

The Business Report for FY 2011

Institute for Global Environmental Strategies

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 Integrative Strategic Research Programme of IGES for the Fifth Phase (ISRP5) starting from April 2010 introduces four criteria (“relevance”, “value added”, “influence generation” and “appropriate resource allocation”) and proposes research projects based on these criteria. In FY2011, the second year of the Fifth Phase, IGES, based on ISRP5, implemented research activities under five research groups¹ and the Programme Management Office (PMO), as well as at each of the four satellite offices of IGES².

In addition to the above, a new research project was started in response to the Great East Japan Earthquake in March 2011, and discussions on the direction of the research took place at the third International Forum for Sustainable Asia and the Pacific (ISAP 2011) held in July. The interim results of this triple disaster research were reflected in the IGES proposal to Rio+20. Furthermore, based on these research results, IGES proceeded with the preparation of the Fourth White Paper.

In June, the former Bangkok office was relaunched as the IGES Regional Centre, and proceedings were begun to make the Centre a local incorporation. This was granted in February 2012.

In accordance with the three new laws related to public-interest incorporated foundations, IGES applied to make the transition to a public-interest incorporated foundation, and the transition was finalised on 1 April 2012.

I. Strategic Research³

ISRP5 categorises IGES strategic research into 1) Issue Cluster, 2) Discipline Cluster, and 3) Stakeholder Cluster, within which five research groups, namely, Climate Change, Natural Resources Management, Sustainable Consumption and Production, Economy and Environment, Governance and Capacity, as well as the PMO and four satellite offices, conducted research on their own initiative.

1. Issue Cluster

1-1 Climate Change Group (CC)

The goal of the Climate Change group is to strengthen the knowledge base for climate change-related governance in Asia. In FY2011, the group aimed to conduct action-oriented research on the five components listed below.

Component 1: Low-Carbon Sustainable Development in Asia

This study aims to determine which domestic institutions, leapfrogging mechanisms and traditional values and practices can promote low-carbon development in Asia. Main activities in FY2011 were as follows:

<Major research activities, outcomes and impact in FY2011>

- Publication of an edited book entitled “Climate Smart Development in Asia” (*EarthScan/Routledge*)
- Publication of two working papers on low-carbon policy in China and India
- Questionnaire surveys on "Traditional and Emerging Values/Practices to anchor Low Carbon and Sustainable Development in Asia" conducted by PMO to explore the key characteristics and values in

¹ Climate Change (CC), Natural Resource Management (NRM), Sustainable Consumption and Production (SCP), Economy and Environment (EE), and Governance and Capacity (GC)

² Kansai Research Centre (KRC), Kitakyushu Urban Centre (KUC), IGES Regional Centre in Bangkok (BRC), and Beijing Office

³ [NEW] mark designates research items which were not described in the FY2011 Business Plan.

Asian countries which contribute to low-carbon development.

- Contribution to discussions on the equitable commitment of Asian countries to reduction of greenhouse gas emissions

Component 2: Post-2012 Climate Regime

With a view to making timely and pragmatic policy recommendations as to the post-2012 regime discussion, this study conducted the following activities in FY2011:

<Major research activities, outcomes and impact in FY2011>

- Publication of two policy reports (MRV of support), one research report (Questionnaire survey)
- Four chapters (measures to combat global warming in China and India; climate finance; future of climate regime) of a book in Japanese on climate change and international corporation (*Jigaku-sha*)
- Seven working papers (Hayama Proposal; Financing adaptation; US domestic policy; CDM in Asian LDC; Climate politics in China; Direct access to climate finance; Energy transition in India)
- Construction of the database on the climate policy of major countries
- Collaboration with the World Resource Institute (WRI) on climate finance, green growth parameter as a member of the OCN (Open Climate Network)
- Contribution to the discussion on the future regime in Japan in research activities and as members of the Japanese government negotiation team - Organising monthly taskforce meetings, participating in government negotiation team and preparing a handbook for negotiators

Component 3: Institutional Design of an MRV (Measurement, Reporting and Verification) System⁴

This study aims 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).

<Major research activities, outcomes and impact in FY2011>

- Publication of one research report with CAI-Asia (Transport NAMAs⁵ MRV and CDM), two working papers (Biofuels from CDM to NAMAs; NAMAs, CDM and MRV in the transport sector)
- Survey on MRV/NAMA in China and India and on NAMA/MRV in the transportation sector
- Contribution to the discussion on the future regime in Japan and to the development of research network for the Japanese government

Component 4: Co-benefit Approach in Asia

This study aims to identify policies and measures that can maximise the developmental co-benefits from GHG mitigation in key sectors. In FY2011, this study conducted the following in collaboration with KRC.

<Major research activities, outcomes and impact in FY2011>

- Publication of an edited Book “Low Carbon Transportation in Asia” (*EarthScan/Routledge*)
- Publication of two policy reports (Mainstreaming co-benefits; Approach to SLCF⁶), working papers (Biofuels in the Greater Mekong Sub-region)
- Contribution as a lead author to a synthesis report of the United Nations Environment Programme (UNEP) on SLCF
- One peer-reviewed journal article, “Effect of stove types on in-kitchen air quality: case study at Way Isem

⁴ This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office

⁵ NAMAs (Nationally Appropriate Mitigation Actions)

⁶ Short-Lived Climate Forcers

Village, Lampung Province, Indonesia” (*Journal of Sustainable Energy & Environment*)

- Construction of a macro-economic model (MERGE⁷) which covers both climate change and air pollution in collaboration with Tohoku University.
- Contribution to the discussion on the co-control policy of the climate and air pollution, and to the development of global research network for the Japanese government

Component 5: International Research Network for Low Carbon Societies (LCS-RNet)

IGES assisted in promoting research collaboration with the countries participating in LCS-RNet and disseminated the research results as the Secretariat of LCS-RNet and as a participating research institution. In addition, IGES continued to provide support in the development of research platforms for low-carbon societies in Asia under commissioned contracts with the Ministry of the Environment of Japan.

<Major research activities, outcomes and impact in FY2011>

- Organisation of the 3rd Annual Meeting (October, Paris) - Discussion on the path towards low-carbon societies in emerging economies as well as developed countries
- Report to the UNFCCC and to governments results of the above mentioned discussions, presentation of findings at related international/domestic meetings, and dissemination of these results through newsletters and other means
- Holding workshops in Asia - Discussion on the promotion of the low-carbon societies in developing countries in Asia, in particular in ASEAN +3
- Proposal of the establishment of the Low Carbon Asia Research Network (LoCARNet) at the ASEAN+3 Environment Ministers’ Meeting in October

Component 6: Development of Renewable energy model for Japan [NEW]⁸

After the Eastern Japan disaster happened on 11 March 2011, a revision of the energy system and energy mix came to have great importance. By using a model such as the TIMES model (an end-use model), and with the help of Economy and Environment group, this research examined the best (optimal) mix of energy so as to make any contribution to energy/climate policy development.

<Major research activities, outcomes and impact in FY2011>

- Analysis on the best-mix of electricity generation with enhanced use of renewable energy resources in Japan as a whole after the Fukushima accident
- Contribution to the IGES policy report entitled “Lessons Learnt from the Triple Disaster in East Japan” (to be published in June, 2012)
- Contribution to the ongoing discussion in Japan about the energy/climate policy after the Fukushima accident

Component 7: Business in the carbon constrained society and international competitiveness [NEW]

This study aims to clarify the actual impact of the carbon constraints to the business activity and propose the efficient/effective measures to mitigate the impact by using the economic model analysis.

<Major research activities, outcomes and impact in FY2011>

- Publication of a working paper entitled “International competitiveness of Japanese business & real cost of carbon”
- Analyses of the effectiveness of trading in the EU Emissions Trading System (EU-ETS) in collaboration

⁷ A Model for Evaluating the Regional and Global Effects of GHG Reduction Policies

⁸ This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office

with Climate Strategies

- Analyses of the ETS in China in collaboration with the Energy Research Institute (ERI) and Qinghua University
- Contribution to the Japanese domestic policy discussions on the impacts of the carbon constraints

1-1-1 Market Mechanism Sub-Group

Component 1: Effective Market Mechanisms for Developing Countries in Asia

This study aims to implement new market-based mechanisms under the post-2012 climate regime and further improve the existing market mechanisms such as CDM as a possible foundation for the establishment of new market-based mechanisms. With these ultimate aims, the main activities in FY2011 focused on the following points:

<Major research activities, outcomes and impact in FY2011>

- Analysis and proposal of new market mechanisms in a future climate regime
- Conducting capacity building on designing and preparation for new market mechanisms in Asian developing countries
- Proposal for CDM reform as a policy paper
- Submissions of the research outcomes to the UNFCCC secretariat based upon own CDM related database
- Implemented training programmes, in collaboration with IGES Beijing Office, to enhance capabilities of national and local government officials to address climate change

Component 2: Support for Institutional Design of an MRV (Measurement, Reporting and Verification) System

This study aims to assist developing systems to measure, report and verify (MRV) Greenhouse Gas (GHG) emissions reduction and/or sink in the developing countries in order to design a crediting mechanism. Considering the diversity of the scope, this was designed as an IGES wide project, and was implemented in relation with many research groups (CC, NRM-FC, NRM-FW, SCP, EE, GC, KUC). PMO coordinated this IGES wide project in collaboration with MM to create value-added outputs/outcomes.

<Major research activities, outcomes and impact in FY2011>

- Development of MRV methodologies for GHG emissions reductions under new market mechanisms in a future climate regime
- Conducting capacity building to establish MRV system of GHG emissions as a basis of new market mechanisms
- Consolidation of a research base for next year, based on the results of MRV research conducted by each research group at IGES

1-2 Natural Resources Management Group (NRM)

The Natural Resources Management group conducted comprehensive research aiming to develop policy proposals which enhance the environmental values of natural resources as well as conserve and promote sustainable use of those resources in the Asia-Pacific region. Its research components included forest conservation, freshwater management and climate change adaptation. It also covered payment for ecosystem services as a common issue for the above three research areas.

Component 1: Biodiversity and Ecosystem Services

In this component, based on outputs of the 10th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD-COP10) and the international processes scheduled for 2012 related to the

conservation of ecosystems and biodiversity toward COP11, IGES continued to conduct research activities on economic instruments for addressing the loss and degradation of biodiversity. These research activities were implemented by the Programme Management Office (PMO) in collaboration with the Economy and Environment (EE) group.

(1) Study on economic instruments for biodiversity and ecosystem services

In order to provide information on biodiversity off-sets as a basis for consultations in the revision process of fundamental components of the Japanese Environmental Assessment Law, IGES conducted research on overseas cases of off-sets. It also conducted research on the means to promote biodiversity conservation in the field of business, as well as a study on domestic policies for payment for ecosystem services (PES).

<Major research activities, outcomes and impact in FY2011>

- Overseas research/case studies on biodiversity off-sets system in France and Netherlands
- Preparing documents for meetings of the working group for the promotion of biodiversity conservation in business sector
- PES case studies of local government strategies on biodiversity under “ Policy Studies on Environmental Economics (PSEEs): Study of political options oriented to sustainable use of ecosystem services by internalisation of economic value”⁹ commissioned by the Ministry of the Environment, Japan (MOEJ)

Component 2: Climate Change Adaptation

The goal of this component is to strengthen knowledge for promoting science-based adaptation in the Asia-Pacific region. The Adaptation team (AD) actively collaborate with IGES Regional Centre in Bangkok (BRC) not only to conduct adaptation research projects but also to support the Asia Pacific Adaptation Network (APAN)¹⁰ in conjunction with BRC. In FY2011, AD continued to conduct result-oriented research on the sub-components listed below.

(1) Adaptation metrics

This study aims to measure the effectiveness of adaptation actions and measure progress in mainstreaming adaptation in sectoral and national policies in the Gangetic Basin in collaboration with Bangladesh Centre for Advanced Studies (BCAS), The Energy and Resources Institute (TERI), and International Centre for Integrated Mountain Development (ICIMOD) in Nepal. Main activities in FY2011 were as follows:

<Major research activities, outcomes and impact in FY2011>

- Organised and made presentations at indicators vetting meetings/workshop 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 in the three countries, and three research reports on the results of the survey results
- Clarification of synergies and differences of adaptation effectiveness indicators for three case study countries through surveys and analysis for recognising significance of adaptation accessing framework.

(2) Adaptation decision-making frameworks

This study aims to develop a decision-making framework for identification of win-win adaptation actions in Asia-Pacific region. Main activities in FY2011 were as follows:

<Major research activities, outcomes and impact in FY2011>

- Review of literature related to adaptation decision making frameworks

⁹ See Component 1 of the Economy and Environment group

¹⁰ See Component 4 of the IGES Regional Centre in Bangkok

- Organised a session at the 5th International Conference on Community based adaptation (Dhaka,/ Bangladesh)
- A chapter of a book published by International Institute for Environment and Development (IIED) “Monitoring and Evaluation of Progress in Adaptation to Climate Change: Advances, Challenges, and Ways Forward”, *Wiley*

(3) Strengthening capacity for policy research on mainstreaming adaptation

This study aims to understand the prerequisites for enabling formulation and implementation of policies that are adaptive in nature and that contribute to adaptive capacity. Main activities in FY2011 were as follows:

<Major research activities, outcomes and impact in FY2011>

- Organised a consultation meeting on adaptive policies and measuring mainstreaming adaptation in agriculture sector in Japan
- Organised a consultation meeting on the impact of the Great East Japan Earthquake on agriculture and food safety in Japan
- Delphi questionnaire¹¹ survey on adaptive policies in Japan
- Two research presentations at the 8th NAPSIPAG¹² international conference, Kathmandu, Nepal
- Two discussion papers on adaptive policies and barriers to climate change adaptation in Japan

(4) Collaboration with other projects

- Organised sessions on adaptation governance and disaster risk reduction at the 2nd Adaptation Forum (March 2012, Bangkok)
- Contribution to the IPCC 5th assessment report - Literature review and provided comments on climate change and food security, poverty and livelihoods in Asia
- Review of literature on financial innovations for agriculture resilience in West Asia and Northern Africa (WANA) region, presentation at the international conference on climate change adaptation and food security in the WANA region held in Kuwait
- Organised a session on promoting risk insurance in the post-2012 (August, New Delhi/ India), presentation at the National Symposium on climate change adaptation held in Malaysia in November in collaboration with the CC group
- A chapter of the book published by World Meteorological Organization (WMO) and Food and Agriculture Organization (FAO) “Possible Financial Innovations and Market Mechanisms at the National Level to Cope with Climate Change in WANA Region” (*Springer*)
- A chapter of the book published by United Nations Framework Convention on Climate Change (UNFCCC) “Promoting Risk Insurance in the Asia-Pacific Region: Lessons from the Ground for the Future Climate Regime” (*Wiley*)
- Toward building disaster resilient society, analysed the role of inter-municipality support at the time of the Great East Japan Earthquake, and proposed foundation and management of effective inter-municipality support - Contribution of a chapter of the IGES Policy Report “Lessons Learnt from the Triple Disaster in East Japan”¹³ (Scheduled to be published in June, 2012).

Component 3: Forest Conservation through REDD+¹⁴ and Forest Products Trade

To contribute to sustainable forest management, particularly in the Asia-Pacific region, research and activities

¹¹ A structured group interaction process that is directed in "rounds" of opinion collection and feedback

¹² Network of Asia And Pacific Schools and Institutes of Public Administration and Governance

¹³ This study is part of the comprehensive disaster research component funded by the FY2011 IGES Strategic Fund (with integral coordination conducted by the Programme Management Office)

¹⁴ REDD+: Reducing Emissions from Deforestation and Forest Degradation and conservation of forest carbon stocks, sustainable management of forest, enhancement of forest carbon stocks.

under the following sub-components were conducted in FY2011.

(1) REDD+ demonstration activities¹⁵

This study aims to contribute to REDD+ activities that have strong local support and provide meaningful roles for communities including MRV system development. The activities were: action research on community carbon accounting (CCA); developing a manual on free prior informed consent; and reviewing REDD+ demonstration activity designs.

<Major research activities, outcomes and impact in FY2011>

- Conducted action research in Papua New Guinea (Madang Province), Cambodia (Monduliri Province), Indonesia (Java and Sumatra islands), and Laos (Sangthong District), and reported the results at “Regional Reflection and Learning Workshop on Community Carbon Accounting” in Monduliri, Cambodia in January 2012
- Organised workshops related to CCA in Japan (October), Indonesia (November), and Cambodia (January)
- Expanded the IGES REDD+ Online database: Total of 28 project profiles and five country studies
- One academic paper and one chapter of a book in Japanese (*Showa-do*) on ecosystem services led by Economy and Environment (EE) group¹⁶

(2) National REDD+ readiness and the international REDD+ movement¹⁷

This study aims to contribute to national REDD+ readiness and policy by providing an independent review of readiness activities in five countries, developing a draft national governance standard and reporting on the international REDD+ movement.

<Major research activities, outcomes and impact in FY2011>

- Five reports on national studies (Indonesia, PNG, Cambodia, Laos, Vietnam) on REDD+ readiness
- Conducted an online survey, key stakeholder interviews and a multi-stakeholder forum to develop a voluntary quality-of-governance standard for the forest sector and REDD+ in Nepal
- Co-organised the “REDD+ in Pacific Island Countries” side event at Asia Pacific Forestry Week 2011 in Beijing in November, together with UN-REDD Programme¹⁸, Japan International Cooperation Agency (JICA), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and Secretariat of the Pacific Community (SPC)
- Two conference reports analysing key events in the international REDD+ negotiations

(3) Forest products trade

Under this component, the results of research on illegal logging and the resultant trade were presented at an international conference.

<Major research activities, outcomes and impact in FY2011>

- “Customs collaboration on illegal timber trade” presented at International Conference on Transnational Environmental Crime (September, Canberra).

¹⁵ This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office

¹⁶ See Component 1 of Environment and Economy group

¹⁷ This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office

¹⁸ The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries

(4) Others

<Major research activities, outcomes and impact in FY2011>

- Provided six training sessions on REDD+ and A/R CDM¹⁹
- Co-organised two workshops on REDD+ with Forests and Forest Products Research Institute (October, February 2012, Tokyo)
- A report on FY2010 IGES strategy fund research “Climate Change and Adaptation to Water Scarcity”
- Contributed to the IGES discussion paper entitled “Building Resilience into Reconstruction”²⁰

1-2-1 Freshwater Sub-Group

The goal of the Freshwater Sub-group is to enhance water governance for sustainable development. These activities are originally composed of two components: research entitled “Groundwater Governance for Sustainable Development” and a non-research activity “Water Environment Partnership in Asia (WEPA)”. In addition to these components, the FW group started a study on MRV in urban wastewater management in FY2011. In FY2011, two key conferences in the water sector were planned, namely the Second Asia-Pacific Water Summit (APWS/ January 2012, Thailand) and the Sixth World Water Forum (March 2012, France), but APWS was rescheduled to early 2013 because of the flood event in Thailand in 2011. The activity of the Freshwater sub-group in FY2011 focused on producing outputs based on past and on-going studies to share them with a wider audience who will participate in the conferences and through our networks.

Component 1: Groundwater Governance for Sustainable Development

This research was originally composed of (i) Baseline study of groundwater and its governance in Asia and (ii) In-depth study on enabling environment for the introduction/effective implementation of economic instruments for sustainable development. These were related to FW’s activities as the Asia-Pacific Water Forum Water Knowledge Hub Network on Groundwater. Because of financial constraints, the focus of FW’s work for this component was on activities for the regional groundwater knowledgehub and there was no specific study on components (i) and (ii).

(1) APWF Groundwater Knowledge Hub related activities

The Water Knowledge Hubs is a network of regional organisations conducting researches and activities on water resources established under Asia-Pacific Water Forum (APWF) in 2008. IGES was approved as the knowledgehub on groundwater management for the Asia-Pacific Water Forum at the Governing Council of the Forum in 2009 and started the knowledgehub activities since then.

<Major research activities, outcomes and impact in FY2011>

- Organised the APWF regional knowledge hub for groundwater management pre-launch workshop for young water professionals entitled “Groundwater -its myths and reality-” (June/ the Asian Institute of Technology (AIT), Thailand) with about 60 participants
- Organised the launch meeting for APWF Regional Knowledge Hub for Groundwater Management entitled "Bringing a Groundwater Agenda to the Surface" (June, Bangkok) with close collaboration with Department of Groundwater Resources (DGR), Thailand; Asian Development Bank (ADB), and Asian Institute of Technology (AIT) - Over 100 participants including clients and partners of the regional groundwater hub
- Presented the activities of the APWF Groundwater Knowledgehub at a session of the 6th World Water Forum in Marseille, France.

¹⁹ Afforestation and Reforestation Clean Development Mechanism

²⁰ See 4-9 of the disaster research of the Programme Management Office

- Contributed as a lead author to the Asia Pacific chapter of UNEP's 5th Global Environmental Outlook (GEO5)²¹

Component 2: Water Environment Partnership in Asia (WEPA)

The Freshwater Sub-group has been serving as the secretariat of the Water Environment Partnership in Asia (WEPA) commissioned by the Ministry of the Environment, Japan (MOEJ), which is the partnership initiative among 13 Asian countries with the aim of promoting water environmental governance. The following activities were implemented in FY2011.

<Major research activities, outcomes and impact in FY2011>

- Organised the WEPA International Workshop and Annual Meeting (September, Manila, the Philippines)
- Published “WEPA Outlook on Water Environmental Management in Asia 2012” and its summary for policymakers, which was launched at the 6th World Water Forum in March 2012
- Organised a side-event at the 6th World Water Forum for the launch of “WEPA Outlook on Water Environmental Management in Asia 2012”, presentation on WEPA activities also presented at two official sessions of the Forum.
- Distributed e-mail based WEPA news for water experts who joined WEPA activities in the past (three times/FY2011)
- Updated WEPA database with latest information of water environmental management in WEPA partner countries and also launched the Japanese WEPA database web pages

Component 3: Study to Promote MRV in Co-benefit Type of Wastewater Management System in Developing Countries²²

This component investigated methodology and systems of MRV in co-benefit type of wastewater management systems considering parameters for GHGs emission reduction, water pollution control and resource (e.g. phosphorous) recovery potentials. This study specifically assessed options and barriers for the establishment of MRV in co-benefit type of wastewater treatment plants utilising experiences gained from wastewater-biogas projects and decentralised wastewater management in Thailand.

<Major research activities, outcomes and impact in FY2011>

- Conducted individual consultation with stakeholders and investigation in selected wastewater treatment plants in Thailand to understand current issues and future opportunities of MRV
- A knowledge sharing and capacity development workshop (February 2012, Thailand) for Thai stakeholders, sharing issues related to MRV in wastewater sector and identifying ways for harnessing potential options and eliminating barriers for establishing MRV
- Developed a preliminary MRV framework under the study, which will be tested for its applicability in Thailand and potential uses in other Asian countries in FY2012

1-3 Sustainable Consumption and Production Group (SCP)

The goal of the Sustainable Consumption and Production (SCP) Group is to contribute to the development of sustainable patterns of consumption and production in the Asia-Pacific region. Special attention is given to the use of materials (physical and energy resources) and how the environmental impacts associated with those materials over their life-cycles can be reduced through policy interventions. In FY2011, the second year of the

²¹ See Component 4 of the IGES Regional Centre in Bangkok

²² This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office.

Fifth Phase, the group continued the work carried out in the first year while trying to strengthen the new research focus on sustainable consumption in Asia. Each component of the group implemented the following activities.

Component 1: Sustainable Consumption in Developing Asia

This study aims to explore the meaning of sustainable consumption in an Asian context, and how policies can address unsustainable patterns and trends.

<Major research activities, outcomes and impact in FY2011>

- A proposal for a sub-regional collaboration mechanism on SCP and a related background paper for the establishment of an ASEAN Forum on SCP - The Forum was established based on the proposal.
- A comprehensive assessment of SCP policies in Asia undertaken together with CSIRO (the Commonwealth Scientific and Industrial Research Organisation) under a contract from UNEP
- Contribution to eight policy workshops with senior government officials and stakeholders (China, India, Sri Lanka, Indonesia, Nepal); and co-organisation or invitation to present in partnership with the Chair of ASEAN, UNEP, PERL (The Partnership for Education and Research about Responsible Living), and the EU funded CORPUS project
- A background paper for the 10th Asia Pacific Roundtable for Sustainable Consumption and Production
- Developed an electronic tool for planning and assessment of energy efficient buildings in developing Asian countries in order to support decision maker considering MRV²³

Component 2: Chemicals Management for Sustainable Product and Material Life-Cycles

This component aims to contribute to improved management of chemicals, especially chemicals used in products, from a life-cycle perspective.

<Major research activities, outcomes and impact in FY2011>

- A research report entitled "Research on the effective information management system for valuable and hazardous substances contained in products aiming sound international resource circulation", and based on results from this study, three presentations at the Japan Society of Material Cycles and Waste Management
- An invited presentation at the annual Sound Material Cycle Society Promotion Research Symposium
- An expert meeting on recycling certification schemes for e-waste management in Asian countries (a side event of ISAP 2011)
- Contribution as a member of a domestic preparation committee on framework for environmentally sound management (ESM) under the Basel Convention

Component 3: Governance for Sustainable Resource Circulation in Asia

This study aims to assess policies related to resource circulation, including trade in second-hand goods and recyclable materials, from a sustainability perspective. It was partly conducted in collaboration with the Economics and Environment (EE) Group.

<Major research activities, outcomes and impact in FY2011>

- One Policy Brief on extended producer responsibilities on electric and electronic appliances, two Issue Briefs, and four journal papers (three were accepted in academic journals such as *Journal of Industrial Ecology*)
- Contributed to UNEP's Resource Efficiency: Economics and Outlook for Asia-Pacific and organised a press conference to launch the report

²³ This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office.

- A background paper on technology transfer for the 3rd Regional 3R Forum in Asia (October, Singapore)
-The outcome documents of the forum were formally submitted by Singapore Government as a part of country submission to the Rio+20 process.
- Coordinated a joint Japan-Malaysia project on organic waste management in collaboration with Kitakyushu Urban Centre (KUC), prepared and coordinated a joint Japan-Vietnam project on the 3Rs, invited as a lecturer to JICA training course for Sri Lanka and Mongolia
- Three expert workshops as part of the Asia Resource Circulation Policy Research project (September/Bangkok; October/Singapore; November/Yogyakarta and one public seminar on the outcome of this three-year research project (February 2012, Tokyo)
- A three-year collaborative research study with EE Group²⁴ on sustainable resource circulation in Asia under the scheme of “Policy Studies on Environmental Economics”²⁵ of MOEJ was highly evaluated by an MOEJ’s external evaluation panel for its policy-relevant analysis from quantitative analytical approach.

Component 4: Sustainable Waste Management with Multiple Benefits

This component aims mainly to identify feasible options for local governments to minimise waste generation and to improve recycling and waste management.

<Major research activities, outcomes and impact in FY2011>

- A policy report on technology selection and implementation for urban organic waste utilisation projects in Cambodia (February 2012)
- Contributed as a lead author to the Asia Pacific chapter of UNEP’s 5th Global Environmental Outlook (GEO5)²⁶
- Four presentations and three capacity building workshop on waste management and co-benefits in terms of food production, energy security and climate change mitigation (August/Cambodia, October/Laos and January 2012/Thailand)
- Four publications in national languages related to waste management and climate change mitigation targeting local governments in Cambodia (August), Laos (October) and Thailand (January).
- A commissioned study on GHG emissions reduction through integrated solid waste management in Thailand to develop methodology for a better measure of GHG in a Measurable, Reportable and Verifiable (MRV) approach from Life Cycle perspective²⁷

2. Disciplines Cluster

2-1 Economy and Environment Group (EE)

The goal of the Economy and Environment Group is to develop innovative quantitative analysis tools for integrated policy assessment of sustainable development, and thereby to conduct research on policies and strategies tackling emerging issues such as trade and the environment and green economy. In FY2011, the group implemented the following activities, in some cases in collaborating with other groups including the

²⁴ See Component 1 of the Economy and Environment group

²⁵ An MOEJ research programme launched in FY 2009 aiming to contribute to future image of new economy and society as well as strategic implementation of environmental policy. Thirteen research projects under eight focused areas were chosen up to FY 2011.

²⁶ See Component 4 of the IGES Regional Centre in Bangkok

²⁷ This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office.

Climate Change group (CC), the Sustainable Consumption and Production group (SCP) and the Programme Management Office (PMO).

Component 1: Integrated Policy Impact Assessment for Sustainable Development

This component aimed to develop a model for integrated policy impact assessment of sustainable development based on economic models which have been developed so far. In addition to the top-down general equilibrium type of models such as computable general equilibrium (CGE) and input-output (IO) models, efforts were made to build internal capacity in using the bottom-up energy model, the TIMES Integrated Assessment Model (TIAM) to address emerging policy questions.

<Major research activities, outcomes and impact in FY2011>

- Improvement of CGE model under the Policy Studies on Environmental Economics (PSEEs)²⁸ of the Ministry of the Environment, Japan, for policy impact assessment of resource recycling and sustainable use of ecosystem services
- Development of four-country social accounting matrix under PSEE on resource recycling, with detailed classification for iron and copper production as well as for recycling
- Elaborated the social accounting matrix, the main database for CGE models, to address energy subsidy reform, elaboration of a CGE model to address energy sector investment issues
- Developed internal capacity to conduct research using TIAM
- Conducted research on the baseline scenarios in India using TIAM model based on MRV approach, and created a policy report on Indian NAMA and MRV framework²⁹
- Conducted research on post Fukushima Japan's alternative energy scenario and policy using TIAM, and, in collaboration with the CC group, contributed one chapter of the IGES policy report entitled "Lessons Learnt from the Triple Disaster in East Japan" (to be published in June 2012)³⁰
- Publication of an edited book in Japanese of PSEE on ecosystem services in Japanese (*Showa-do*).

Component 2: Trade and Environment with Special Focus on Embodied CO² Emissions

This component aimed to reveal the policy implications of burden-sharing principles relevant to embodied CO² emissions, based on the estimated emissions embodied in international trade. Policy analysis on border tax adjustment measures is one of the study topics addressed in FY2011.

<Major research activities, outcomes and impact in FY2011>

- Developed a multi-nation CGE model to assess the environmental and economic effectiveness of border adjustment measures
- Conducted an analysis on the aggregation effects of sectors in using the multi-region input-output (MRIO) analysis to account for the carbon footprints.
- Contribution to a chapter of the book entitled "Climate Change: Research and Technology for Adaptation and Mitigation" (*InTech.*) - Invited speech by Korea Energy Economics Institute, based on this contribution, on CGE model for the assessment of border adjustment measures.
- Two peer reviewed journal article (*China-USA Business Review, Journal of Environmental Economics and Policy*)
- Presentations at the 19th International Input-Output Conference, Alexandria, USA, "The Economic and

²⁸ See Component 1 of the Natural Resource Management group and Component 3 of the Sustainable Consumption and Production group

²⁹ This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office.

³⁰ This study is part of the comprehensive disaster research component funded by the FY2011 IGES Strategic Fund (with integral coordination conducted by the Programme Management Office)

Environmental Effects of Border Adjustment Measures: A Multi-Regional CGE Analysis for Japan”, and two other papers

- Made an invited speech at the Expert Workshop on Energy and Climate Change Modelling, Seoul, Republic of Korea, “Addressing Carbon Leakage by Border Adjustment Measures: A Global CGE Analysis”

Component 3: Green Growth through Economic Instruments and Green Investment

This component aimed at conducting quantitative impact assessment of green development policies using integrated policy impact assessment models. The component also aims to contribute to international policy processes related to green economy.

<Major research activities, outcomes and impact in FY2011>

- Conducted policy impact assessment of resource recycling and sustainable use of ecosystem services under two PSEEs - They were highly evaluated by an MOEJ external evaluation panel as policy relevant results.
- Conducted research on energy price reform and investment liberalisation in energy sector in the East Asia Summit (EAS) region to promote energy market integration and narrow the development gap among the member countries of the EAS
- Conducted research on the impacts of nuclear energy phase out in major developing countries in Asia following the Fukushima nuclear accident and its long term impact on economy and the environment.
- Conducted research on green economy in terms of national positions in international negotiations and domestic policies and activities
- A policy report on energy price reform and energy market investment liberalisation in the EAS Region entitled “Pricing Reform and Enhanced Investment in the Energy Sector: A Way towards East Asian Economic Development for ERIA” - This paper was quoted in the ERIA’s statement to EAS Energy Ministers’ Meeting 2011 which was finally included in the joint Ministerial Statement of EAS Member Countries for 2011.
- A policy report on nuclear energy substitution by renewable energy and its impacts on economy and environment
- Two Policy Briefs on green economy, and on energy price reform and economic development, and one discussion paper about key issues on green economy for the Rio+20
- A peer-reviewed article on global ecosystem restoration, *Human and Environmental Symbiosis(Kankyo Kyosei)*
- Organised one international symposium on PSEE resource study (January 2012, Tokyo), and one public symposium on PSEE ecosystem study (January 2012, Tokyo).

2-2 Governance and Capacity Group (GC)

The goal of the Governance and Capacity group is to explore ways to improve governance and capacity for sustainable development in the Asia-Pacific region, and propose appropriate policies. In FY2011, this group conducted research under six main components. The following main activities were implemented in each of these components.

Component 1: Regional Governance and Environmental Cooperation in Asia

This component had two main objectives. First, it analysed international environmental cooperation mechanisms in North and Southeast Asia to develop recommendations for strengthening them. Second, it contributed to specific regional policy processes. Main activities in FY2011 were as follows:

<Major research activities, outcomes and impact in FY2011>

- Contributed to the governance section of the Asia-Pacific regional synthesis chapter of GEO5³¹
- Policy Brief on a multi-stakeholder platform on international environmental CSR³²
- IGES Policy Report entitled “Strengthening Japan’s Environmental Cooperation Strategy as a Leader to Promote Green Markets in East Asia”
- Developed a joint research proposal with the Policy Research Center for Environment and Economy of the Ministry of Environmental Protection of China (PRCEE) and Korea Environment Institute (KEI) for a three year joint research project on Environmental Governance under Tripartite Environment Ministers Meeting (TEMM) among China, Japan, and Korea
- Conducted preliminary research on the current status and major challenges of environmental governance in Northeast Asia
- Supported MOEJ in the TEMM process and meetings, in cooperation with PMO

Component 2: Multilevel Governance

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

The main objective of this component was to analyse key issues from a global perspective and make policy recommendations regarding IEG and IFSD, in connection with Rio+20. Note: this work was conducted in cooperation with Programme Management Office (PMO), Economy and Environment group (EE), and Sustainable Consumption and Production group (SCP). Major activities in FY2011 were as follows:

<Major research activities, outcomes and impact in FY2011>

- Contributed IFSD/IEG part to MOEJ commissioned research on Rio+20
- Contributed IFSD/IEG part to the IGES position paper on Rio+20, included in presentations on IGES positions at various intergovernmental meetings within and beyond the Asia-Pacific
- Organised two sessions on IFSD and IEG at ISAP2011
- Supported MOEJ and MOFA (Ministry of Foreign Affairs) at intergovernmental meetings and the domestic stakeholder consultation process in the preparatory period leading up to Rio+20
- A policy report entitled “Strengthening international environmental governance by two-phased reform of UNEP Analysis of benefits and drawbacks”
- A policy brief entitled “Upgrading the United Nations Environment Programme: A phased approach”
- Contributed to an ADB/TERI report on energy governance
- Published an article in Stakeholderforum’s³³ daily outreach publication on strengthening IFSD at the UN level

Component 3: Regional and National Governance: Trans-Boundary Air Pollution

The main goal of this study is 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. FY2011 was the third year of the research project conducted in collaboration with Kanazawa University and other universities and research institutes. Main activities in

³¹ See Component 4 of IGES Regional Office in Bangkok.

³² Corporate social responsibility

³³ A UK-based international organisation funded by various organisations/institutions including governments

FY2011 were as follows:

<Major research activities, outcomes and impact in FY2011>

- Continued case studies in four countries including China, Japan, Republic of Korea and Thailand
- Organised International Workshop entitled “Strengthening the International Cooperation Framework and Science-Policy Interface to Promote Air Pollution Control in East Asia” (March 2012, Yokohama) - Made three presentations and published proceedings
- Presentation at Acid Rain 2011 Conference in June, 2011, on “The Influence of Domestic Factors on Prospects for Increased International Cooperation for Regional Air Quality Management in East Asia”
- Article on China’s new regional air pollution management system accepted by the peer reviewed journal (*International Journal of Sustainable Society*)
- Conference paper presented at Kankyo Kagaku Kai, Kansai Gakuin University, Hyogo Prefecture, Japan, “Perceptions on Transboundary Air Pollution among Scientists and Policy Makers - Results from Interview Surveys in Japan.”

Component 4: Capacity Development and Education for Sustainable Consumption in Asia

A new priority project was added to the CDE component for FY2011 after the finalization of the FY2011 Business Plan. To accommodate this new project, the CDE activities were divided in to two subcomponents: 1) the original (as detailed in the Fifth Phase Plan) project on Education for Sustainable Consumption (ESC); and 2) the new project on Monitoring and Evaluation of Education for Sustainable Development (with UNU-IAS³⁴). This also required some reductions to the scheduled activities and outputs for the ESC project in FY2011.

(1) Education for Sustainable Consumption in Asia

The main purpose of this study is to strengthen governments’ efforts on Education for Sustainable Consumption (ESC) to promote civil society’s proactive participation in sustainable consumption and responsible lifestyles. This was accomplished through three objectives (research sub-themes): i) capacity building for ESC leaders to strengthen policy-makers’ understanding of ESC’s importance and techniques for its promotion ii) providing strategic policy recommendations on ESC to policy-makers in East Asia, and iii) advancing policy dialogues on ESC in the Asia-Pacific region to secure better regional cooperation. Major activities in FY2011 were as follows:

a) Policy promotion of capacity development for ESC Leadership - in North East-Asia

The objective of this research sub-theme is to investigate governmental capacities for implementing effective ESC and to develop appropriate methods for identifying the political context in which ESC can be integrated. The aim is to develop tools for mapping policies and capacities related to ESC and adjacent thematic areas such as Sustainable Consumption and Production (SCP), Green Market promotion, Education for Sustainable Development (ESD), and environmental education (EE), in order for ESC to be strategically implemented to better integrate these often disparately treated initiatives.

<Major research activities, outcomes and impact in FY2011>

- Policy Report entitled “The Role of Governments in Education for Sustainable Consumption: Strengthening Capacity for Effective Implementation in China, Japan and Republic of Korea” (December)
- Contribution to a chapter of a book entitled “Research about the Government Capacity in Promoting Education for Sustainable Consumption in China” by Beijing Normal University , expected in August 2012

³⁴ United Nations University-Institute of Advanced Studies

- Conference Paper entitled “Assessment of Capacity for Implementing ESD: A comparative study of governmental capacity in China, Japan and Republic of Korea”; presented at the 10th Asia Pacific Roundtable on Sustainable Consumption and Production in November
- A journal article (draft) submitted to the Journal of Environmental Policy and Planning

b) Research on national mechanisms to influence consumer behaviour effectively - in North East Asia

The sub-regional focus of this sub-component was changed from Southeast Asia to Northeast Asia to maintain consistency with the subcomponent a) and to reduce the need to conduct two separate research investigations

<Major research activities, outcomes and impact in FY2011>

- Proceedings of Session entitled “Education for Sustainable Consumption in Northeast Asia” (April), including five conference papers and presentations from the PERL (Partnership for Education and research about Responsible Living) International Conference, March 2011.
- Contribution to a chapter of a book entitled “Capacity for the Implementation of ESC in NE Asia: Effective policy strategies to promote responsible consumer behaviour; in Enabling Responsible Living” (*Springer*), expected in summer 2012

c) Organising and coordinating workshops & consultation meetings on ESC

<Major research activities, outcomes and impact in FY2011>

- Involvement in United Nations Environment Programme - Division of Technology, Industry and Economics (UNEP-DTIE) pilot project on Institutional Strengthening of Frameworks on Education for Sustainable Consumption
- Co-hosted session with UNEP-DTIE at the PERL International Conference in March 2012 on Strengthening frameworks and Capacities for Implementing ESC;
- Participation in PERL’s Working Group on Regional Networks

(2) Monitoring and Evaluation of Education for Sustainable Development in Asia³⁵ [New]

As a collaborative research project with UNU-IAS, the purpose of this project is to develop a set of indicators of Education for Sustainable Development (ESD) that are relevant for use in monitoring and evaluation across the Asia-Pacific region. This was accomplished through three objectives: i) to conduct research on effective mechanisms for monitoring and evaluation of ESD, ii) to pilot a set of ESD indicators, and iii) to utilise these indicators to conduct Monitoring and Evaluation (M&E) of ESD implementation in Asia-Pacific for reporting at the end of the Decade of ESD in 2014.

a) Research on effective mechanism for M&E of ESD

This work included the identification of an appropriate research strategy (i.e. target areas and countries) and the development of an evaluation framework for use during the research process.

<Major research activities, outcomes and impact in FY2011>

- Expert consultation process and workshop to develop initial strategy and approach for M&E of ESD research
- Case study collection from 11 Regional Centres of Expertise (RCE) on ESD to provide good practices and learning performances to develop a practical framework for strengthening ESD learning outputs
- Conference paper entitled “Measuring Effectiveness and Learning Performance in ESD” presented at the PERL International Conference, March 2012

³⁵ The contract period for this project runs outside the fiscal year. It was initiated in June 2011 and finishes in August 2012. The activities being reported here only include those finished by the end of March 2012.

b) Developing and piloting of ESD Indicators

Under the framework of the UN Decade of Education for Sustainable Development (2005-2014), one of the seven main objectives is the development of effective systems for the monitoring and evaluation of ESD implementation. As this has not occurred in Asia-Pacific, the purpose of this research theme is to establish regionally-relevant Indicators of ESD that can be used to support monitoring and evaluation across the region.

<Major research activities, outcomes and impact in FY2011>

- Literature review of ESD monitoring and evaluation
- Development of evaluation and reporting frameworks for both quantitative and qualitative data collection. Review of evaluation and reporting frameworks by advisory group from UNU-IAS, UNESCO, and UNESCO Institute of Statistics (UIS)
- Presentations at the regional RCE and global RCE conferences on M&E of ESD research and approach

c) Research on national status of ESD implementation across Asia-Pacific

During this year's research activities to investigate the potential for developing ESD Indicators and a monitoring and evaluation process, the research should also provide status reports on the implementation of ESD across the nine pilot countries.

<Major research activities, outcomes and impact in FY2011>

- Collection of national status reports on ESD implementation from nine countries in East and SE Asia
- East Asia reporting and capacity building workshop on M&E of ESD
- Proceedings of East Asia workshop held in February 2012

Component 5: Local Governance

The objective of this component is to analyse effective collaboration between local governments and local stakeholders towards sustainable regional development.

(1) International environmental cooperation at local level

The study aimed to explore the feasibility of local-government coordinated eco-point activity. FY2011 was the last year of the three-year project that started in FY2009 in collaboration with University of Kitakyushu and Hosei University. This component was carried out in cooperation with KUC. Main activities in FY2011 were as follows:

<Major research activities, outcomes and impact in FY2011>

- Conducted a social survey on international collaboration through carbon offset in Kitakyushu, Japan
- Three peer-reviewed articles accepted by such academic journals as *Energy Policy*, two discussion papers and one peer-reviewed article under review
- A chapter for a book, edited by JICA Research Institute- The chapter was cited in policy recommendation in JICA Research Institute Policy Brief No. 7 "Towards promoting climate change mitigation in developing countries"
- Made presentations at Environmental Science Association Symposium (September, Nishinomiya) and JICA Research Institute Open Seminar (February 2012, Tokyo)

(2) Carbon governance and MRV at local level³⁶

The study evaluated and compared the governability (i.e. measures, authority and capacity to manage Greenhouse Gas (GHG) emissions) of local governments and other actors, in order to promote low-carbon development at the local level in Asian middle and low-income countries. The details of this study were

³⁶ This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office.

further coordinated with other research groups such as Kitakyushu Urban Centre (KUC).

<Major research activities, outcomes and impact in FY2011>

- Conducted the study of carbon governance at sub-national level in China, India, Indonesia and the Philippines
- Published one discussion paper and made presentation at international workshops in ISAP2011 (Yokohama, July 2011) and in IGES MRV symposium (Tokyo, March 2012)

In addition to the above, the GC group, in collaboration with PMO, evaluated the effect of social networks onto the energy-saving behaviour in the household sector after the Great East Japan Earthquake.

Details can be seen in Component 2, Triple Disaster Research of PMO 4-9³⁷

Component 6: Participatory Environmental Decision Making

This component addressed the 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. It proposed a linking of bottom-up participatory approaches and top-down integration of environmental policy with a view to close the so-called persistent gap of implementation in sustainable development. In FY2011, this component was conducted as part of the work on the Fourth IGES White Paper in Component 1 and IEG/IFSD for Rio+20 in Component 2.

3. Stakeholder Cluster

The four satellite offices of IGES, namely, Kansai Research Centre, Kitakyushu Urban Centre, IGES Regional Centre in Bangkok and Beijing Office, conducted research and networking activities on/with the private sector, local governments, and multilateral and bilateral collaborations, respectively.

3-1 Kansai Research Centre (KRC)

The Kansai Research Centre conducted research focusing on actions taken by the private sector including business corporations promoting environmental and energy-saving measures. Corporate behaviours were analysed in collaboration with case study countries and local governments, while environmental and energy-saving technologies of companies were studied aiming to apply their low-carbon and co-benefit technologies to developing countries. By conducting these activities, the research aimed to identify possible barriers and promotional factors to promote sustainable business in Asia, and formulate specific strategies. The following activities were conducted in FY2011.

Component 1: Research Partnership for the Application of Low Carbon Technology in India

To promote the application of low-carbon technology in India, IGES worked together with The Energy and Resources Institute (TERI) and considerable technical contribution from the leading Japanese companies, particularly in the Kansai region such as Osaka Gas and Yanmar, and conducted a wide range of activities: selecting appropriate low-carbon technologies for GHG reduction; capacity building of local engineers; building infrastructure for technology information sharing; and, developing a framework of cooperation among relevant businesses. The aim was to identify promising and appropriate Japanese low-carbon technologies in consideration of the Indian environment, conditions and needs as well as business prospects etc. Furthermore, pilot projects were conducted not only to demonstrate the feasibility of these technologies,

³⁷ This study is part of the comprehensive disaster research component funded by the FY2011 IGES Strategic Fund (with integral coordination conducted by the Programme Management Office)

but also to provide training opportunities for local engineers.

<Major research activities, outcomes and impact in FY2011>

- Investigated a total of 40 Indian SME units in six different regions, for five potential low-carbon technologies.
- Convened five technical workshops in India targeting directors, managers of Indian firms, policy makers and academia - A total of about 200 participants
- Contributed to the international symposium co-organised by International Energy Agency (IEA), Japan Science and Technology Agency (JST) and Maison de la culture du Japon à Paris (MCJP) in Paris (January 2012), and organised one ISAP session - These sessions have provided an opportunity for constructive discussion and an exchange of ideas regarding technology transfer with different viewpoints from international organisations such as IEA and OECD.
- One policy brief on promotion of corporate environmental management, one research report and two journal articles on the current progress and findings emphasising both institutional and technological aspects regarding the ALCT project based on the surveys conducted.
- Ten discussion papers - Each paper focuses on a specific unit in India, with analysis based on the collected data/information from each unit has been checked to determine the impact of introducing Japanese low-carbon technologies (such as GHG reduction and energy cost saving).

Component 2: Market-based Instruments for Improving Company Carbon Performance in Northeast Asia

Focusing on climate change policies using economic instruments (subsidy, taxation, emissions trading, etc.), this component aims to identify the existing gap between current policies and effective and feasible policies in Northeast Asia and analyses the influences of those policies on individual companies: (i) influence on energy efficiency and GHG emissions of the companies, and (ii) influence on competitiveness of the companies and their corresponding policy responses. On that basis, policy recommendations could be proposed for the development of an appropriate and comprehensive policy mix as well as implementable measures in cooperation with local research partners. The results from the above mentioned research are expected to support policy discussions at related regional platforms such as the Tripartite Environment Ministers Meeting among Japan, China and the Republic of Korea (TEMM), etc. The timely publications and outreach of intermediate research outputs including policy overviews, field surveys and empirical analyses may help stakeholders clearly understand the latest progress of the project.

<Major research activities, outcomes and impact in FY2011>

- Overlooked policies on industrial energy efficiency and carbon mitigation at a local region in China and by the sectors (iron & steel, cement and chemical industries) in China and the Republic of Korea
- Questionnaire surveys and empirical analyses of the companies in China and Korea for estimating the carbon prices affordable for them and measuring their awareness of and possible reactions to the economic climate policies
- Two policy reports on a comparative analysis of carbon tax and trading mechanisms of Japan, China and Korea
- Six papers for such international journals as *Journal of Cleaner Production* on the survey results of FY2010 and FY2011 conducted in China, and Korea (one has been published and five are under review)
- Presentation of the results of China studies at the 18th Annual Conference of the European Association of Environmental and Resource Economics held in Italy in June-July
- Presentation of the results of Korea studies at the FY2011 annual meetings of Society for Environmental Economics and Policy Studies held in Nagasaki, Japan in September.

Component 3: Local Business Initiative

The follow-up activities and know-how provision of the “Eco-Home Diagnosis Project”³⁸ were implemented in cooperation with Hyogo prefectural government and related private sectors to disseminate this project to nationwide and overseas. Research was conducted to match small to medium-sized enterprises with large-scale companies for the transfer of mechanisms for CO² reduction. The developed scheme was suggested as a transfer mechanism by consolidating CO² reduction in SMEs.

<Major research activities, outcomes and impact in FY2011>

- Suggested know-how and supported the system arrangement as well as project implementation for Hyogo prefectural government, MOEJ, JCCCA etc.
- Supported the operation of Kansai Uchi-Eco Diagnosis promotion committee, improved the “Web” and “Uchi-eco Kids”, Disseminated Uchi-Eco diagnosis to overseas - Introduced case studies to local governments and research institutes in Republic of Korea
- Improved the scheme of “CO² reduction cooperation project” (14 cases has been matched in Hyogo)

Component 4: Co-benefit Technologies

This study aims to promote the co-benefit approach in Asia through dissemination, transfer, and application of Japanese co-benefit technologies in Asian countries. In collaboration with the CC group, the specific objective was to facilitate bilateral cooperation between Japan and Indonesia on co-benefits approach.

<Major research activities, outcomes and impact in FY2011>

- Organised a workshop (March 2012, Jakarta/Indonesia) to disseminate to central and local governments the progress of co-benefit projects, which are conducted under Japan-Indonesia bilateral cooperation.
- Organised a study tour, for representatives of Indonesian central and local governments, to Japanese companies and relevant institutions (February 2012, Hyogo)
- Provide information/data (technology map) to the training course conducted by JICA to officials from local governments in Indonesia, about co-benefit approach (January 2012, Tokyo, Kobe)
- One research report, one working paper, and an updated version of technology map

Component 5: Dissemination

Kansai Research Centre disseminated the results of its research activities periodically to policy authorities and industrial sectors, and implemented the following activities to obtain feedback from them:

<Major research activities, outcomes and impact in FY2011>

- Organised a symposium entitled “Household Winter Energy Saving: Introducing Measures based on Comfort” (November, Kobe) attended by 170 people including representatives from local governments, private companies etc. - The symposium provided the latest information on electricity supply and demand this winter in Kansai, there was also an introduction of the Eco-home Diagnosis developed by IGES etc. for energy savings in households, as well as practical methods to conserve electricity. Discussions then focused on household energy savings for the winter and future measures on energy conservation.
- Delivered the latest research activities by the KRC mail magazine etc.

3-2 Kitakyushu Urban Centre (KUC)

Overall objective of the Kitakyushu Urban Centre (KUC) is to promote application of effective environmental policies and practices at a local level by conducting cross-cutting research and analysis. Knowledge and

³⁸ “Diagnosing” each household and providing a menu for possible CO² emission reduction according to the lifestyle of the occupants by making the source of the CO² emission visible and showing how much CO² is being emitted.

information gained is then shared using multiple medias and intercity networks towards the development of low-carbon and sustainable cities in Asia. The following four components were implemented in FY2011.

Component 1: ASEAN ESC Model Cities Programme and the 3rd High Level Seminar on ESC

The 3rd High Level Seminar on Environmentally Sustainable Cities (ESC) was held in Siem Reap, Cambodia, in March 2012 under the framework of the East Asia Summit Environment Ministers Meeting and IGES-KUC supported the organisation of the event as the secretariat (a commissioned work by MOEJ). The ASEAN ESC Model Cities Programme, developed based on the recommendations of the 1st High Level Seminar on ESC, was implemented in eight ASEAN countries since April 2011 with funding support from the Japan-ASEAN Integration Fund (JAIF) and the outputs were shared at the 3rd High Level Seminar on ESC.

<Major research activities, outcomes and impact in FY2011>

- Supported implementation of the ASEAN ESC Model Cities Programme in eight ASEAN countries and monitoring and evaluation of the performances of selected 14 cities implementing the activities toward their stipulated targets
- Submission of the 1st Year Final Report and the 2nd Year Proposal of the ASEAN ESC Model Cities Programme
- Supported organising of the 3rd High Level Seminar on ESC in Siem Reap, Cambodia on 6-8 March 2012 (about 230 participants including representatives from 14 national governments, 39 local governments, 27 supporting organisations and research institutions and others)

Component 2: Research on promotion of local initiatives for low-carbon development³⁹

Research on Low-Carbon Development in Asian Developing Countries through International Intercity Collaboration was carried out for three years since FY2009 in cooperation with Hosei University, Kyushu University and others using the Environment Research & Technology Development Fund (ERTDF). In parallel, capacity building activities for MRV (monitoring, reporting and verifying) was carried out as a part of the integrated research component on MRV-related capacity development conducted by Market Mechanism (MM) sub-group.

<Major research activities, outcomes and impact in FY2011>

- Organised a workshop entitled “Development and Expansion of Biogas Project through Intercity Cooperation” (November, Dalian/China) and an international workshop entitled “Local Initiatives towards a Low Carbon Asia” (February 2012, Tokyo) in cooperation with Hosei University
- A peer-reviewed article in Japanese on the development of Japan-China environmental cooperation and business potential based on the case of Kitakyushu City (accepted by ICSEAD⁴⁰), a discussion paper entitled “Case study on the utilisation of biomass in Japan” (International Symposium and Industrialization Forum on Biogas Technology and Environment Engineering, 2011, Chengdu, China) and others
- Organised MRV capacity building workshops (November, Surabaya/Indonesia, January 2012, Kitakyushu, and March 2012, Tianjin/China.)

Component 3: Replication of a Solid Waste Management Model Promoting Composting

Various activities were carried out to promote solid waste management models, which focus on organic waste composting, for replication at a local level in cooperation with Kitakyushu City, Kitakyushu International Techno-cooperative Association (KITA), JICA Kyushu and others. In Malaysia, technical inputs were

³⁹ This study is a part of the integrative research component on MRV system development coordinated by Market Mechanism Sub-group and Programme Management Office.

⁴⁰ The International Centre for the Study of East Asian Development

provided to develop food waste management strategies at a national level as commissioned work of MOEJ in FY2010-2011.

<Major research activities, outcomes and impact in FY2011>

- Organised composting networking seminars; one funded by JICA Kyushu (June-July, Kitakyushu) with participants from 11 cities in five countries, and the other in (March 2012, Siem Rea/Cambodia) with participants from 13 cities in five countries
- Supported and monitored composting projects in Cebu, the Philippines and Kurunegara, Sri Lanka, and prepared a report as well as a peer reviewed article (*WIT Press*)
- Lectured at training programmes on solid waste management of JICA and CITYNET and at a pre-training programme for JICA volunteers for environmental education
- Developed a JICA Kyushu video clip on waste reduction through promotion of organic waste composting
- Researched on management conditions of large-scale composting facilities in six countries in Asia funded by the Asian Development Bank (ADB) (to be completed in FY2012)
- Organised a Workshop on Food Waste Management Strategies (March 2012, Kuala Lumpur/ Malaysia)

Component 4: Activities of the Kitakyushu Asian Center for Low Carbon Society

As a constituent of the Kitakyushu Asian Center for Low Carbon Society, various collaboration projects were implemented with Kitakyushu City and KITA.

<Major research activities, outcomes and impact in FY2011>

- Supported KITA in implementing a decentralised wastewater treatment project in Surabaya, Indonesia under the JICA Grassroots Grant
- Supported organisation of the Asian Environment Cities Summit in Kitakyushu in October, which had participation of seven cities from three countries
- Supported facilitation of the Study Team of OECD in Kitakyushu in February 2012 under the OECD Green City Program
- Provided inputs to the JICA Training Programme on the Environmental Technologies for Low Carbon Development, and setting up of two new programmes, a NAMA/MRV Capacity Building in Asia and a Composting Management
- Developed a lecture course on low carbon city and community development at Hiroshima International Center for Environmental Cooperation, Hiroshima University, in cooperation with two private research institutions (implemented in FY2012)

3-3 IGES Regional Centre in Bangkok (BRC)

IGES has been expanding its network and partnerships in the Asia-Pacific region through IGES Bangkok Office since 2003. In 2011, IGES Regional Centre was launched as successor of IGES Bangkok Office in the city of Bangkok to strengthen the networks for which IGES provides secretariat services and at the same time, increasing its engagement in other regional activities.

Component 1: Network for Integrated Planning and Sustainable Development Strategies in Asia-Pacific Region (SDplanNet-Asia&Pacific)

As the Secretariat for the Sustainable Development Planning Network for Asia-Pacific (SDplanNet-Asia & Pacific), a network for sustainable development practitioners, BRC continued to assist capacity development of the practitioners.

<Major research activities, outcomes and impact in FY2011>

- Regular dissemination of useful tools and latest news on sustainable development through e-newsletters, website (<http://www.sdplannet-ap.org>) and social networks (Facebook and LinkedIn group) -

E-newsletters were sent to more than 200 members of the network since September 2011. The website survey conducted to members in 2011 indicated members' appreciation for tools for sustainable development the Network introduced.

Component 2: Support for Asian Environmental Compliance and Enforcement Network (AECEN)⁴¹

The Regional Centre provided support to the Asian Environmental Compliance and Enforcement Network (AECEN: <http://www.aecen.org/>), which promotes the effective implementation of environmental laws and regulations in Asia. IGES will take over the AECEN Secretariat in 2012.

<Major research activities, outcomes and impact in FY2011>

- Strengthening the network with experts through organisation of Development Marketplace (May, Bangkok) and Regional Forum (March 2012, Bangkok) - Introduced AECEN to development agencies and discussed the roles of environmental enforcement and compliance in the context of climate change and Rio+20 as special themes, increasing the understanding how to address these emerging issues effectively with existing regulatory systems.
- Organisation of Regional Workshop on EIA⁴² (October, Bangkok) and preparatory work for i) developing a Clearing House on EIA on the AECEN website to increase the knowledge base on EIA; and ii) Two twinning partnerships on best EIA practices (China-Laos and China-Sri Lanka), to be implemented in FY2012
- A survey on synergy between co-benefit approach and environmental enforcement/compliance - Contributed to the co-benefit study in Climate Change group

Component 3: Asia Pacific Adaptation Network (APAN)⁴³

In close collaboration with the UNEP Regional Office of Asia Pacific (UNEP-ROAP), BRC continued the operation of the Regional Hub for APAN with the Asian Institute of Technology-Regional Resource Centre for Asia and the Pacific (AIT-UNEP RRC.AP) to promote mainstreaming climate change adaptation and knowledge sharing in the region.

<Major research activities, outcomes and impact in FY2011>

- Organised the second Adaptation Forum (March 2012) in collaboration with the Adaptation Knowledge Platform, the initiative launched for the South-East Asia that APAN has been working with since 2009 - The Forum generated a wide range of discussion on regional adaptation issues and expanded networks among more than 800 participants.
- Organised five sub-regional consultation meetings and five workshops, identified the priority adaptation issues in each sub-region, raised the knowledge base among policy makers and practitioners, and facilitated greater exchange of ideas
- Training module development - Contribution to building capacities of national institutions in five countries of South and South-East Asia on climate adaptation

⁴¹ AECEN is a network of environmental agencies from 14 countries in Asia dedicated to improving performance in relation to compliance and enforcement of national laws and multilateral environment agreements. AECEN operates primarily by twinning countries through South-South cooperation to share good practices and to assist each other in capacity building. AECEN is also strengthening the capacity of environmental courts and the judiciary responsible for environmental cases throughout Asia.

⁴² Environmental Impact Assessment

⁴³ APAN aims to help build climate resilience of vulnerable human systems, ecosystems and economies through the mobilisation of knowledge and technologies to support adaptation capacity building, policy-setting, planning and practices.

- Established five sub-regional nodes and three thematic nodes (water, agriculture and mountain) - Strengthened the outreach of APAN and built linkages with national governments and institutions to facilitate dialogue on climate adaptation in the region.
- Dissemination of results through website (<http://www.apan-gan.net/>) and newsletters - Contribution to mainstreaming/enlightenment of climate change adaptation

Component 4: Support for UNEP Fifth Global Environmental Outlook (GEO5)

The Global Environmental Outlook of the United Nations Environment Programme (UNEP) is expected to raise the understanding to the existing and emerging regional environmental issues among policy makers as well as practitioners and be used as major a reference. BRC coordinated the regional chapter drafting of the Fifth Global Environmental Outlook (GEO5) with contributors including IGES researchers as collaborating centre for UNEP. The publication is scheduled in 2012.

<Major research activities, outcomes and impact in FY2011>

- Hosted the authors' production meetings (May, September/Bangkok, November/Hayama)
- Finalising the GEO5 Policy Makers Summary

Component 5: Support for Asia Pacific Climate Change Adaptation Project Preparation Facility (ADAPT Asia-Pacific)⁴⁴ [NEW]

BRC was awarded a subcontract under this five-year project funded by the U.S. Agency for International Development (USAID) Regional Development Mission for Asia (RDMA) in 2011 to lead the adaptation knowledge management of the project.

<Major research activities, outcomes and impact in FY2011>

- Organised the first Annual Forum (March 2012, Bangkok) - About 120 participants consisting of government officials and fund managers from major adaptation funds as well as multilateral/bilateral development agencies. The Forum increased the understanding of available adaptation financing mechanisms and identified capacity development needs in accessing adaptation funds and project preparation.
- BRC developed a web-based regional knowledge sharing platform (<http://www.adaptasiapacific.org>) - Strengthened IGES's active role in major climate change adaptation activities in Asia and the Pacific.

Component 6: Support for IGES' Activities in Bangkok and Coordination with UN Organisations Stationed in Bangkok

BRC maintained and expanded collaboration with international organisations, Thai governmental organisations, and research institutes located in Bangkok and other cities in Southeast Asia and also provided a wide range of support to the activities of IGES research projects. Collaboration with existing partners such as UNEP-ROAP, WB, ADB, UNDP, USAID RDMA, Swedish International Development Cooperation Agency (SIDA), Stockholm Environment Institute (SEI) were strengthened through project implementation mentioned above and face-to-face discussion with counterparts in Bangkok. A new collaboration was initiated with International Labour Organization Regional Office for Asia Pacific (ILO-ROAP) on the topic of green job in coordination with PMO. These increased IGES's visibility in the region and expected to enhance

⁴⁴ ADAPT Asia-Pacific prepares high quality investment plans for climate change adaptation, as well as strengthens and assures access to funds for climate change adaptation projects. It also strengthens and maintains local knowledge platforms to share and introduce best practices in 13 countries in South, South-east and North-east Asia, with the aim of strengthening human and institutional capacity.

collaboration opportunities in the future.

3-4 Beijing Office

The purpose of the Beijing Office is to act as an important bridge and a reliable platform between China and Japan. In order to further promote environmental bilateral cooperation between the two countries, the following activities were conducted in FY2011.

Component 1: Sino-Japan Water Environment Partnership

Since FY2008, the Beijing Office has acted as the implementing organisation on the Japanese side for Sino-Japan Water Environment Partnership Project (Sino-Japan Cooperation Model Project on Decentralised Domestic Wastewater Treatment in small towns and rural areas, China) and its succeeding model project on Total Pollutant Reduction of Nitrogen etc. in small towns and rural areas, China, under the cooperation scheme based on an agreement between the Japanese and Chinese governments..

<Major research activities, outcomes and impact in FY2011>

- Organised two international seminars (December/Tokyo, February 2012/Beijing) - Summarised and reported the research results of “Sino-Japan Water Environment Partnership Project (Sino-Japan Cooperation Model Project on Decentralised Domestic Wastewater Treatment in small towns and rural areas, China),” which has been implemented for four years since FY2008, each with 200 participants.
- Presentation of the research results at the 4th Asia Pacific Regional Meeting of the International Water Association (the 4th IWA-ASPIRE), which was held in Tokyo in October 2011
- Published the research results in China in Chinese as a joint report by Japan and China (*China Environmental Science Press*) - The joint report was distributed at the above mentioned international seminar in Beijing to reach out to those concerned in Japan and China.
- Under the “Model Project on Total Pollutant Reduction of Nitrogen etc. in small towns and rural areas, China”, designed a domestic wastewater treatment plant as a model facility in Weihai city in Shandong province - The construction of the model facility is scheduled for FY2012.

Component 2: Climate Change Capacity Building Project in China

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

<Major research activities, outcomes and impact in FY2011>

- Established a platform to hold practical policy dialogues between the Japanese government (Ministry of the Environment) and the Chinese ministries that are concerned such as the National Development and Reform Commission, and held policy dialogues (July, February 2012/Beijing)
- Organised a training programme (January 2012, Japan) to enhance the capacities of national and local government staffs for addressing the climate change in China
- A joint report with Tsinghua University on the establishment of domestic carbon market in China

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

The 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.

<Major research activities, outcomes and impact in FY2011>

- Participated in “Sino-Japan Joint Research on Total Emission Reduction of Nitrogen Oxide in Air“ and Co-benefit Model Project, which the Ministry of the Environment Japan jointly implemented with Ministry of Environmental Protection China, and contributed in providing policy recommendations.

- Participated in “Sino-Japan Cooperation Project on Measures against Heavy Metal Pollution in Soil” (such as holding seminars), which MOEJ jointly implemented with the China National Development and Reform Commission - The Beijing Office contributed in providing policy recommendations.

Component 4: Support for IGES’ Activities to be carried out in China

The Beijing Office has supported those activities in China by other IGES groups, by consulting and providing key information.

4. Programme Management Office (PMO): Networking and Strategic Operation

The PMO worked on the cross-cutting issues, being actively involved in a number of political initiatives in the Asia-Pacific region as well as worldwide. It also designed and coordinated IGES-wide strategic activities including the International Forum for Sustainable Asia and the Pacific (ISAP), White Papers, IGES Strategic Fund, external fundraising and promotion of internal quality management system to produce better quality research outputs.

4-1 IGES White Paper

The Fourth White Paper is scheduled to be launched in the early summer of 2012, under a working title of “Greening Governance in Asia-Pacific -For Promoting the Green Growth Agenda”, which is linked with the dual themes of the UN Conference on Sustainable Development 2012 (Rio+20). In FY2011, IGES focused on preparation of the document through internal review with a few workshops involving all IGES research groups as well as external reviews on each chapter.

<Major research activities, outcomes and impact in FY2011>

- 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.

4-2 International Forum for Sustainable Asia and the Pacific (ISAP)

The third International Forum for Sustainable Asia and the Pacific (ISAP2011) was held under the theme of “New Asia-Pacific Perspectives towards Rio +20: Implications of the East Japan Disasters” (26-27July at Yokohama Pacifico). A total of about 850 people participated for this two-day event.

<Major research activities, outcomes and impact in FY2011>

- The first day, focusing on the implications of the recent triple disasters in Eastern Japan, reviewed the resilience and outlook of our current political and social systems in the face of climate change and natural disasters.
- The second day, in line with the main themes of Rio+20, addressed the issues of a green economy in the context of sustainable development and poverty eradication and the institutional framework for sustainable development, from the Asia-Pacific perspective.
- The summary of the discussion was presented to the Asia Pacific Regional Preparatory Meeting for UNCSD (Seoul, October) and incorporated into the IGES Proposal to Rio+20 and a series of Issue Briefs towards Rio+20.

4-3 Promotion of Clean Asia Initiative (CAI)

The overall goal of the operation was to contribute to the establishment and elaboration of effective international environmental cooperation mechanisms, in particular, in East Asia. Promotion of CAI was to support MOEJ activities of international environmental cooperation. IGES collected and analysed information and data related to environmental cooperation through networking and basic research from relevant governments, international organisations and the research community.

<Major research activities, outcomes and impact in FY2011>

- Conducted 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 and emerging environmental issues in the East Asia region to grasp understanding of the needs of the present as well as the future.
- Enhanced information dissemination and raise awareness on CAI activities, both domestically and internationally.
- IGES provided the priority intergovernmental policy processes with substantive inputs through supporting MOEJ. Key environmental meetings envisaged as the target policy processes included:
 - ASEAN+3 Environmental Ministers' Meeting (ASEAN+3 EMM: Phnom Penh, October) and its Preparatory Meeting (Brunei, September).
 - Japan-ASEAN Dialogue on Environmental Cooperation (Brunei, September)
 - Senior Officials Meeting (SOM) of North-East Asian Subregional Programme for Environmental Cooperation (NEAPEC) (Seoul, September)
 - Ministerial Roundtable on United Nations Conference on Sustainable Development (UNCSD/Rio+20) (Phnom Penh, October)

4-4 Monitoring and Advisory Activities on Indonesia Climate Change Program Loan (ICCPL)

The overall objective of the on-going monitoring support activities on ICCPL is to contribute to further strengthening the climate policy of the Government of Indonesia (hereinafter GOI, the recipient government), as well as to assist the Government of Japan (hereinafter GOJ, the donor government) to design and implement effective financial assistance scheme. The following activities were implemented in FY2011.

<Major research activities, outcomes and impact in FY2011>

- Monitoring and evaluation of progress on GOI's climate change policies (written in the "Policy Matrix" agreed by both governments);
- Provision of recommendations to GOI for further strengthening its capacity to respond to climate change issues (delayed actions, improvement for the mid- and long-term effects of implemented actions, and important policies beyond Policy Matrix)
- Provision of recommendations to GOJ on effective support to developing countries' climate change policies (The recommendations include establishing the ICCPL Policy Matrix documents for the coming term, and recommending additional technical support).

4-5 Civil Society Policy Dialogue and Network Activities for Sustainable Asia and Pacific

Aiming at facilitating multi-stakeholder collaboration and forging international cooperation by multiplying the impacts of network and stakeholder collaboration, the following activities were implemented in FY2011.

<Major research activities, outcomes and impact in FY2011>

- Contributed to the discussion and preparation of the report of the Asia-Europe Strategies for Earth Summit 2012 organised by Asia-Europe Environment Forum (ENVforum)⁴⁵

⁴⁵ Key partners of ENVforum are Asia-Europe Foundation (ASEM), Hanns Seidel Foundation (Germany), Swedish International Development Cooperation Agency, IGES and UNEP.

- Convened a multi stakeholder workshop and published two booklets related to the APFED Showcase Programme:
 - APFED Showcase Workshop on Stakeholder Empowerment and Participation (Beijing, May)
 - “APFED Thematic Booklet 2012” (Draft)
 - “Innovative Approaches and Macro-policy Linkage for Community based Actions towards Achieving Sustainable Development” (Draft)

4-6 IGES Contribution to United Nations Conference on Sustainable Development (Rio +20)

In order to actively contribute to the preparatory process for the UN Conference on Sustainable Development (Rio+20) in 2012, IGES has conducted three major activities: (i) information collection and analysis on the preparatory process for Rio+20; (ii) deepening discussions on two themes of Rio+20, “green economy in the context of sustainable development and poverty eradication” and “institutional framework for sustainable development”, and establishing effective outreach regarding these matters; and (iii) contribution to the intergovernmental preparatory process of Rio+20. PMO engaged in all-IGES coordination of the relevant activities to effectively disseminate the outputs and make the utmost impacts through these cross-cutting processes.

<Major research activities, outcomes and impact in FY2011>

- Coordination of main discussion points in the negotiation process, results of analysis on each country’s position, information dissemination of IGES message to various stakeholders
 - Presented and distributed “The IGES Proposal for Rio+20 - 1st Draft” at Rio+20 NEA Sub-regional and AP Regional preparatory meetings. (September and October, Seoul)
 - Submitted “The IGES Proposal for Rio+20 -Version 1.0” to UNDESA as an input for Rio+20 outcome document. (November)
 - Published “The IGES Proposal for Rio+20 - Issue Briefs” (4 volumes) as an input to the Informal Negotiations of the outcome document (March 2012).
 - Convened a workshop on the view of the international environmental governance and published conference reports in collaboration with IHDP- the Earth System Governance and others. (September)

4-7 Study on Measures to promote low-carbon districts

This study, funded by the “Environmental Research and Technology Development Fund” (MOEJ), analysed the advanced domestic urban model projects and the trends in district planning for the designing of a basic assessment model and examined possible scenarios for the promotion of low-carbon districts. As advanced case studies, three projects (Kitakyushu city, Tokyo Station area and Yokohama city) were studied through an interview survey, and analysed the historical events leading to the key to “success.” The research findings were sorted out to identify the socio-economic conditions, the sub-systems that form low-carbon districts as well as the individual technological elements within each sub-system that are needed to create low-carbon districts.

<Major research activities, outcomes and impact in FY2011>

- Constructed a model focusing on the household and transportation, utilising path analysis and other methods, paying special attention to the relationships and affinities between policies, the substitution and complementation of policies and the implementation process of policies
- Co-organised at ISAP2011 a seminar session for policy-makers and researchers in collaboration with Yokohama City University, to have a common ground on innovative efforts and issues in achieving a low-carbon society
- Provided a basic framework to the MOEJ’s review meeting on “Manual of low-carbon methods to

establish local government execution plan”, and, based on the research results, proposed a mutually-interrelated and consistent policy framework and measures to another review meeting of MOEJ on “Measures to promote local recycling society”

- Provided information on the methods to assess low-carbon districts to the discussion of the advisory board of the “Future City” initiative promotion (Cabinet Office, Government of Japan)

4-8 Support for Institutional Design of an MRV (Measurement, Reporting and Verification) System⁴⁶

This activity aims to assist developing systems to measure, report and verify (MRV) greenhouse gas (GHG) emissions reduction as well as facilitating relevant capacity building in developing countries, as a basis of new market mechanisms. Considering the diversity of the scope, this was designed as an IGES wide project, and was implemented in relation with many research groups (CC, NRM-FC, NRM-FW, SCP, EE, GC, KUC). PMO coordinated this IGES wide project in collaboration with MM to create value-added outputs/outcomes.

<Major research activities, outcomes and impact in FY2011>

- Coordination of internal research activities
- Organisation of external advisory committees
- Organisation of workshop/symposium

4-9 Triple Disaster Research

Component 1: Overall coordination of the triple disaster research

As a FY2011 Strategic Fund Research⁴⁷, collaborative disaster-related research was initiated after the triple disasters in East Japan in March 2011. 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), under PMO’s overall coordination. 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 three themes, namely post-Fukushima energy mix in Japan, energy-saving at the household level, and collaboration among local governments. The outcome of the research is published as a final report and launched at a seminar in Rio+20 in Brazil in June 2012.

<Major research activities, outcomes and impact in FY2011>

- Coordinated to publish the following research outcomes:
 - 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 energy⁴⁸
 - Theme 2 Energy-saving behaviour in the household sector: Policy recommendations based on the analysis of the energy-saving behaviour in the household sector based on an on-line survey after the Great East Japan Earthquake⁴⁹
 - 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

⁴⁶ See Component 2 of the Market Mechanism sub-group

⁴⁷ See IV Other Activities, 1 Strategic Fund

⁴⁸ See the Climate Change group, Component 6 and the Economy and Environment group, Component 1.

⁴⁹ See the Governance and Capacity group, Component 6 and Programme Management Office 4-9, Component 2.

collaborations among local governments towards building resilience society.⁵⁰

- 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.
- Compiled an IGES Policy Report “Lessons Learnt from the Triple Disaster in East Japan” as an output of the triple disaster research, to be launched at the conferences in the Rio+20 in June 2012

Component 2 : Energy-saving behaviour in the household sector⁵¹

IGES analysed energy-saving behaviour in the household sector based on an on-line survey after the Great East Japan Earthquake, and made policy recommendations to promote effectively energy-saving behaviour for the local governments.

<Major research activities, outcomes and impact in FY2011>

- Effects of social networks on household power-saving practices in post-disaster Kanagawa, Japan.
- Contributed to one chapter in IGES Policy Report “Lessons Learnt from the Triple Disaster in East Japan”⁵²
- Input to Kanagawa Prefecture through the Report

II Strategies for External Fund-Raising

1. Overall

Taking into account the increasing mid-term/long-term risks of securing financial contributions and research grants for IGES, and the declining financial situation of national and local governments and other institutes seriously influenced by the current economic crisis, the financial situation of IGES’ strategic research is becoming more uncertain.

On the other hand, there is continuing demand in Asia for strategic research on global environmental problems. Thus, the acquisition of external funds for conducting such strategic projects became more indispensable for IGES than ever before. IGES explored appropriate funding resources actively and selectively, for securing research funds, taking into account the research plan and researchers’ capacity.

IGES, based on previous experience, aimed to develop such activities in an active and strategic manner and keeping in mind the basic approach below.

Basic Approach

- (i) Ensured funds for research activities, fully taking into account IGES’s core competence, as well as research needs in Asia.
- (ii) Ensured funds for active involvement in important policy processes and networking, relevant to the IGES mission.
- (iii) Applied for appropriate funding resources actively and selectively, to secure research funds, taking into account the research plan and researchers’ capacity.
- (iv) Placed careful consideration on research which may have low cost-benefit or is a completely new area or an area with limited experience within IGES.
- (v) Explored research funding sources, particularly outside of Japan, in close collaboration with IGES partner

⁵⁰ Please see the section of the Natural Resource Management group- Adaptation team,

⁵¹ One of major components of disaster related research under FY2011 IGES Strategic Fund

⁵² This research was part of the comprehensive disaster research component funded by the FY2011 IGES Strategic Fund (with integral coordination conducted by the PMO)

institutes which have had fruitful experiences.

2. Resources Obtained

The total fund obtained for FY2011 was approximately JPY 1,341 million⁵³ which is 85% of the funds obtained in FY2010 (JPY 1,573 million). The primary reason for the reduction in obtained funds was due to the fact that the operation of a large contract work in FY2009 was carried over to FY2010, as well as the relative decrease in the size of the obtained external funds in FY2011. The following list shows the major research projects that obtained external funds in FY2011, according to the categories of external funds.

2-1 Commissioned work from Governmental Institutes **Total JPY 1,098.09 million**

Projects from governmental agencies are quite flexible, and many are suited to IGES's research activities. IGES can emphasise its internationality and place importance on obtaining projects from these governmental agencies. So far, IGES has received projects mainly from the Ministry of the Environment, Japan (MOEJ), as shown below, through a proposal-based bidding process and others.

(a) Commissioned work from Ministry of the Environment **Sub-total JPY 1,074.151 million**

- New Market Mechanism Capacity Building Programme
- MRV Capacity Building in Asia for the Establishment of New Market Mechanisms
- Supporting hub-centre for Asia and Pacific Region
- Low Carbon Society International Research Network (LCS-RNet)
- Model Project on Total Pollutant Reduction of Nitrogen etc in Small Town and Rural Area, China
- Promotion of Clean Asia Initiative
- Future Climate Regime: Prevention of Global Warming
- Sino-Japan Water Environment Partnership Project
- Water Environment Partnership in Asia (WEPA)
- Asia Resource Circulation Policy Research

(18 other projects in addition to the above)

(b) JICA **Sub-total JPY 23.939 million**

- Monitoring and Support Activities on Indonesia Climate Change Program Loan [continued]
- Workshop for Enhancement of the Governmental Capacity on Water Environment in Asia Countries [continued]
- KitaQ System Composting Network

2-2 Research Grants from Governmental Institutes **Total JPY 147.518 million**

IGES have submitted applications to the Global Environment Research Fund (MOEJ) and the Grants-in-Aid for Scientific Research (Ministry of Education, Culture, Sports, Science and Technology (MEXT)) and were successful in obtaining funds as shown below. These are proposal-based grant schemes which are suitable for IGES to obtain funds for its research activities. The following are lists of projects accepted under each grant scheme.

(a) Global Environment Research Fund (MOEJ) **Sub-total JPY 125.772 million**

- Research on Long-term Low Carbon Policy, taking into account Cultural Diversity in Asia (S-6-2) [continued]
- Research on Low-carbon Development in Cities in Asian Developing Countries through International

⁵³ This amount was obtained by deducting the contract revenues of the "project for public-interest purpose 4" (JISE) from the total amount of contract revenues on the "Statements of Activities Summary" of the FY2010 Financial Statement.

Intercity Partnership (H-96) [continued]

- Research on an International Framework to Promote Countermeasures for Air Pollution in East Asia and a Co-benefit Approach (S-7-3) [continued]
- Study on Politics and Energy Policy in China and India and its Influence on Climate Change Policy [continued]
- Research on Adaptation Policies, Adaptation Metrics, and Identifying Win-Win Adaptation Options (S-8-3-4) [continued]
- Design and Implementation Process of Building Blocks for Realising Low Carbon Society

(b) Global Environment Research Fund Grants (MOEJ) Sub-total JPY 3.067 million

- Research Project on Possible Introduction of Recycling Certification in Asia
- Classification of E-Waste Recycling Technology in Asian Developing Countries
- Arrangement of Social- and Technical - Constraints and Evaluation of Alternative Systems for Appropriate Management of Liquid-Waste in Asia

(c) Japan Society for the Promotion of Science Grants-in-Aid for Scientific Research B (MEXT)

Sub-total JPY 0.686 million

- Research on Sustainable Development and Economic Growth in East Asia
- CO₂ Embodied in International Trade [continued]

(d) JST-JICA Science and Technology Research Partnership for Sustainable Development

Sub-total JPY 17.993 million

- Research Partnership for the Application of Low Carbon Technology for Sustainable Development [continued]

2-3 Research Grants from Private Companies

IGES applied to several Japanese funding schemes which target environmental issues. The grant amounts are not always big but the proposal-based grant scheme is suitable to IGES research activities. The following are lists of projects to which IGES applied in FY2011 under each grant scheme. However, none of the applications were accepted.

(a) Toyota Foundation: Research Grand Programme

- Promoting groundwater recharge through rainwater harvesting in semi-arid rural India to address water shortage.

(b) Mitsui Bussan Foundation

- Reconstruction after the Great East Japan Earthquake

2-4 External Fund-raising Outside of Japan

Total JPY 89.592 million

Based upon collaboration with the following research institutes and international organisations in Asia, the external funds outside of Japan below were obtained. The amount increased greatly from the JPY49.561 million of FY2010.

- AECOM Technology Cooperation
- Economic Research Institute for ASEAN and East Asia (ERIA)
- United Nations Environment Programme (UNEP)
- Universiti Kebangsaan Malaysia
- Asia-Pacific Network for Global Change Research (APN)
- Japan Atomic Industrial Forum (JAIF)

2-5 Others

Total JPY 7.416 million

The following are research projects which were subcontracted from Governmental institutes and private companies. [] shows the primary contractors.

(a) Institutions or Agencies

Sub-total JPY 2.998 million

- Carbon Reduction in Asia Follow-Up Project [Kitakyushu-City]
- Collaboration for International Exchange Programme [The Hitachi Environmental Foundation]

(b) Private Sectors

Sub-total JPY 4.418 million

- International Expansion of Japan-model Environmental Control Technologies and Techniques in Indonesia [Shinko Research Company]
- Research on International Trend among Global Warming [The Committee for Energy Policy Promotion]
- International Seminar on Rural Development: Coordination and Translation [C's Research Institute, Inc]

3. Policy Process Involvements

Networking open to various stakeholders and policy process involvement, which aims at global environmental conservation and natural environmental protection, are recognised as important activities of a public-interest corporation. IGES explored appropriate funding sources for these activities. The followings are major activities.

(1) Involvement in important policy processes in Asia

- Initiated operation of Asia Pacific Adaptation Network (APAN), Clean Asia Initiative (CAI), Water Environment Partnership in Asia (WEPA), International Research Network for Low Carbon Societies (LCS-RNet), Asian Co-benefits Partnership, and others.
- Led the organisation of the High Level Seminar on Environmentally Sustainable Cities which was agreed at ASEAN+6 Environment Ministers' Meeting

(2) Strategic networking with major stakeholders

- Concluded an MOU with the Tokyo Institute of Technology

4. Capacity Building Activities

Capacity building (CB) activities, conducted so far to a limited extent at IGES, were expanded in FY2011 as one of IGES's core activities, in the expectation that its networks would also be expanded through these activities. The following points are major activities conducted during FY 2011.

- Local personnel trainings contributed to realising CDM projects through coordination between CDM host country governments and project proponents.
- Provided inputs to the JICA Training Programme on the Environmental Technologies for Low Carbon Development, and supported the inauguration of two new programmes, a NAMA/MRV Capacity Building in Asia and a Composting Management
- Conducted training programmes under JICA's Water Governance Strengthening Workshop as an implementation agency (These training programmes were set up under WEPA⁵⁴ where JICA and IGES are in charge of the secretariat.)
- Jointly kicked off a blended learning program "Science and Policy of Climate Change 2012" with the World Bank Tokyo Development Learning Centre (TDLC) and The Energy and Resources Institute (TERI)

⁵⁴ See Component 2 of the Freshwater sub-group

III. Information Dissemination and Outreach

IGES introduced its research outputs comprehensively, utilising various media, to various stakeholders so that the results are applied to environmental policy-making and activities related to environmental issues in the Asia-Pacific region. IGES also extensively collected and disseminated information on the latest policy trends and research activities on global environmental issues.

1. Publication of IGES Policy Briefs

Through publishing policy briefs, IGES aims to disseminate its research results as policy recommendations in a timely manner. In FY2011, IGES published the following issues.

- No.12 "Green Economy for Sustainable Development: Japan Should Lead the Policy Shift towards Global Poverty Alleviation"
- No.13 "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"
- No.14 "EPR Policies for Electronics in Developing Asia: A Phase-in Approach"
- No.15 "Energy Market Integration in East Asia: What an Economic Analysis Tells Us?"
- No.16 "Environmental Performance Rating and Public Disclosure: Strategic Policy to Promote Corporate Environmental Management"
- No.17 "Upgrading the United Nations Environment Programme: A Phased Approach"

2. Information Dissemination through Publications and Periodicals

IGES publishes periodicals to disseminate its research and activities to the world. In FY2011, the following periodicals were published.

- Newsletter "What's New from IGES" (three editions) which introduces IGES research activities and seminars, as well as essays and profiles of IGES researchers.
- "IGES Annual Report FY2010"

3. Information Collection and Dissemination Using Information and Communication Technology (ICT)

As IGES research activities shifted into full swing in the second year of the Fifth Phase research programme, IGES worked on the timely dissemination of its research activities as well as their outputs containing policy proposals. The monthly average access of IGES website exceeded 52,000 hits for FY2011.

- Environmental information site "IGES EnviroScope" - One of the functions of this site are the research outputs databases, and the data for these was further increased in FY2011 with a total of about 2,600 items of information on research outcomes available as of March 2012⁵⁵. The number of downloads exceeded 30,000 in FY2011 which is about 1.3 times compared to that of FY2010.
- E-mail news "E-alert" - Linked to the contents of the IGES website, this provides the latest trends and outputs of the research in a timely manner. In 2011, there were 23 issues (from issue no. 189 to no. 211).
- Online feature "Monthly Asian Focus: Observations on Sustainability" - Features monthly interviews with leading environmental experts, which are prepared in an easy-to-read format for the general public and made available on the IGES website..

⁵⁵ Currently about 3,000 items of data are available online (as of May 2012), including the research outputs from FY2011 which were enrolled to the database on April 2012.

4. Information Dissemination through the Media

IGES enhanced its information dissemination activities through domestic and foreign media, skillfully using them as effective avenues to disseminate IGES's activities and research outcomes to a variety of stakeholders. IGES distributed press releases and held press conferences and roundtables. Information was also widely reported and published by television, newspapers, magazines and internet news pages both in Japan and overseas.

5. Providing Opportunities for Policy Discussion

IGES organised the third International Forum for Sustainable Asia and the Pacific (ISAP2011) as an all-IGES event to stimulate policy discussions with key stakeholders, both domestic and international. IGES also organised several side events with timely themes at various international conferences such as UNFCCC COP17 and the 19th session of the UN Commission for Sustainable Development (CSD19), and held a variety of meetings as the secretariat or the focal point of international networks such as Asian Environmental Compliance and Enforcement Network (AECEN), Asia Pacific Adaptation Network, Asian Co-benefits Partnership, Asia-Europe Environment Forum (ENVforum), Clean Asia Initiative (CAI), International Research Network for Low Carbon Societies (LCS-RNet), Regional 3R Forum in Asia and Water Environment Partnership in Asia (WEPA). Through these activities, IGES provided opportunities for discussion amongst governments, businesses, NGOs/NPOs and researchers, thereby promoting policy formation for the realisation of a sustainable society.

6. Seminars/Symposium for contributions to local communities

In order to disseminate research activities and results to a wide audience, IGES holds seminars for governments, businesses, NGOs and local residents, independently or in cooperation with other concerned organisations. In FY2011, IGES organised the following seminars/symposia.

- “Shonan Village Academia -Refugees and the Environment- from experiences in Africa” in cooperation with Kanagawa International Foundation (Hayama, January 2012)
The seminar presented a clear explanation of issues faced by Africa today and future concerns for environmental refugees, outlining the historical background and impact on the environment.
- “Global Environmental Seminars” to introduce its research activities and results to a wide public audience.
 - #1 "Sustainable Resource Management: Report of the Latest Research Study on Metal Resources Recycling by the UNEP Resource Panel" (Tokyo/ 14 December 2011)
As well as introducing the latest trends from the UNEP Resource Panel, the seminar featured a report on policy research concerning sustainable use of resources.
 - #2 "Breaking Reports on Results of COP17 and Future Prospects" (Yokohama/ 21 December 2011)
The seminar provided an immediate report on the important topics discussed at COP17 and presented perspectives and challenges on climate change measures from the view point of IGES.
 - #3 "Building Sustainable and Resilient Local Communities: Actions in Asia and Support for Reconstruction of East Japan" (Yokohama/ 23 March 2012)
Following a key note speech and research reports from IGES, there was a discussion focusing on Rikuzentakata, featuring reports and a lively debate on the various problems that must be resolved for rapid post-disaster reconstruction.
- Seminar to Report on COP17 and COP/MOP7 in cooperation with Global Industrial and Social Progress Research Institute (GISPRI) (Tokyo/ January 2012) - Representatives from four government ministries and agencies who were actually involved with negotiations at COP17 and COP/MOP7, reported on developments, decisions and future outlooks. They provided comprehensive information on international

negotiations on the problem of global warming, aiming to promote further understanding of international trends on climate change issues.

IV. Other Activities

1. Strategic Fund

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 following studies were conducted; i) Post-Fukushima energy mix in Japan (CC group and EE group), ii) Energy-saving behaviour in household sector (GC group and PMO), and iii) Way to collaborate among local governments toward building resilient society (NRM group-AD team).

2. Capability Building of Research Staff and Promotion of Researcher Exchange

In an effort to promote mutual exchanges among the research projects and enhance the capacity of research staff, "In-house Seminars" were held utilising opportunities. Furthermore, in order to build networks with major environmental research institutes and universities in various countries, IGES dispatched its researchers to those organisations and/or accept researchers from them.

3. Eco Action 21

Having received approval at the 28th Meeting of the Board of Directors to carry out selection of an organisation to succeed the EcoAction 21 project, IGES made an open call for a successor and received applications from two not-for-profit organisations. In order to ensure a fair and equitable selection process, a three-member selection committee was established which was made up of a lawyer, a certified accountant and an expert on environmental authorisation system. As a result of bidding and selection, it was decided that the Institute for Promoting Sustainable Societies would succeed the EcoAction 21 project. IGES succeeded the project to the Institute for Promoting Sustainable Societies as of 1 October, 2011.

4. IGES affiliate member system

IGES provided members with such services as priority invitations to various symposia and seminars, and distribution of publications.

The number of affiliate members as of 1 April 2012 was as follows:

	Full member	Associate member	Total
Corporate	15(0)	0(0)	15(0)
NGO	1(0)	0(0)	1(0)
Individual	52(-6)	4(0)	56(-6)
Student	4(+2)	1(0)	5(+2)
Total	72(-4)	5(0)	77 (-4)

Note: The figures in the parenthesis are differences from the previous year.

V. Business on Special Accounts

1. Administration of the Technical Support Unit (TSU) for the IPCC-NGGIP

The goal of the TSU is to support and manage the Intergovernmental Panel on Climate Change (IPCC) Task Force on National Greenhouse Gas Inventories (TFI) work programme which has the following aims:

- Developing and refining an internationally-agreed methodology and software for the calculation and reporting of national GHG emissions and removals
- Encouraging the widespread use of this methodology by countries participating in the IPCC and the Parties to the United Nations Framework Convention on Climate Change (UNFCCC)

For these purposes, the TSU implemented the following components, offered its support to the other relevant sections of IGES and provided support to capacity development activities of UNFCCC and others.

1-1 IPCC Emission Factor Database (EFDB)

This component aims to maintain and improve a database of emission factors and other parameters where national experts can find nationally appropriate values that are specific to their national circumstances to supplement the IPCC inventory guidelines. In FY2011, the following activities were implemented.

- Research and identification of potential data, especially for wetlands and energy, for approval by Editorial Board
- Support of data management and data approval process
- Organisation of a data collection meeting related to energy
- Organisation of the 9th meeting of the EFDB Editorial Board

1-2 International Expert Meetings on Greenhouse Gas Inventories

This component aims to organise, host and publish the results of expert meetings on topics chosen to provide additional information and support to inventory compilers. The following activities were held:

- Organisation of an expert workshop on use of software and the 2006 IPCC Guidelines in Hayama, Japan
- Organisation of an expert meeting on the use of facility and project information in national GHG inventories in Wellington, New Zealand
- Holding the 23rd meeting of the Bureau of the TFI in Wellington, New Zealand
- Organization of an open symposium on estimation of greenhouse gas emissions in Yokohama, Japan.

1-3 Additional Guidance on Wetland Emission Inventories to Supplement the 2006 IPCC Guidelines [NEW]

The UNFCCC invited the IPCC to undertake further methodological work on wetlands. The IPCC, at its 33rd Session in May in 2011, decided to prepare additional guidance on Wetlands Emission Inventories (the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands). The following meetings were held in FY2011.

- A scoping meeting which drafted the chapter contents, terms of reference and work plan
- 1st Lead Authors meeting in Hayama, Japan
- 1st Science meeting in Edinburgh, Scotland
- 2nd Lead Authors meeting in Victoria Falls, Zimbabwe.

1-4 Software for the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

This component aims to implement the default methods in the 2006 IPCC Guidelines in an easy-to-use software package. In FY2011, the initial version of the software was prepared and preparations were made to formally launch the software at the UNFCCC SB36 sessions in May 2012. An expert meeting on the software was held in Sao Paulo, Brazil.

2. Asia-Pacific Network for Global Change Research (APN)

APN is an inter-governmental network whose mission is to foster global change research in the Asia-Pacific region, increase developing country participation in that research and to strengthen interactions between the

science community and decision-makers. In order to support and build on the capacity of scientists in the fields of global change research, especially in developing countries, APN conducted the following activities:

2-1 Support of Research and Capacity Development, Related to Global Change through Competitive Calls for Proposals

(1) Support of research projects, selected through the Annual Regional Call for Proposals (ARCP)

In FY2011 APN supported international research projects selected by the 16th Inter-Governmental Meeting (IGM).

(2) CAPaBLE Programme (Scientific Capacity Building and Enhancement for Sustainable Development in Developing Countries)

With the aim of improving the scientific capabilities of developing countries, APN supported capacity building activities for young, aspiring scientists and joint research activities of leading scientists in developing countries.

(3) Global Change Research on local community

APN conducted Projects in cooperation with Hyogo Prefecture.

2-2 Inter-Governmental Meeting

APN conducted the 17th Inter-Governmental Meeting (IGM) and the Scientific Planning Group (SPG) Meeting in Jakarta, Indonesia.

3. Activities of the Japanese Centre for International Studies in Ecology (JISE)

Aiming to realise a sustainable society through ecological study, JISE conducts practical research toward restoring and creating the environment from regional to global level, offers environment-related training programmes, and collects and provides environmental information. JISE implemented the following activities in FY2011.

3-1 Research Projects

JISE used its own financial resources and also received research grants from many external sources to implement research on restoring tropical forests in Malaysia, Brazil, Kenya and Cambodia, community cycle research in tropical forests as a survey of potential natural vegetation in Asia and the Pacific (Thailand), research to control forest degradation using work in Laos on the structure and dynamics of regional ecosystem, research on the status of introduced plant communities in agricultural land to investigate the involvement in biodiversity conservation (Izu Peninsula, Japan), and continuing research to evaluate environmental protection forests as disaster-prevention measures.

In addition, after the Great East Japan Earthquake in March 2011, JISE quickly set about using all its research department resources, with funding from Mitsubishi Corporation, to investigate vegetation damage due to the disaster and also to survey potential natural vegetation to use as forest coastal levees with the aim of conserving lives and biodiversity, as well as to use as disaster prevention and nature regeneration. The results of this research were announced at meetings at the Ecological Society of Japan etc. and information was shared at disaster related symposia aimed at the general public.

3-2 Capacity Building

JISE implemented a course on “Ecology and Forests for Life” that was run in an easy-to-understand way for the general public, focusing on understanding of local green environment and practical forest creation. In addition, following on from last year, JISE was commissioned by JICA to implement “Regional research for 2011 -Programme on Vegetation restoration in degraded land in Asia and Africa” and with its position as a

top-ranking training centre, JISE implemented training for 10 participants from overseas. There was also a follow-up session conducted in Laos for returnees who had received the aforementioned training in previous years.

3-3 Interaction

JISE has made preparations to launch the database for information (planned for FY2012) regarding phytosociological data (such as vegetation system, vegetation units and vegetation relevé) based on partnerships with institutions such as with Yokohama National University. JISE also held outreach events, targeting the general public, such as the JISE Environmental Forum on “Aiming to implement a harmonious society -lessons learned from the Great East Japan Earthquake”.

3-4 Dissemination and Public Awareness

JISE issued its bulletin “Ecological Environmental Research” outlining its research results, which was also launched on-line. It also carried out overseas eco-tours and tree-planting tours for the general public (to Kenya, Germany and Cambodia)