白書を読む（1）	中国発	Japanese	EICネット	#208 28 June 2012
Non peer reviewed articles	12-Jun	Koyanagi, Hideaki	中国発：2011年中国環境白書を読む（2）	中国発	Japanese	EIC ネット	#208 28 June 2012
Non peer reviewed articles	12-Jun	Koyanagi, Hideaki	第65話 東奔西走は酒と友にありき	シャオリユウの東奔西走中国環境記	Japanese	資源環境対策	Vol.48/No.6/ June 2012

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Non peer reviewed articles	12-Jul	Koyanagi, Hideaki	第66話 微小粒子状物質 (PM2.5)問題再び炎上!	シャオリュウの東奔西走中国環境記	Japanese	日中環境産業	Vol48 No7, 2012
Non peer reviewed articles	12-Aug	Koyanagi, Hideaki	第12次5か年計画 初年度の成果	現地滞在レポート	Japanese	グローバル ネット	第15回 2012年8月
Non peer reviewed articles	12-Aug	Koyanagi, Hideaki	第67話 トモダチ大作戦	シャオリュウの東奔西走中国環境記	Japanese	日中環境産業	Vol48 No8, 2012
Non peer reviewed articles	12-Sep	Koyanagi, Hideaki	第68話 炭素排出権取引の課題	シャオリュウの東奔西走中国環境記	Japanese	日中環境産業	Vol 48 No.10 2012年9月号
Non peer reviewed articles	12-Oct	Koyanagi, Hideaki	2012年反日デモ・暴動の影響	現地滞在レポート	Japanese	グローバル ネット	2012年10月 第16号
Non peer reviewed articles	12-Oct	Koyanagi, Hideaki	第7回日中省エネルギー・環境総合フォーラム：日中環境協力の回顧と展望	SPECIAL REPORT	Japanese	日中経協ジャーナル	2012年10月号No.225
Non peer reviewed articles	12-Oct	Koyanagi, Hideaki	第69話 中国環境投資需要の見通し	シャオリュウの東奔西走中国環境記	Japanese	日中環境産業	Vol48 No.9 2012年10月号
Non peer reviewed articles	12-Nov	Koyanagi, Hideaki	中国発：中国省エネ・環境投資需要の展望	中国発	Japanese	EICネット	#213 20 November 2012
Non peer reviewed articles	12-Nov	Koyanagi, Hideaki	第70話 反日デモより怖いオトコノユウジョウ	シャオリュウの東奔西走中国環境記	Japanese	日中環境産業	Vol.48 No.11 (2012)
Non peer reviewed articles	12-Nov	Contributor: Koyanagi, Hideaki	拡大する中国の環境市場	News Topics	Japanese	国際開発ジャーナル	2012年11月号 #672
Non peer reviewed articles	12-Dec	Koyanagi, Hideaki	第71話 宴席での事故は業務上の災害扱い?	シャオリュウの東奔西走中国環境記	Japanese	日中環境産業	2012年12月号
Non peer reviewed articles	12-Dec	Koyanagi, Hideaki	「十八大」が示した生態文明建設	現地滞在レポート第17回	Japanese	Global Net	257

**IGES Programme Management Office (PMO): List of publications (FY2010-2012)**

Publication Type	Published	Author(s)	title	Language	Media Name	Issue
Policy Brief	Mar-13	Yoshida, Tetsuro   Olsen, Simon Hoiberg   Miyazawa, Ikuho   Norichika Kanie   Naoya Abe   Masahiko Iguchi   Yang Jue   Ngeta Kabiri   Yuto Kitamura   Shunsuke Managi   Tomohiro Tasaki   Taro Yamamoto	Integrating Sustainable Development Goals into a Post-2015 Development Agenda	Eng	POST 2015 Policy Brief	
Policy Brief	Mar-12	Kipp, Robert David / Contributor: Matsumoto, Ikuko   Watabe, Atsushi   Watarai, Aya	Building resilience and reducing risk from natural disasters: Essentials of 21st century sustainable development	Eng	IGES Rio+20 Issue Brief	Vol.2
Policy Brief	Mar-12	Miyazawa, Ikuho	What are Sustainable Development Goals?	Eng	IGES Rio+20 Issue Brief	Vol.1
Policy Reports	Apr-13	Matsumoto, Ikuko   Lopez-Casero, Federico   Okayasu, Sana   Fujisaki, Taiji	Mid-term Review of Japan Biodiversity Fund Activities. Draft report based on desk review	Eng		
Policy Reports	Mar-13	Aoki-Suzuki, Chika   Kabaya, Kei   Okayasu, Sana   Matsumoto, Ikuko   Kojima, Satoshi	平成24年度 環境経済の政策研究 高質で持続的な生活のための環境政策における指標研究報告書	Jpn		
Policy Reports	Mar-13	Fuwa, Yoshitaro   Ichihara, Jun   Watabe, Atsushi   Romero, Jane   Fujisaki, Taiji	インドネシア共和国 気候変動対策プログラム・ローン (2010-2012) 円借款事業評価報告書 Final Report	Eng/Jpn		
Policy Reports	Mar-13	Fuwa, Yoshitaro   Ichihara, Jun   Watabe, Atsushi   Romero, Jane   Fujisaki, Taiji	インドネシア共和国 気候変動対策プログラム・ローン (2010-2012) 円借款事業評価報告書 Summary	Eng/Jpn		
Policy Reports	Mar-13	Fuwa, Yoshitaro   Ichihara, Jun   Watabe, Atsushi   Romero, Jane   Fujisaki, Taiji	インドネシア共和国 気候変動対策プログラム・ローンに係るモニタリング支援調査2011年政策マトリクス報告書 Final Report	Eng/Jpn		
Policy Reports	Mar-13	Fuwa, Yoshitaro   Ichihara, Jun   Watabe, Atsushi   Romero, Jane   Fujisaki, Taiji	インドネシア共和国 気候変動対策プログラム・ローンに係るモニタリング支援調査2011年政策マトリクス報告書 Summary	Eng/Jpn		
Policy Reports	Mar-13	Fuwa, Yoshitaro   Ichihara, Jun   Watabe, Atsushi   Romero, Jane   Fujisaki, Taiji	インドネシア共和国 気候変動対策プログラム・ローンに係るモニタリング支援調査業務完了報告書	Jpn		
Policy Reports	Mar-13	Kojima, Satoshi   Kabaya, Kei   Elder, Mark   Yoshida, Tetsuro   Otsuka, Takashi   Miyazawa, Ikuho	平成24年度リオ+20関連国際動向基礎調査及び国内準備委員会等運営業務報告書	Jpn		
Policy Reports	Mar-13	Matsumoto, Ikuko   Lopez-Casero, Federico   Okayasu, Sana   Fujisaki, Taiji	Mid-term Review of Japan Biodiversity Fund Activities. Inception report	Eng		
Policy Reports	Mar-13	Matsuo, Yusuke   Goto, Ayumi   Yano, Takashi	平成24年度贈与資金のグリーン化に向けた調査事業業務報告書	Jpn		
Policy Reports	Mar-13	Miyazawa, Ikuho / Contributor: Mori, Hideyuki	平成24年度クリーン・アジア・イニシアティブ (CAI) 推進等業務 概要調査報告書: CAIミャンマーの環境改善、環境に関する地域枠組みへの参画の強化のための基礎調	Jpn		
Policy Reports	Mar-13	Mori, Hideyuki   Elder, Mark   Olsen, Simon Hoiberg   Yoshida, Tetsuro   Miyazawa, Ikuho   Norichika Kanie   Masahiko Iguchi   Erin Kennedy   Chiharu Takei   Aki Suwa	平成24年度環境面を強化したポストMDGsの開発とその実現のための国際制度に関する研究	Jpn		
Policy Reports	Mar-13	Nakata, Muneyuki   Takagi, Yusuke   Takahashi, Yasuo   Ichihara, Jun	環境省請負業務 平成24年度クリーンアジア・イニシアティブ (CAI) 推進等業務 概要調査報告書 具体的な環境協力に関する事項—重点国レビュー: モンゴル、インドネシア、ベトナム	Jpn		
Policy Reports	Mar-13	Okayasu, Sana   Matsumoto, Ikuko	Contributions of the Satoyama Initiative to mainstreaming sustainable use of biodiversity in production landscapes and seascapes	Eng		
Policy Reports	Mar-13	Okayasu, Sana   Matsumoto, Ikuko   Kashiwabara, Satoshi   Nishi, Koji   Matsuzawa, Tomonori	IGESにおける地球環境研究戦略	Jpn		

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Policy Reports	Mar-13	Otsuka, Takashi   Ichihara, Jun   Takahashi, Yasuo   Nakata, Muneyuki   Miyazawa, Ikuho   Takagi, Yusuke   Kataoka, Yatsuka   Yoshida, Tetsuro	環境省請負業務 平成24年度クリーンアジア・イニシアティブ（CAI）推進等業務報告書	Jpn		
Policy Reports	Mar-13	Takahashi, Yasuo   Ichihara, Jun   Takagi, Yusuke   Nakata, Muneyuki   Chiba, Yohei	環境省請負業務 平成24年度クリーンアジア・イニシアティブ（CAI）推進等業務環境戦略分析調査報告書	Jpn		
Policy Reports	Mar-13	Yoshida, Tetsuro   Miyazawa, Ikuho	平成24年度持続可能な開発目標（SDGs）検討調査等業務報告書	Jpn		
Policy Reports	Mar-13	Takashi Otsuka   Megumi Kido	平成24年度 コベネフィット・アプローチ推進に係る国際パートナーシップ等事務局業務 業務報告書 (2/2) (2)IISA日本委員会に係る事務局業務	Jpn		
Policy Reports	Mar-13	Jun Ichihara   Hidefumi Katayama   Aya Watarai	平成24年度 新メカニズムの構築に向けたアジア地域におけるMRV体制構築支援事業委託業務報告書 (2/8) インドネシア	Jpn		
Policy Reports	Mar-13	Editor: Takagi, Yusuke   Watarai, Aya	低炭素発展のための測定・報告・検証（MRV）：アジアの経験から学ぶ	Eng/Jpn	IGES Policy Report No. 2012-03	
Policy Reports	Jul-12	Advisors: Hamanaka, Hironori   Mori, Hideyuki   Morishima, Akio   Imura, Hidefumi   Fujiwara, Masaya   Onogawa, Kazunobu   Tachikawa Hirotake   Dr. Keywan Riahi   Dr. Van Vliet Oscar   Nishioka, Shuzo   Dr. Mikiko Kainuma / Author: Bhattacharya, Anindya   Janardhanan, Nanda Kumar   Kuramochi Takeshi   Katayama, Hidefumi   Onogawa, Kazunobu   Hayashi, Shinano   Tsurita, Izumi   Watabe, Atsushi   Kipp, Robert David   Mori, Hideyuki   Watarai, Aya   Matsumoto, Ikuko / Contributor: Kojima, Satoshi   Asuka, Jusen / Editor: Watarai, Aya	持続可能な社会の構築に向けて 東日本大震災の経験から	Jpn	IGES Policy Report No.2012-01日本語概要版	
Policy Reports	Jul-12	IGES	アジア太平洋地域のグリーン・ガバナンス：低炭素で持続可能なアジア太平洋に向けて	Jpn	IGES White Paper IV 2012	
Policy Reports	Jul-12	IGES	アジア太平洋地域のグリーン・ガバナンス：低炭素で持続可能なアジア太平洋に向けて 概要	Jpn	IGES White Paper IV 2012	
Policy Reports	Jul-12	IGES	Greening Governance in Asia-Pacific	Eng	IGES White Paper IV 2012	
Policy Reports	Jul-12	Katayama, Hidefumi   Onogawa, Kazunobu	震災後の緊急避難的な節電実態から学ぶ効率的エネルギー利用の地域方策	Jpn		
Policy Reports	Jul-12	King, Peter   Kipp, Robert David   Mori, Hideyuki	結論	Jpn	IGES White Paper IV 2012 アジア太平洋地域のグリーン・ガバナンス	Chapter 9
Policy Reports	Jul-12	King, Peter   Kipp, Robert David   Mori, Hideyuki	Conclusions	Eng	IGES White Paper IV 2012 Greening Governance in Asia-Pacific	Chapter 9
Policy Reports	Jul-12	King, Peter   Mori, Hideyuki   Kipp, Robert David	アジア太平洋、グリーン経済、持続可能な開発のための制度	Jpn	IGES White Paper IV 2012 アジア太平洋地域のグリーン・ガバナンス	Chapter 1
Policy Reports	Jul-12	King, Peter   Mori, Hideyuki   Kipp, Robert David	Asia-Pacific, Green Economy, and Institutions for Sustainable Development	Eng	IGES White Paper IV 2012 Greening Governance in Asia-Pacific	Chapter 1
Policy Reports	Jul-12	Kobayashi, Masanori	Forging Policy and Institutional Frameworks to Promote Access to Environmental Information	Eng	IGES White Paper IV 2012 Greening Governance in Asia-Pacific	Chapter 3
Policy Reports	Jul-12	Masanori Kobayashi	環境情報の公開を推進するための法制度の強化を目指して	Jpn	IGES White Paper IV 2012 アジア太平洋地域のグリーン・ガバナンス	Chapter 3

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Policy Reports	Jun-12	Advisors: Hamanaka, Hironori   Mori, Hideyuki   Morishima, Akio   Imura, Hidefumi   Fujiwara, Masaya   Onogawa, Kazunobu   Tachikawa Hirotaoka   Dr. Keywan Riahi   Dr. Van Vliet Oscar   Nishioka, Shuzo   Dr. Mikiko Kainuma / Author: Bhattacharya, Anindya   Janardhanan, Nanda Kumar   Kuramochi Takeshi   Katayama, Hidefumi   Onogawa, Kazunobu   Hayashi, Shinano   Tsurita, Izumi   Watabe, Atsushi   Kipp, Robert David   Mori, Hideyuki   Watarai, Aya   Matsumoto, Ikuko / Contributor: Kojima, Satoshi   Asuka, Jusen / Editor: Watarai, Aya	Lessons Learnt from the Triple Disaster in East Japan	Eng	IGES Policy Report No.2012-01	
Policy Reports	Jun-12	IGES	Greening Governance in Asia-Pacific: Executive Summary	Eng	IGES White Paper IV 2012	IV 2012
Policy Reports	Mar-12	Kojima, Satoshi   Yano, Takashi   Kabaya, Kei   Elder, Mark   Olsen, Simon Hoiberg   Yoshida, Tetsuro   Otsuka, Takashi   Miyazawa, Ikuho	平成23年度 リオ+20国内準備委員会設置運営業務報告書-リオ+20に関連する国際環境政策の動向に係る基礎調査及びOECD「グリーン成長戦略」等関連基礎調査	Jpn		
Policy Reports	Mar-12	Maeda, Toshizo   Kikusawa, Ikuyo   Elder, Mark   Ogihara, Akira   Guo, Jiangwen (Helen)   Yoshida, Tetsuro   Kido, Megumi   Shoji, Keiko   Otsuka, Takashi   Ichihara, Jun   Nakata, Muneyuki   Miyazawa, Ikuho	日中韓三カ国環境大臣会合等支援及び検討業務報告書	Jpn		
Policy Reports	Mar-12	Suk, Sunhee   Miyazawa, Ikuho   Lee, Soo-cheol	H23クリーンアジア・イニシアティブ推進事務局等運営業務：概要調査5 - 韓国の環境ビジネスの国際展開に係る官民連携の実態調査	Jpn		
Policy Reports	Mar-12	Takashi Otsuka   Megumi Kido	平成23年度 コベネフィット・アプローチ推進に係る国際パートナーシップ等事務局業務 業務報告書 (2/2) (2) IIASA日本委員会に係る事務局業務	Jpn		
Policy Reports	Oct-11	Fuwa, Yoshitaro   Ichihara, Jun   Watabe, Atsushi	インドネシア共和国 気候変動対策プログラム・ローン(Ⅲ)モニタリング支援調査 Final Report	Eng/Jpn		
Policy Reports	Oct-11	Fuwa, Yoshitaro   Ichihara, Jun   Watabe, Atsushi	インドネシア共和国 気候変動対策プログラム・ローン(Ⅲ)モニタリング支援調査 Summary	Eng/Jpn		
Policy Reports	Oct-11	Fuwa, Yoshitaro   Ichihara, Jun   Watabe, Atsushi	インドネシア共和国 気候変動対策プログラム・ローン(Ⅲ)モニタリング支援調査 業務実施完了報告書	Jpn		
Policy Reports	Sep-11	Mori, Hideyuki   Hiraishi, Taka   Elder, Mark   Olsen, Simon Hoiberg   Miyazawa, Ikuho   Norichika Kanie et al.	Towards A Charter Moment: Hakone Vision on Governance for Sustainability in the 21st Century	Eng		
Policy Reports	Aug-13	Fuwa, Yoshitaro (GG21)   Jun Ichihara   Henry Schyvens   Anindya Bhattacharya   Daisuke Sano   Toshizo Maeda   Atsushi Watabe   Koji Fukuda   Sangam Shrestha   Prabhakar SVRK   Bjiion Kumer Mitra   Takashi Kitagawa (FAI)	インドネシア共和国 気候変動対策プログラム・ローン(Ⅱ)アドバイザー及びモニタリング調査 Final Report	Eng/Jpn		
Policy Reports	Aug-13	Fuwa, Yoshitaro (GG21)   Jun Ichihara   Henry Schyvens   Anindya Bhattacharya   Daisuke Sano   Toshizo Maeda   Atsushi Watabe   Koji Fukuda   Sangam Shrestha   Prabhakar SVRK   Bjiion Kumer Mitra   Takashi Kitagawa (FAI)	インドネシア共和国 気候変動対策プログラム・ローン(Ⅱ)アドバイザー及びモニタリング調査 Summary	Eng/Jpn		
Policy Reports	Aug-13	Fuwa, Yoshitaro (GG21)   Jun Ichihara   Henry Schyvens   Anindya Bhattacharya   Daisuke Sano   Toshizo Maeda   Atsushi Watabe   Koji Fukuda   Sangam Shrestha   Prabhakar SVRK   Bjiion Kumer Mitra   Takashi Kitagawa (FAI)	インドネシア共和国 気候変動対策プログラム・ローン(Ⅱ)アドバイザー及びモニタリング調査 業務完了報告書 業務完了報告書	Jpn		
Policy Reports	Mar-11	Kojima, Satoshi   Kabaya, Kei   Yano, Takashi   Aruga, Kentaka   Elder, Mark   Miyazawa, Ikuho   Olsen, Simon Hoiberg   Otsuka, Takashi   Yoshizawa, Maiko	平成22年度アジア太平洋環境開発フォーラムに関する普及支援等及び国際動向基礎調査業務 調査・業務報告書-国際環境政策の動向に係る基礎調査-	Jpn		
Policy Reports	Jun-10	IGES	アジア太平洋における持続可能な消費と生産：資源制約を乗り越えてアジアは豊かさを実現できるか	Jpn	IGES白書III	2010



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Policy Reports	Jun-10	IGES	Executive Summary	Eng	IGES White Paper: Sustainable Consumption and Production in the Asia-Pacific Region	Vol III, 2010
Policy Reports	Jun-10	IGES	Sustainable Consumption and Production in the Asia-Pacific Region: Effective Responses in a Resource Constrained World	Eng	IGES White Paper III	
Policy Reports	Jun-10	IGES Programme Management Office (PMO)	要約	Jpn	IGES白書III アジア太平洋における持続可能な消費と生産	
Policy Reports	Jun-10	IGES Programme Management Office (PMO)	Executive Summary	Eng	IGES White Paper III Sustainable Consumption and Production in the Asia-Pacific Region	
Policy Reports	Jun-10	King, Peter   Kipp, Robert David	結論	Jpn	IGES白書III : 第13章: アジア太平洋における持続可能な消費と生産	
Policy Reports	Jun-10	King, Peter   Kipp, Robert David	Conclusion	Eng	IGES White Paper III: Chapter 13: Sustainable Consumption and Production in the Asia-Pacific Region	
Policy Reports	Jun-10	King, Peter   Kipp, Robert David   Mori, Hideyuki	人間は消費の産物 : 資源に限りのある世界での持続可能な消費	Jpn	アジア太平洋における持続可能な消費と生産	
Policy Reports	Jun-10	King, Peter   Kipp, Robert David   Mori, Hideyuki	We are What We Consume: Sustainable Consumption in a Resource Constrained World	Eng	Sustainable Consumption and Production in the Asia-Pacific Region	
Policy Reports	Jun-10	Kobayashi, Masanori	持続可能な消費と生産に向けた地域社会の取り組み : 事例から得られた教訓と現場の視点	Jpn	アジア太平洋における持続可能な消費と生産	
Policy Reports	Jun-10	Kobayashi, Masanori	Community Engagement in Sustainable Consumption and Production: Empirical Lessons and Grass-root Perspectives	Eng	Sustainable Consumption and Production in the Asia-Pacific Region	
Policy Reports	Mar-10	Asia Pacific Forum for Environment and Development (APFED) / Editor: IGES Programme Management Office (PMO)	APFED II Final Report: Driving Innovation for Sustainable Asia and Pacific	Eng		
Research reports & Occasional papers	Mar-12	Okayasu, Sana / Contributor: Ichihara, Jun   Nakata, Muneyuki	2004年のスマトラ沖地震及びインド洋大津波の被害を受けた保護地域の被害と復興状況に関する調査	Jpn		
Research reports & Occasional papers	Mar-11	IGES Programme Management Office (PMO)   Environmental University Eco Asia (EERI)	Multi-stakeholder Partnership Building to Promote Education for Sustainable Development in Mongolia	Eng	Final report of APFED Showcase Programme 2007	
Research reports & Occasional papers	Mar-11	IGES Programme Management Office (PMO)   Mongolian Nature and Environment Consortium (MNEC)	Final Report : Improving the Life of Informal Gold Miners in Zaamar Gold Field	Eng	Final report of APFED Showcase Programme 2008	
Research reports & Occasional papers	Mar-11	IGES Programme Management Office (PMO)   Society for Conservation and Protection of Environment (SCOPE)	Final Report : Pursuing Indigenous Community of Wildlife Hunting Tribes Communities of Tharparkar, to Protect Wildlife, through Social Mainstreaming, Organization and Capacity Building	Eng	Final report of APFED Showcase Programme 2006	

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Research reports & Occasional papers	Mar-11	Research Center for Economic-Indonesian Institute of Sciences (LIPI)   IGES Programme Management Office (PMO)	Community based Educational and Partnership Actions - Carbon Neutral Initiative for Community Empowerment and Climate Change Mitigation in Indonesia	Eng	Final report of APFED Showcase Programme 2007	
Research reports & Occasional papers	Mar-10	IGES Programme Management Office (PMO)   Bangladesh Environmental Lawyers Association (BELA)	Environmental Governance in Bangladesh - An Access to Information, Participation and Justice in Environmental Decision Making	Eng	Final report of APFED Showcase Programme 2006	
Research reports & Occasional papers	Mar-10	IGES Programme Management Office (PMO)   Institute of Geoecology, Mongolian Academy Sciences	Rehabilitating Desert Zone Ecosystems and Promoting Sustainable Alternative Livelihood in Gobi Protected Areas, Buffer Zones and Peripheral Communities in Mongolia	Eng	Final report of APFED Showcase Programme 2006	
Research reports & Occasional papers	Mar-10	IGES Programme Management Office (PMO)   RCE-Cebu	Promoting Education for Sustainable Development Through Conservation and Sustainable Use of Forest Resources and Empowerment of the Regional Center of Expertise on Education for Sustainable Development in Cebu	Eng	Final report of APFED Showcase Programme 2006	
Research reports & Occasional papers	Mar-11	Otsuka, Takashi   Tanida, Nao   Nakata, Muneyuki	平成22年度環境省請負業務クリーンアジア・イニシアティブ推進事務局運営等業務業務報告書	Eng/Jpn		
Research reports & Occasional papers	Mar-11	Watarai, Aya   Doi, Emiko   Kobayashi, Masanori / Contributor: UNEP	Booklet on Good Practices and Innovative Activities	Eng	Asia Pacific Forum for Environment and Development Second Phase: APFEDII	Mar-11
Peer reviewed articles	Feb-12	Watarai, Aya	フェアトレードの可能性—環境保全と生活向上に寄与する環境配慮型活動を通じて—	Jpn	横浜国際社会科学第16巻第6号	Feb. 2012
Non peer reviewed articles	Jan-13	Mori, Hideyuki   Miyazawa, Ikuho	ASEANを軸とした近年の東アジア諸国の発展と環境保全の状況	Jpn	日中環境産業/China-Japan Environmental Industry	Vol. 49 No.1
Non peer reviewed articles	Dec-12	Miyazawa, Ikuho	Bali Regional Meeting on Post-2015 Development Agenda: how to create a development space within the planetary well-being? Possible scenarios for integrating post-MDGs and SDGs processes	Eng		
Non peer reviewed articles	Oct-12	Yoshida, Tetsuro   Miyazawa, Ikuho	The international community has decided to draft Sustainable Development Goals (SDGs). The matter is challenging and urgent. The sooner humankind reverses unsustainable development, the better.	Eng	D+C, 2012/11, Tribune	
Non peer reviewed articles	Oct-12	Contributor: Miyazawa, Ikuho	分野横断型の協働の視点からポストリオ+20の可能性を探る	Jpn	地球環境パートナーシッププラザ機関誌	第20号
Non peer reviewed articles	Aug-12	Miyazawa, Ikuho	リオ+20における主要国の立場からみえたもの	Jpn	OECC News Letter	Aug-12
Non peer reviewed articles	Aug-12	Miyazawa, Ikuho	リオ+20における主要国の立場からみえたもの—国際合意から自主的取組へ—	Jpn	Overseas Environmental Cooperation Center, Japan	No. 66 August
Non peer reviewed articles	Aug-12	Robert Blasiak   Matsui, Junko   Okayasu, Sana	Deep roots of community resilience	Eng	Our World 2.0	13-Aug-12
Non peer reviewed articles	Jul-12	Kipp, Robert David   Robert Blasiak	Defending Rio+20: A historical perspective	Eng	Our World 2.0	4-Jul-12
Non peer reviewed articles	Jun-12	Miyazawa, Ikuho	Rio+20: observations and what is next?	Eng		

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Non peer reviewed articles	May-12	Ichihara, Jun	インドネシアの気候変動緩和政策 森林・泥炭地対策中心にGHGを削減	Jpn	Business i. ENECO	May-12
Non peer reviewed articles	Feb-12	Katayama, Hidefumi	"建物の熱診断"を用いてオフィスビルを省エネ	Jpn	Business i. ENECO	62-63/ February 2012
Non peer reviewed articles	Nov-11	Mori, Hideyuki	IGESにおける地球環境研究戦略	Jpn	Kankyo Kenkyu	No.164
Non peer reviewed articles	Nov-11	Otsuka, Takashi	国際応用システム分析研究所 (IIASA)における研究戦略の新たな展開と我が国との協力の方向性	Jpn	Kankyo Kenkyu	Vol.164
Non peer reviewed articles	Aug-10	Kobayashi, Masanori   King, Peter	岐路に立つアジアの環境アセス その発展の行方	Jpn	ENECO 2010-08	
Discussion papers & Conference Papers	Jan-13	Masahiko Iguchi   Olsen, Simon Hoiberg   Miyazawa, Ikuho	持続可能な開発目標 (SDGs) に関する国際動向：各国アンケート調査の結果から	Jpn	Tokyo Tech-IGES-UNU-IAS Joint Briefing Paper	Vol. 1
Discussion papers & Conference Papers	Nov-12	Mori, Hideyuki   Tachikawa Hirotaka   Otsuka, Takashi   Totoki, Yoshiaki   Watabe, Atsushi   Nakata, Muneyuki   Suzuki, Hiroshi   Isono, Yayoi   Nanba, Kenji   Murayama, Takehiko   A. Schreurs, Miranda   Heriard-Dubreuil, Gilles   Raskob, Wolfgang   Averin, Viktor   Gallego, Eduardo   Sakuma, Kazuyuki	Current Status and Issues of Decontamination in Fukushima	Eng		



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