



2018

July 2018 - June 2019
Annual Report



IGES Institute for Global
Environmental Strategies



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Foreword

The Institute for Global Environmental Strategies (IGES) was established under an initiative of the Japanese government in 1998 with the support of Kanagawa Prefecture. Since 2012, IGES has been conducting practical policy research as a public interest incorporated foundation, aiming to realise sustainable development in the Asia-Pacific region.

During FY2018 (July 2018–June 2019) highlighted in this annual report, IGES operated within its 7th Phase Integrative Strategic Research Programme. We carried out a wide range of research activities spanning global issues such as climate change mitigation and adaptation, creation of a sound material-cycle society and circular economy, and conservation of biodiversity. We also provided effective recommendations for inclusion in policy formation processes.

At present, a variety of initiatives are underway in the international community to respond to intensifying climate change and realise sustainable development. In October 2018, the Intergovernmental Panel on Climate Change (IPCC) released the special report “Global Warming of 1.5°C”, which outlines from a scientific standpoint the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emissions pathways. At the 24th Conference of the Parties (COP24) to the United Nations Framework Convention on Climate Change (UNFCCC) held this past December, implementation guidelines for the Paris Agreement were adopted, and post-2020 concrete initiatives to prevent global warming have begun to take shape in many countries. Furthermore, the first ever SDG Summit is due to be held in September 2019, as the SDGs have become increasingly mainstream in policies at the national and local government levels, as well as in business activities. In order to accelerate these developments to ensure the transformation to a decarbonised and sustainable society in harmony with nature, we must further strengthen cooperation amongst diverse stakeholders and co-design pathways and vision to this transformation based on the concept of a “circulating and ecological economy” which forms the basis of Japan’s Fifth Basic Environment Plan (decided by the cabinet in April 2018).

In our dynamically evolving world, as we forge greater links with various stakeholders to co-produce knowledge, IGES will continue to advance strategic policy research that appropriately responds to global needs, and fulfill our role as a change agent in facilitating the transformation to a sustainable society.

Finally, I would like to request your continued understanding and support for IGES research activities.



President, IGES
Kazuhiko Takeuchi

IGES, in its 7th Phase Integrative Strategic Research Programme (FY2017–FY2020), engages in research activities in the three issue areas of Climate and Energy, Natural Resources and Ecosystem Services, and Sustainable Consumption and Production, with its two functional centres for Strategic and Quantitative Analysis and Sustainability Governance, and three stakeholder taskforces on City, Finance, and Business. The institute also has satellite offices in Tokyo, Kansai, Kitakyushu, Bangkok, and Beijing to promote various activities with key partners based in these cities.

IGES places particular emphasis on cross-cutting research aimed at the effective implementation of the Paris Agreement and the Sustainable Development Goals (SDGs), two key international endeavours to address global environmental issues. IGES actively pursues cooperation with a wide range of stakeholders, including national and local governments, international organisations, research institutes and NGOs.

In FY2018, while focusing on major policy processes, IGES carried out research activities designed to address global needs and also engaged in dynamic outreach activities to provide research outputs in a timely manner. Specifically, IGES published a guidebook that comprehensively interprets the IPCC special report “Global Warming of 1.5°C” released in October 2018. At the same time, IGES published a timely report, entitled “1.5-Degree Lifestyles” together with several partners. The institute also made substantial contributions to key international publications, such as United Nations Environment Programme (UNEP)’s “Air pollution in Asia and the Pacific: Science-Based Solutions” and “Global Environment Outlook (GEO-6): For Industry in Asia-Pacific”. IGES is also actively engaged in translating major global assessment reports into Japanese, such as the “GEO-6 Summary for Policymakers” by UNEP, and the “Asia and the Pacific SDG Progress Report 2019” by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). Likewise, IGES disseminated information and analysis gained through participation in important international processes, such as the 24th Conference of the Parties (COP24) to the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Environment Assembly (UNEA), G20 and the High-level Political Forum on Sustainable Development (HLPF). Through these strategic activities, IGES could enhance its impacts on domestic and international debate as well as policy formation. Moreover, every year IGES holds the International Forum for Sustainable Asia and the Pacific (ISAP). At the recent ISAP2019, leading experts from Japan and around the world engaged in discussions on the main topic of inclusive transformation through multi-stakeholder collaboration.

Going forward, IGES will continue to conduct practical research activities keeping abreast of dynamically developing trends in the Asia-Pacific region and around the world, and to disseminate policy recommendations and solutions that contribute to the realisation of a sustainable society.



Executive Director, IGES
Hideyuki Mori

Outline of IGES



Mission of IGES

The Asia-Pacific region has seen rapid economic development and an accompanying intensification of environmental problems. In light of this, achieving a balance between environmental and developmental goals is a pressing issue, and the mapping of paths to sustainable societies that operate in harmony with nature is required. While maintaining cooperative relationships with a wide array of stakeholders including national and local governments, international organisations, universities, research institutes, businesses and NGOs, IGES intends to form strategies to achieve sustainable societies and to contribute to policy formulation based on the needs of the Asia-Pacific region.

Research Activities

FY2018 was the second year of the 7th Phase Integrative Strategic Research Programme (July 2017–June 2021), and hinged upon the coordination of the Strategic Management Office, IGES continued to engage in policy research for problem-solving in the three issue areas of Climate and Energy, Natural Resources and Ecosystem Services, and Sustainable Consumption and Production, with its two functional centres for Strategic and Quantitative Analysis and Sustainability Governance, three stakeholder taskforces on City, Finance, and Business, as well as at its domestic and overseas satellite offices.

FY2018 Organisational Chart



Research Highlights in FY2018

July 2018-June 2019

In close collaboration with diverse stakeholders, IGES aims to generate “impact” that facilitates the transition towards realising sustainable societies. In its 7th Phase Integrative Strategic Research Programme (ISRP7), which began in FY2017, we set our target to have 25 successful cases annually. We could attain the target both in FY2017 and FY2018, with 25 cases in FY2017 and 36 cases in FY2018.

In FY2018, IGES set up an award called the “Mountain View Award”, awarded to the team with the “best impact” case. The award promotes impact generation and allows good impact cases to be shared within the institute. Out of the 36 cases in FY2018, the six cases selected as finalists for the award are outlined below.

1

Contributing to the Revision of the Sustainable Sourcing Code for Timber for the Tokyo 2020 Olympic and Paralympic Games

IGES explained to the Tokyo 2020 Organising Committee about the current situation of timber production and deforestation impacts, and proposed initiatives that could improve the sustainability of forest management and supply chains in timber-supplying countries such as Indonesia and Malaysia. Consequently, IGES contributed to the revision of the Sustainable Sourcing Code for timber during

the preparation and operating phases of the Tokyo 2020 Olympic and Paralympic Games. The new Sourcing Code clearly mentions timber that is derived “from forests maintained and managed based on mid- to long-term plans or policies,” and that which is not derived “from the conversion of forest to non-forest area, such as farmland.” (https://tokyo2020.org/en/games/sustainability/data/sus-procurement-timber-code2_EN.pdf) This is one of the first decisions by the Japanese public sector on public purchase policy that contributes to the Zero Deforestation target.

2

Supporting the Development of National and Sub-national Waste Management Strategies Provided Policy Directions towards Improving Sustainable Waste Management and Resource Efficiency in Asia and the Pacific

Waste management is a crosscutting issue that affects many aspects of the environment, economy and society in Asia and the Pacific.

The IGES Centre Collaborating with UNEP on Environmental Technologies (CCET) has been assisting national and sub-national governments in the region in developing waste management strategies and action plans, and enhancing technical and institutional capacities for moving from end-of-pipe solutions to integrated resource management. The

main achievements thus far are highlighted below:

- CCET has been supporting six Asian countries in South Asia (The Maldives, Sri Lanka, India) and Southeast Asia (Myanmar, Cambodia, Indonesia) in developing national and sub-national waste management strategies and action plans that are more integrated and reflect resource management perspectives.
- The national and sub-national (regional and city) waste management strategies and action plans developed with support from CCET in Myanmar, Cambodia, and the Maldives have officially approved, adopted and published by the respective governments.

3

Taking the Lead on High-profile UNEP Report on Air Pollution Solutions

IGES served as the lead coordinator for a report entitled, “Air Pollution in Asia and the Pacific: Science-Based Solutions”, released by the United Nations Environment Programme (UNEP) in October 2018. The report identifies 25 solutions to air pollution that could positively impact human health, crop yields, climate and socio-economic development, as well as contribute to achieving other Sustainable Development Goals (SDGs). A total of 14 IGES researchers across five divisions (Sustainability Governance Centre, Climate and Energy Area,

Natural Resources and Ecosystem Services Area, Sustainable Consumption and Production Area, and Strategic Management Office) contributed to the report, including coordinating lead author for chapter 3 of the report.

4

Facilitating Consultations for Business: Creating Change via RE100

The Japan Climate Leaders' Partnership (JCLP) is a coalition of 107 companies that are undertaking measures towards decarbonisation and aiming to lead this transition process. IGES is currently serving as the secretariat of the JCLP.

The JCLP has been working towards promoting RE100, a collaborative initiative in which companies commit to 100% renewable energy for business activities. This has involved forging a partnership with the Climate Group, carrying out business-policy dialogues as well as dialogues between JCLP member businesses and the Climate Group, and disseminating timely information to the media. Furthermore, in June 2019, the JCLP released its "Proposal from Corporate Consumers Aiming to Sourcing 100% Power from Renewable Electricity" with major corporations calling on the Japanese Government to draw on all policies and measures to transform Japan's power grid to one powered by 50% renewable electricity by 2030. At present, 16 JCLP members have been participating in RE100. Ultimately, IGES has been involved in facilitating consultations among relevant stakeholders, as well as in the collecting, analysing and sharing information that is indispensable to the JCLP's activities.

5

Contributing to the Development of "Kyoto Appeal to Jointly Achieve 1.5°C" through IGES's Strategic Communications & Networking

Working towards the goal of "Net Zero" carbon emissions by 2050 to limit global warming to 1.5°C, the City of Kyoto expressed its resolve to pursue specific measures and proceed to take concrete actions in the *Kyoto Appeal to Jointly Achieve 1.5°C*. IGES contributed to the effort by helping to formulate this Appeal, as well as coordinating the logistics of its unveiling. In particular, IGES made substantial contributions to the Appeal based on the knowledge cultivated from collaborations with Kyoto, networks with stakeholders, and the IGES publication *IPCC Special Report on Global Warming of 1.5°C Handbook: Background and Future Prospects*. Moreover, IGES further supported the Appeal by being involved from the preparation stage of the Commemorative Symposium on the Intergovernmental Panel on Climate Change (IPCC) 49th Session entitled, "To Realise a Decarbonised Society: the State of the World and Kyoto's Challenge", and organising a panel session that invited two of the co-Chairs of the IPCC Working Group III.

Going forward, the Appeal will advance revisions to Kyoto City's Local Global Warming Countermeasure Ordinance as well as lead to progress in the city's Local Action Plan on Countermeasures for Global Warming.

6

Contributing to the Transition Pathways of Urban Mobility in Developing Cities: A Case of Semarang City, Indonesia

Based on data from Semarang City, Indonesia, IGES identified three emission reduction scenarios and estimated reductions in greenhouse gas emissions and air pollutants. IGES jointly developed proposals with stakeholders concerned, which paved the way for modal shift improvements due to the expansion of the Bus Rapid Transit (BRT) System, the promotion of BRT eco-driving behaviours, and the introduction of low emission vehicles. Policymakers were receptive to such results and proposals, and have also been working to raise awareness among the youth to encourage more transportation use.

One specific development is a consequence of the agreement between Toyama City and Semarang City, a city-to-city partnership towards the realisation of a low-carbon society. Toyama City's businesses became business entities under Japan's Joint Crediting Mechanism (JCM), and used the mechanism to support Semarang City's initiative to change 72 bus engines into hybrid engines that can use compressed natural gas.

In this way, attempts to implement specific actions and develop projects based on policy research have proven to have multiple benefits for Semarang City. These successes can be attributed to the sufficient ability to plan and carry out such actions and projects, the proactive participation of stakeholders, and, with respect to mobilisation of funding, the combination of multiple sources to mobilise sufficient funds for implementation. This success story may inform strategies to pursue in other cities in Indonesia as well as in other Asian countries.

Research Highlights: Issue Research Areas

Climate and Energy Area

Outline

With particular focus on the Asia-Pacific region, IGES is carrying out initiatives to facilitate the transition to decarbonised societies at the national and local levels. Specifically, the Institute looks towards strengthening climate and energy-related strategies and policies, and engages in international climate negotiations, bilateral and multilateral cooperation, carbon pricing initiatives, market-based mechanisms, and the development and maintenance of databases.

Major Activities in FY2018

Operationalisation of the Paris Agreement

IGES made timely proposals regarding the operationalisation of the Paris Agreement, as well

as presentations at international conferences. IGES has made submissions to the UNFCCC as an accredited research institution on modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement. Likewise, IGES proposed development of the “Paris Rulebook” to the Government of Japan before COP24. IGES introduced these proposals to stakeholders and experts engaged in international negotiations at side events for COP24 and Subsidiary Body sessions, as well as at international workshops organised by IGES. Regarding capacity building for enhanced transparency in Asian developing countries, IGES conducted research with various stakeholders and reported on outputs to international organisations, particularly UNDP.

Materialisation of GHG Emission Reductions through Implementation of the JCM

IGES contributed to implementation of the Joint Crediting Mechanism (JCM) which appropriately evaluates contributions to GHG emission reductions or removals by Japan, and applies them toward achievement of Japan’s emission reduction target. IGES supported the development of five MRV (monitoring, reporting and verification) methodologies, and the submission of 30 requests for official registration of projects to the Joint Committees between Japan and partner countries. These projects are expected to generate approximately 1.1 million tCO₂ in emission reductions by 2030. Toward further understanding and implementation of the JCM, IGES developed guidebooks for the JCM in selected partner countries reflecting their respective rules and organised the



Regional workshop on international market mechanisms and transparency under the Paris Agreement (Bogotá, Colombia)



Workshop for upscaling the JCM for enhancing NDC implementation towards achieving the goals of the Paris Agreement (Tokyo)

JCM annual assembly workshop, inviting all JCM partner countries.

Impacts on Political and Social Debates on Carbon Pricing in Asia

Carbon pricing policy is taking shape in Asia, including the introduction of emissions trading schemes in China and Republic of Korea. IGES served as a focal point for implementing the third Forum of Carbon Pricing Mechanisms in Japan, Korea and China, and contributed to discussions on future cooperation. IGES also conducted a study on allocation and MRV methodologies, and published articles in newspapers and magazines on emissions trading schemes, thereby stimulating policy development.

Climate Policy Development by Visualisation of Current Status

IGES engages in analysis and visualisation of climate policies around the world in order to facilitate the further development of such policies. Particularly for Asia, IGES completed analysis on coal transition management for 2°C/1.5°C goals in China and India and a comparative study on low-carbon policy in

Japan, Korea and China. Likewise, IGES provides the most up-to-date information through the regular updating of IGES Climate Databases on various topics.

Selected Publications

- “IGES Submission to Views on Modalities, Procedures and Guidelines for the Transparency Framework for Action and Support Referred to in Article 13 of the Paris Agreement”
- “Stocktake for Raising the Climate Ambition”
- “National Greenhouse Gas Inventory Capacity: An Assessment of Asian Developing Countries” (Environmental Science and Policy, Volume 78)
- “Visualisation Approach and Economic Incentives toward Low Carbon Practices in Households: A Survey Study in Hyogo, Japan” (Journal of Cleaner Production, Volume 220)
- “Prospects of International Negotiations toward the Paris Rulebook” (in Japanese)
- “Development Status and Future Prospect of Emissions Trading Scheme in China” (in Japanese)

- “Report on EU ETS (European Union Emissions Trading System)” (in Japanese)
- “Development Status and Background of CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation)” (in Japanese)
- “Theory and Practices of Global Tax” (Nippon Hyoron Sha) (in Japanese)
- “JCM in CHARTS (for Bangladesh, Cambodia, Indonesia, Lao PDR, Myanmar, Mongolia, the Philippines, Thailand and Vietnam)”
- “IGES NDC Database”
- “IGES BUR (Biennial Update Report) Database”
- “IGES JCM Database”
- “IGES CDM Project Database”
- “IGES List of Grid Emission Factors”
- “IGES Kyoto Units Transfer Database”
- “IGES Kyoto Units All Transaction Data for the First Commitment Period”



3rd Forum of Carbon Pricing Mechanisms in Japan, Korea and China (Tokyo)



Japan-India Climate Policy Research Workshop (Delhi, India)

Natural Resources and Ecosystem Services Area

Outline

IGES conducts problem-solving research activities on integrated natural resource management to promote the conservation and sustainable use of natural resources in the Asia-Pacific region, focusing on forest conservation, climate change adaptation, water resources management and biodiversity conservation.

Major Activities in FY2018

Pilot on Participatory Watershed Management

IGES and partners helped local governments in the Philippines to develop more resilient land-use plans and climate change action plans through land-use change scenario analysis and risk assessment. Flood risk assessments were completed in five watersheds, and water quality and habitat quality assessments are underway.

Lake Conservation and Management

IGES and partners helped to develop databases, tools and platforms to support lake management in Cambodia. Communities surrounding a lake were surveyed and a book chapter, leaflet and video were produced. Meanwhile, the annual “International Symposium on Conservation and Management of Tropical Lakes” was organised.

Landscape Restoration Research

IGES and partners quantified the changes in ecosystem services due to community-based afforestation in Kenya. A field survey and questionnaire were completed, while a spatial analysis and modelling are ongoing. The results of this work are being fed into a much larger proposal, connecting this work with other efforts in Ghana.

Mainstreaming Biodiversity Conservation and Sustainable Management in Priority SEPLS

IGES and partners supported another 10 projects to demonstrate the value and potential of socio-ecological production landscapes and seascapes (SEPLS) around the world with a focus on Asia. The results were broadcast in a variety of ways, including an issue brief presented at a side event during the



Conducting a social survey near Nairobi, Kenya

14th meeting of the Conference of the Parties to the Convention on Biological Diversity.

Plausible Alternative Futures of Island Mangroves in the Asia-Pacific Region

IGES and partners have begun developing scenarios in changing mangrove ecosystem services to promote proactive landscape and seascape planning in India, Japan, Taiwan, the Philippines and Fiji. An inaugural workshop was conducted to develop common methodology and inform the research to follow.

Urban Green Spaces Assessment

IGES and partners conducted a study on spatial connectivity and accessibility of urban green spaces in the Greater Tokyo Region by means of spatial analysis and a survey questionnaire. A conference paper was produced and a peer-reviewed paper is in preparation.

Clean Wood Research

IGES and partners are working to provide national



Timber from smallholder tree farming in Mindanao, Philippines

data on timber legality risks and mitigation measures to support the implementation of Japan's Clean Wood Act. Literature reviews, trade analyses, interviews and field observations will be conducted to produce country reports for Brazil, Ecuador, the Philippines, Thailand and Lao PDR. Additionally, summaries for a website managed by the forestry agency to facilitate implementation the Act and a public seminar will be prepared.

Invasive Alien Species and Communities

IGES and partners are contributing to an international assessment of invasive alien species (IAS) through a suite of three studies on the under-studied interface between local communities and IAS. The studies include an analysis of local communities' perspectives on IAS; an analysis of citizen science projects collecting IAS observation data; and an empirical study on community use of the invasive *Lantana camara* in India.

Science-policy Interfaces on Natural Capital and Ecosystem Services

IGES and partners are working to deepen our understanding of science-policy interfaces (SPIs). This is being achieved through literature reviews, surveys and interviews at both the national level in Japan, and internationally with the input of biodiversity scientists and policymakers.

Regional Circular and Economic Sphere

IGES and partners are elaborating the regional circular ecological sphere (regional CES) concept through analysis of best practices and proposal of pathways for the creation and operationalisation

of regional CES in various contexts. Spatial analyses and household surveys are being conducted in Bangladesh and India, based on which an issue brief on the broader concept and its relevance to socio-ecological production landscapes and seascapes has been produced.

Urban Water, Energy and Food Management Innovation

IGES and partners began to design leading practices across the water-energy-food nexus in cities and develop user-friendly decision-making tools and systems. A preliminary analysis has been conducted of a Tokyo case and a prototype food selection tool developed.

Sustainable Consumption and Production of Food

IGES and partners have begun to link sustainable food production in rural, peri-urban and urban areas with responsible consumption. Four "Food-info Marts" and four "Mobile Food-info Marts" were established in two cities in India, and 100 urban consumers and 200 rural producers were trained.

Contribution to International Assessments

IGES staff contributed to the Global Environment Outlook for Youth, the Global Environment Outlook for Industry, the IPBES Regional Assessment for Asia and the Pacific, and the IPBES Thematic Assessment of Invasive Alien Species and Their Control. These contributions were made as authors and by secondments for members of staff to the relevant IPBES technical support units, also hosted by IGES.

Standardised and Decentralised Domestic Wastewater Treatment and Management

IGES and partners in ASEAN countries have begun to create opportunities for policy dialogue, networking and capacity building for multi-stakeholders and experts in all ASEAN countries on standardised and decentralised domestic wastewater treatment

and management. A policy and institutional design platform and technology showcase is being developed for various stakeholders.

Water Environmental Management in Asia

As secretariat for the Water Environment Partnership in Asia (WEPA), IGES has been contributing to the

improvement of the water environment in Asian countries for over a decade. In FY2018, the WEPA annual meeting was conducted in Tokyo with the participation of government officials from 13 countries.



Kick-off meeting with Thailand national focal points of ASEAN working group on water resource management



Delegates at the 14th WEPA annual meeting and international workshop

Selected Publications

- “Asia-Pacific Landscape Transformations”
- “Regional Assessment Report on Biodiversity and Ecosystem Services for Asia and the Pacific”
- “Global Environment Outlook 6 (GEO-6) for Industry”
- “Global Environment Outlook 6 (GEO-6) for Youth”
- “Forest Certification: More Than a Market-Based Tool, Experiences from the Asia-Pacific Region”
- “Priority Practices for Addressing Non-economic Loss and Damages Caused by Cyclones in Bangladesh: Case Study of Koyra”
- “Understanding National Biodiversity Targets in a REDD+ Context”
- “Investigating the Relationships between Climate Hazards and Spatial Accessibility to Microfinance Using Geographically-weighted Regression”
- “Effects of Logging on Wildlife Communities in Certified Tropical Rainforests in East Kalimantan, Indonesia”
- “Assessment of Climate-Induced Long-term Water Availability in the Ganges Basin and the Impacts on Energy Security in South Asia”
- “The Satoyama Development Mechanism Progress Evaluation Summary Report”
- “National Efforts in Adaptation Planning”
- “Exploring Futures of the Hindu Kush Himalaya: Scenarios and Pathways”
- “Water-Energy-Food Nexus: A Provision to Tackle Urban Drought”
- “Transboundary Impacts of Climate Change in Asia: Making a Case for Regional Adaptation Planning and Cooperation”
- “Socio-Ecological Production Landscapes and Seascapes: Experiences Overcoming Barriers from around the World”
- “Governing the Water-Energy-Food Nexus Approach for Creating Synergies and Managing Trade-offs”
- “WEPA Third Phase Final Report”
- “Sustainable Use of Biodiversity in Socio-ecological Production Landscapes and Seascapes and its Contribution to Effective Area-based Conservation”
- “T20 Japan: Biodiversity - A Key Source of Technological Innovation”

Research Highlights: Issue Research Areas

Sustainable Consumption and Production Area

Outline

IGES conducts policy analysis from the perspective of sustainable consumption and production (SCP) including environmentally-sound waste management in cities, formation of effective recycling systems with a view of Asia as a whole, and improvement in resource productivity. Likewise, IGES makes policy recommendations to stimulate lifestyle changes.

Major Activities in FY2018

New Initiatives under the 10YFP Sustainable Lifestyles and Education Programme

IGES has been working on establishing model cases of SCP through conceptualisation and operationalisation of long-term sustainable living within the limits of one planet.

As the coordination desk of the Sustainable Lifestyles and Education (SLE) Programme of the United Nations' 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP), IGES hosted the 4th multi-stakeholder advisory committee (MAC) meeting of the programme and played a leading role in the launch of new initiatives under the SLE Programme. Likewise, IGES administered the 4th call for proposals

facilitating sustainable lifestyles over the world. About 180 proposals were evaluated and eight new projects were selected. IGES will support the launch, implementation, and monitoring of these projects.

To examine possible policy targets for long-term sustainable living within the limits of one planet, IGES conducted several works in collaboration with EU research institutes and published "1.5-Degree Lifestyles: Targets and Options for Reducing Lifestyle Carbon Footprints" in March 2019.

IGES launched the "Global Search for Sustainable Schools" initiative in six countries to identify schools working on sustainable lifestyles and promote exchanges among selected schools.

Regional SCP Policy and Research Hub

IGES aims to establish itself as a regional SCP policy and research hub in collaboration with regional stakeholders.

As a theme leading organisations of "Policy Design and Evaluation for SCP in Asia and the Pacific" (S-16: Environment Research and Technology Development Fund), IGES collaborated with the Indonesian government, Thai government, Japanese government, and the Asia Pacific Roundtable on SCP (APRSCP) to organise an official side event,



HLPF2018 official side event on SDG 12 from Asia and the Pacific perspective (New York)

as well as to publish a policy brief on SCP, at HLPF 2018 in July.

As a part of the consortium operating the EU SWITCH-Asia SCP Facility, IGES has contributed to the baseline study of the national SCP status and the development of national-scale projects in Viet Nam and Lao PDR.

Contribution to Mainstreaming Circular Economy, Resource Efficiency, and the 3Rs

To contribute to putting resource efficiency and circular economy on the central agenda for emerging economies in the region, IGES engaged in key international processes to support the Japanese government such as: G7, G20, OECD Working Party on Resource Productivity and Waste (WPRPW), UNEP

International Resource Panel (IRP), and ASEAN.

IGES served in the main editorial role for developing a G7 synthesis progress report on both the Toyama Framework on Material Cycles (2016) and the 5-year Bologna Roadmap (2017).

IGES supported G20-related agenda-setting on marine plastic litter and circular economy through the G20 preparatory process to develop discussion papers, T20 process of think-tanks, and S20 process of national academies of G20 countries.

IGES supported the World Circular Economy Forum 2018 as a key partner. Also, IGES published a policy brief on China's ban on plastic imports coordinated with the timing of the forum.

As a part of an EU-funded project, IGES played a leading role in conducting a feasibility study on policy capacity development for ASEAN countries on plastics and circular economy.

In collaboration with Yokohama city, IGES is supporting Da Nang city to implement model projects for source separation and the 3Rs. As a result, Da Nang decided to expand community-level 3R activities to the whole city from mid-2019.

IGES Centre Collaborating with UNEP on Environmental Technologies (CCET)

CCET, in collaboration with UNEP-IETC, has been assisting national and sub-national governments in Asia and the Pacific in developing waste management strategies and action plans, and enhancing technical and institutional capacities for

moving from end-of-pipe solutions to integrated resource management.

CCET supported six Asian countries (Maldives, Sri Lanka, India, Myanmar, Cambodia and Indonesia) in developing national/sub-national waste management strategies and action plans.

The emission quantification tool (EQT) was developed with the Climate and Clean Air Coalition (CCAC) to measure SLCPs (short-lived climate pollutants) reduction in the waste sector. Application of IGES' EQT was part of Philippine's strategic action concerning its NDC.

CCET contributed to sub-regional, regional and global policy processes on sustainable waste and resource management, including the South Asia Co-operative Environment Programme (SACEP), the Global Waste Management Dialogue of UNEP-IETC, and the Regional 3R Forum in Asia and the Pacific, among others.



Promotion of 3Rs through environmental education (Mandalay)



Grass-roots campaign against use of single-use plastics (Hyderabad)



South Asia sub-regional policy dialogue on waste management (Kathmandu)

Selected Publications

- Technical Report "1.5-Degree Lifestyles: Targets and Options for Reducing Lifestyle Carbon Footprints"
- "Our Actions for a Resource-efficient Future: Following up G7 Progress on Toyama Framework on Material Cycles and 5-year Bologna Roadmap"
- Policy Brief "Reconfiguring Consumption and Production in Asia and the Pacific"
- Policy Brief "Six Proposals for Future Policies towards Circular Economy and Society"
- Guidelines "A Project Assessment Framework for Adaptive Planning, Impacts Generation, and Scaling"
- Policy Brief "Proposals to Strengthen Japan's Domestic Measures and Regional Cooperation on Stable and Environmentally Sound Plastic Scrap Recycling: Response to China's Ban on Imports of Plastic Scrap"
- Issue Brief "Paradigm Shift from Incineration to Resource Management, and Town Development: The Case of Oki Town"
- "National Waste Management Strategy and Master Plan for Myanmar" (national policy)
- "Phnom Penh Waste Management Strategy" (city policy)

Research Highlights: Functional Centres

Strategic and Quantitative Analysis Centre

Outline

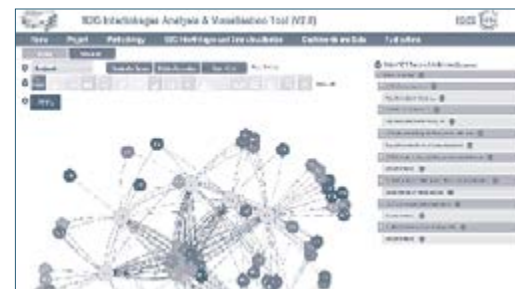
The Strategic and Quantitative Analysis Centre (QAC) functions as a hub to promote science-policy linkage for achieving sustainable development. It contributes to creating value-added knowledge through strategic research and quantitative policy assessment so as to provide practical policy recommendations, helping informed policymaking and problem-solving in developing countries in Asia and the Pacific and beyond. The Centre works to support policy assessment at the regional, national and subnational levels by identifying appropriate indicators, and working on filling in the data gaps and data analysis. Work is also done on applying quantitative analysis tools and integrated assessment models to critical topics such as those covered by Sustainable Development Goals (SDGs), including SDG integration and policy coherence, water-energy-food nexus, low-carbon and green economy pathways, green investment and green jobs, climate policy, carbon pricing, and trade and the environment, in collaboration with key partners.

Major Activities in FY2018

SDG Integrated Policymaking through Interlinkages

Supported by the IGES Strategic Research Fund, IGES developed a free online tool, [SDG Interlinkages Analysis & Visualisation](#), to support integrated policymaking for SDG planning and implementation. Covering 27 countries in Asia and Africa, the tool helps identify and quantify the interlinkages between SDG targets and enables the identification of major synergies and trade-offs. The tool has been used to support integrated SDG priority setting and institutional arrangement in Bangladesh, the development of a chapter on SDG interlinkages for the national SDG Roadmap and the preparation of the Voluntary National Review 2019 by the government of Indonesia, and the development of national sustainable consumption and production action plans in the Philippines and Viet Nam. IGES provided a capacity building workshop on SDG interlinkages to the national planning commission and other stakeholders in Indonesia. Using this tool, IGES conducted a few case studies on thematic issues related to climate actions, sustainable consumption and production, sustainable infrastructure, and biodiversity and

ecosystem services. IGES will explore the application of the tool at the subnational level, including river basins and cities.



[SDG Interlinkages Analysis & Visualisation Tool](#)



Capacity building workshop on SDG interlinkages analysis and application (Bandung, Indonesia)

Just Transition to a Decarbonised Society

Funded by the Ministry of the Environment of Japan, IGES conducted quantitative assessment on the employment impacts of a transition to a decarbonised society, focusing on mid-and-long term mitigation options such as phasing-out of coal power plants and structural change through technological transformation (a case study on the promotion of electric vehicles). IGES successfully informed relevant domestic policymakers on relevant policy options for a just transition.

Long-term Mitigation Scenarios Analysis

In collaboration with the National Institute for Environmental Studies (NIES), IGES conducted an analysis on Japan's long-term climate mitigation scenarios using the AIM/CGE [Japan] model developed by NIES. Under the project "Climate Policy Assessment and Mitigation Modeling to Integrate National and Global Transition Pathways" (COMMIT), IGES informed relevant stakeholders about climate policy options for achieving long-term mitigation targets and contributed to the Talanoa Dialogue. IGES, in collaboration with the University of Tokyo,

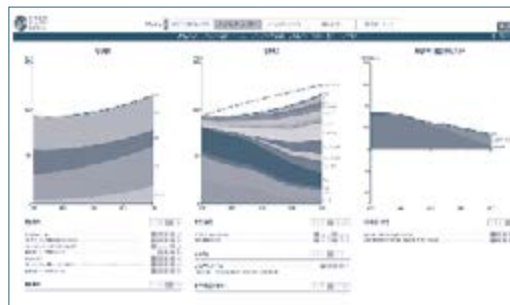


The [mipplot package](#) for climate mitigation scenarios

launched a visualisation tool for climate mitigation scenarios, namely [mipplot](#), which is expected to be used by policymakers and academia for better understanding of mitigation pathways.

IGES Contribution to the TWI2050 Project

IGES conducted local-level long-term social-economic scenario analysis for low-carbon transition and presented the case studies in Tokyo and Bhutan at the Cities IPCC Conference 2018. IGES contributed to The World in 2050 (TWI2050) report which was presented at the High-level Political Forum on Sustainable Development 2018.



[Japan 2050 Low Carbon Navigator](#) used for university education

Selected Publications

- Policy Report "An Integrated Approach to Sustainable Development through SDG Interlinkages"
- "IGES SDG Interlinkages Analysis & Visualisation Tool" (Version 3.0)
- "Climate Mitigation Scenarios Analysis and Visualisation Tool" (mipplot) (Version 0.1.0)
- "Long-term, Low-emission Pathways in Brazil, Canada, EU, India and Japan" (contribution to the Talanoa Dialogue by the COMMIT project)
- "Can Japan Enhance Its 2030 Greenhouse Gas Emission Reduction Target?: Assessment of Economic and Energy-related Assumptions in Japan's NDC" (Energy Policy)
- Research Report "Assessment of Climate-induced Long-term Water Availability in the Ganges Basin and the Impacts on Energy Security in South Asia"
- "Japan 2050 Low Carbon Navigator" (2018 updates)
- TWI2050 Report "Transformations to Achieve the Sustainable Development Goals"
- "Urban Transformation Towards Sustainability in Asian Cities" (In "Devising a Clean Energy Strategy for Asian Cities", Springer)

Research Highlights: Functional Centres

Sustainability Governance Centre

Outline

IGES worked to promote forms of governance that can enable the integration of multiple development objectives into development plans under the SDGs and the Paris Agreement. Some of the work of the Sustainability Governance Centre (SGC) focused chiefly on how national governments, businesses and other actors can collaborate on the SDGs. An additional stream of research focuses on governance that can promote the co-benefits between climate change and other development priorities. In each of these project areas, the SGC provided timely recommendations on the governance reforms required to make links across issues and move down a sustainable low carbon development path in Asia.

Major Activities in FY2018

Sustainable Development Goals (SDGs)

In 2019, IGES worked with the Global Compact Network Japan (GCNJ) to launch a new report that demonstrated progress in integrating the SDGs into businesses in Japan. This report underlined the growing awareness and activity among businesses on the SDGs, with notable increases in awareness

below the leadership level. The report also showed that, while some Japanese businesses are working on social issues covered by the SDGs (as part of their commitment to diversity management), significant scope remains for enhancing these efforts. In 2019, IGES also worked with the Kanagawa prefectural

government to develop a guidebook to help small and medium enterprises (SMEs) engage in the SDGs. This cooperation underscored the need to take not only an integrated but an inclusive approach to the SDGs.



IGES/GCNJ new report on SDGs progress in business



Kanagawa SDGs guidebook for SMEs

Co-benefits Approach

This year, IGES also took the lead on a United Nations Environment Programme (UNEP) report that demonstrated the public health threat that air pollution poses to 92% of the population in Asia. The report received extensive coverage in international outlets such as the New York Times and many newspapers in Asia. A Japanese version of the report was also published, garnering significant attention in Japan. Based on the report's 25

recommended solutions, countries such as Thailand have begun to strengthen air pollution policies. A follow-up report on integrating short-lived climate pollutants into nationally determined contributions (NDCs) was also published this year in collaboration with the Climate and Clean Air Coalition (CCAC). Looking forward, IGES is planning to work with cities to mainstream co-benefits into clean air policies and plans.

Launch of Japanese version of UNEP assessment report at symposium on air pollution countermeasures in Asia (Tokyo)



Selected Publications

- "From Linking Issues to Aligning Interests: Integrated Solutions to Climate Change and Sustainable Development"
- "Mainstreaming the SDGs into Business: Corporate and Organisational Experiences"
- "The Basics of the SDGs"
- "Kanagawa SDGs Guidebook for Small and Medium Enterprises"
- "Strengthening Environmental Dimensions of the SDGs"
- "Air Pollution in Asia and the Pacific: Science-Based Solutions"
- "Integrating Short-Lived Climate Pollutants into Asian NDCs"
- "Air Pollution in the Hindu Kush Himalaya"
- "Inclusive Climate Governance in Southeast Asia: Lessons Learned from Gender-Responsive Climate Mitigation"
- "Climate Change and Cities Second Assessment Report of Urban Climate Change Research Network"

City Taskforce

Outline

IGES co-creates solutions and promotes policies and strategies for low-carbon/carbon neutral, resilient and sustainable societies with stakeholders in Asian cities, including those in Japan. In collaboration with other regional and international organisations and networks, IGES facilitates the sharing of solutions and strategies among like-minded cities, and contributes to enhancing implementation capacity at the city level.

Major Activities in FY2018

Support for SDG Localisation through Voluntary Local Reviews (VLRs)

IGES produced the local SDGs reports, or Voluntary Local Review (VLR) reports, for three Japanese cities, namely Shimokawa Town (Hokkaido), Toyama City, and Kitakyushu City, in close collaboration with these governments. The reports were launched at the 2018 UN High Level Political Forum (HLPF), receiving attention from both the regional and international community as the first VLRs in the world, together with the VLR of New York City. These reports are referred to in the "Towards the Localisation of the SDGs" report prepared by the Global Taskforce of Local and Regional Governments.

IGES also launched an online information platform on VLR, entitled "VLR Lab", at the Sixth Asia-Pacific Forum on Sustainable Development (APFSD) in March 2019 in Bangkok, with partners such as UCLG ASPAC. Experiences in VLR were shared by the Deputy Mayor of Kitakyushu and President of IGES at APFSD 6. In addition to the VLR reports for four cities launched at the 2018 HLPF, five VLR reports have been put up on the VLR Lab as of the end of July 2019, namely Bristol (UK), Buenos Aires (Argentina), Los Angeles (USA), Oaxaca (Mexico), and Santana de Parnaiba (Brazil). With the VLR Lab, IGES

provides showcases for cities regarding planning, implementation, monitoring and reporting on SDG actions by local governments.

IGES also contributed to information sharing and capacity development on SDG localisation through organising the East Asia Summit (EAS) High-Level Seminar on Sustainable Cities (HLS-SC) and the ASEAN SDGs Frontrunner Cities Programme in collaboration with other IGES units, such as the Regional Centre in Bangkok.



Seminar on green infrastructure (Bali, Indonesia)

Contribution to Low-carbonisation Projects in Indonesia

IGES supported city-to-city collaboration projects intended to bring co-benefit impacts to cities including Semarang (with Toyama City), Bali (with Toyama City), and Bandung (with Kawasaki City). In Semarang, 72 of the 141 diesel buses of the Trans Semarang operating BRT in the city were retrofit to hybrid diesel-CNG buses based on the results of a feasibility study conducted within the collaboration between Toyama and Semarang. The Ministry of Transport of Indonesia recognised Semarang for its impressive efforts to increase BRT ridership during the Indonesian Road Safety Award (IRSA) in December 2018.

Launch of Summary Report of the China-Japan-Korea Joint Research on Decarbonisation of Cities at UNFCCC COP24

The China-Japan-Korea joint research project on cities towards decarbonisation and sustainable

development was formally endorsed at the 20th Tripartite Environment Ministers Meeting among China, Japan and Republic of Korea (TEMM 20) in Suzhou, China, in June 2018. IGES conducted case studies on actions by three Japanese local governments aiming to become low-carbon/ decarbonised cities, namely Nagano Prefecture, Toyama City, and Yokohama City. The summary report of the joint research was launched at a COP24 official side event in Katowice, Poland, in December 2018 with the ministers of all three countries in attendance.

Sharing Concepts related to the Circulating and Ecological Economy

The Circulating and Ecological Economy and the Regional/Local Circulating and Ecological Sphere (CES) are concepts put forward based on Japan's Fifth Basic Environment Plan. IGES shared these concepts with ASEAN countries through workshops and regional meetings, such as the 10th HLS-SC

in January 2019 in Bali. In addition, a discussion paper entitled "Circulating and Ecological Economy - Regional and Local CES: An IGES Proposal" was presented at the IGES-UCLG ASPAC joint side event at APFSD 6 in March 2019 in Bangkok.



Presentation of paper on circulating and ecological economy at APFSD side event

Selected Publications

- "Circulating and Ecological Economy - Regional and Local CES: An IGES Proposal"
- "Assessment of Urban Passenger Fleet Emissions to Quantify Climate and Air Quality Co-benefits Resulting from Potential Interventions (In Carbon Management)"
- "Low Carbon Society Scenario Semarang 2030"
- "Toyama City the Sustainable Development Goals Report - Compact City Planning based on Polycentric Transport Networks -"
- "Shimokawa Town the Sustainable Development Goals Report"
- "Taking Action on the SDGs in Japanese Cities: The 'FutureCity' Initiative and Its Achievement on the SDGs"



Launch of summary report of the China-Japan-Korea joint research at COP24 official side event

Research Highlights: Stakeholder Taskforces

Finance Taskforce

Outline

Delivering on the SDGs and commitments under the Paris Agreement requires mobilising and shifting large amounts of public and private capital. To achieve low-carbon and climate-resilient sustainable development, IGES is engaged in policy research and recommendations as well as capacity building. Specific areas of focus are responsible investment (e.g. ESG investment), financing options, financial disclosure on climate-related risks, responses to business opportunities, and financial flows related to SDGs.

Major Activities in FY2018

Green Bond Knowledge Platform

IGES has been engaged in commissioned work on green bonds from the Ministry of the Environment of Japan (MOEJ) since April 2017. MOEJ has strongly supported the issuance of green bonds in Japan through development of the Green Bond Guidelines, support for demonstration projects, subsidy programmes, and a knowledge platform. Since April 2018, IGES has served as the secretariat of a knowledge platform on green bonds, which was

expanded to become the green finance portal from April 2019.

IGES has collected and consolidated information on the status of the global green bonds market, green bond guidelines in various countries and regions,

good practices on green bonds, case studies of controversial green bonds, definition and taxonomy of green projects, types of green bonds and green financial products, and so forth. It has also built a partnership with Climate Bonds Initiative, a globally reputable non-profit organisation focused on green



Japan Green Bond Symposium (Tokyo)

bonds, in collecting information, connecting experts, and engaging in outreach for the platform through networking. IGES has also supported MOEJ as a secretariat to organise a green bond symposium in Japan to disseminate and share good practices and experiences in green bond issuance in Japan (March 2019).

Sustainable Finance

In order to mobilise the huge sums of funds required for implementing the SDGs, it is essential to build sustainable financial systems in which the financial sector, including banks, investors and other service providers, will shift their finance and investments to greener and more sustainable options. For example, the EU has taken the lead, developing the EU Action Plan on Sustainable Finance in March 2018. IGES has been following global trends on sustainable finance, including the EU Action Plan, and identifying specific areas for our analytical work.

IGES has issued a discussion paper, “Transforming the Financial System for Delivering Sustainable Development: A High-level Overview” in September 2018. This paper makes high-level recommendations in order to mainstream sustainable finance into national and international financial systems, building on pioneering initiatives in this area,

which have already strengthened international cooperation, domestic leadership and market-led efforts. The Institute has also started research work on identifying and comparing best practices for policies on sustainable finance both in the EU and Japan under the “Strategic Partnership to Implement the Paris Agreement: Japan-EU Policy Dialogue on Climate Change”. Discussion paper and relevant event forthcoming in FY2019.

Cooperation with UNEP Finance Initiative (UNEP FI)

Following appointment as a supporting institution of UNEP FI in February 2017, IGES has been working with UNEP FI Tokyo on outreach activities with Japanese member companies concerning new initiatives by UNEP FI, including decarbonising portfolios, climate-related information disclosure, and positive impact finance. IGES has shared information on important discussion points at COP24 related to climate finance with Japanese member companies of UNEP FI (December 2018), as well as cooperating with the UNEP FI/Japan Climate Initiative (JCI) conference held in Tokyo and organising an informal workshop between Japanese members and UNEP FI experts (June 2019). Mutual information has been shared on sustainable finance with UNEP FI Tokyo desk.

Selected Publications

- Discussion Paper “Transforming the Financial System for Delivering Sustainable Development: A High-level Overview”
- “Priority Practices for Addressing Non-economic Loss and Damages Caused by Cyclones in Bangladesh: Case Study of Koyra” (International Journal of Disaster Resilience in the Built Environment)
- “Challenges of Scaling-up the Green Bond Market in Japan”
- “Challenges and Opportunities of Global Tax : An Example of Discussion on Taxation of International Transportation Sector in the UNFCCC Negotiation” (Chapter 6 of “Theory and Practice of Global Tax”, Nippon Hyoron sha)

Research Highlights: Stakeholder Taskforces

Business Taskforce

Outline

IGES has continued its activities to generate outcomes and impacts by supporting highly motivated businesses in Japan, specifically targeting the promotion of climate change and decarbonisation policies in businesses in Japan.

Major Activities in FY2018

Developing Momentum for Decarbonisation in Japanese Industry

As the secretariat of the Japan Climate Leaders'

Partnership (JCLP), a group for companies that develop and publish ambitious recommendations, IGES has proactively organised a total of 11 events, including dialogues with companies and investors outside Japan and the JCLP delegation to COP24. Through these dialogues between JCLP companies and overseas companies, as well as by delivering key information mainly to the Japanese industrial sector, IGES has contributed to developing a momentum for decarbonisation among businesses in Japan. In particular, IGES has provided key updates in a business context on the latest developments in climate change and trends overseas, particularly

targeting the financial media in Japan. As a result, there have been many articles published.

Expansion of the Corporate Network (JCLP)

JCLP has rapidly expanded in size during FY2018. Its 38 members as of April 2018 have grown to 102 members as of April 2019 (268% growth from the previous year).

Supporting Decarbonisation by Businesses

In cooperation with The Climate Group, IGES has supported the applications of Japanese companies for RE100, EV100, and EP100* memberships as the



TCFD (Task Force on Climate-related Financial Disclosures) seminar



Dialogue with the Minister of Foreign Affairs



Mission 2020: Round-table with Christiana Figueres

JCLP secretariat. As a result, a total of 10 companies have newly joined RE100, EV100, and/or EP100 initiatives, thereby accelerating efforts toward decarbonisation by businesses.

Policy Engagement

JCLP has participated in the following committees that encourage recommendations for ambitious policy engagement from a corporate perspective: Policy Development Working Group of the Central Environment Council, and Subcommittee on Carbon Pricing (Ministry of the Environment).

In addition, JCLP has conducted dialogues with the Minister of the Environment and the Minister

of Foreign Affairs. Dialogue participants have communicated corporate efforts along with their strong motivation to decarbonise, calling for more ambitious deployment of policies. IGES has made various contributions including coordination of dialogues.

*These are international business initiatives. RE100 is committed to 100% renewable power, working to massively increase corporate demand for and delivery of renewable energy. EV100 aims to drive the transition to electro-mobility. And EP100 is an initiative pledged to double the energy productivity of businesses.

Selected Publications

- Policy Recommendation on Long-term Decarbonisation Strategy by JCLP
- Non State Actors' Climate Action 2018
- Climate Leaders' Signal
- JCLP Website

Research Activity Facilities & Units

Activities at IGES Satellite Offices

○ Kansai Research Centre

Kansai Research Centre (KRC) mainly carries out research focused on the business sector that promotes environmental and energy conservation measures under the theme of "Business and the Environment". KRC aims to contribute to actual GHG emissions reduction in developing countries through promoting transfer and diffusion of low-carbon technologies. In FY2018, with support from the Ministry of the Environment of Japan (MOEJ) and Hyogo Prefecture, KRC conducted research activities on three fronts, namely low-carbon technology transfer, disaster risk reduction, and regional circular and ecological sphere development.

Low-carbon Technology Transfer in India and Thailand

Activities in India have been expanding in cooperation with Japanese private companies, which provide the latest technologies and managerial know-hows related to air compressors, electric heat pumps, refrigeration, steam management and transmission belts. These technology suppliers are connected to potential end-users identified by the network of The Energy and Resources Institute (TERI) and other

partners through the means of workshops, trainings and feasibility studies on technology transfer.

Activities in Thailand are more focused on policy discussion, particularly with the Department of Alternative Energy Development and Efficiency (DEDE) and the Ministry of Energy, which manages the energy reporting system mandating more than 9,000 designated factories and buildings to report their energy management status every year. Based on the opinions of participants in a training programme for energy managers co-organised by DEDE and MOEJ in October 2018, KRC is recommending DEDE to start evaluating the energy reports using tentative benchmarks set for each industry by analysing the past reports for enhancing the system.



Feasibility study at a seafood company (Andhra Pradesh, India)



Training of energy auditors and managers at TERI Southern Regional Centre (Bangalore, India)



Training on applicable low-carbon technologies (Thailand)

Initiation of Disaster Risk Assessment Project in ASEAN

A disaster risk assessment project incorporating climate change projection in ASEAN countries has been developed by KRC and IGES Regional Centre in

Bangkok in FY2018, and its implementation started in October with funding support from the Japan-ASEAN Integration Fund (JAIF). KRC is in charge of a two-week case visit in Japan to take place in October to November 2019. The main findings of a previous project implemented from 2016-2018 under JICA on strengthening institutional and policy frameworks for disaster risk reduction (DRR) and climate change adaptation (CCA) integration in ASEAN, the essence of which was integrated into the ongoing JAIF project, were incorporated in the "Global Assessment Report on Disaster Risk Reduction 2019" of the UNDRR.

Developing a Regional Circular and Ecological Sphere Model in Hyogo

In cooperation with the Hyogo Prefectural Government, particularly the Hanshin-kita Regional Office, a project proposal for a regional circular and ecological sphere model in the Hokusetsu area was developed. The project focuses on promotion of renewable energy, regional mobility, local production and consumption of food, and forest conservation through coordination of various stakeholders including constituent municipalities, NGOs and private companies. Implementation of the project starts in FY2019.

Selected Publications

- "Strategies to Promote Energy Efficient Compressed Air Systems among Indian Companies" and "NH₃-CO₂ Brine System for Cold Storages and Seafood Processing Plants in India" (Conference papers for the International Conference on Energy Efficiency in Motor Driven Systems (EEMODS) 2019)

- "Japan-India Technology Matchmaking Platform: Approach to Promote Japanese Low Carbon Technologies in Indian Industries" (Journal of Resources, Energy and Development, TERI)
- FY2018 MOEJ Commissioned Report on CO₂ Emissions Reduction Technology Assessment and Verification Project
- "An Assessment of Mainstreaming Climate Change Concerns into Institutions and Policies for Disaster Risk Reduction in ASEAN" (Contributing paper to the "Global Assessment Report on Disaster Risk Reduction 2019")

Kitakyushu Urban Centre

The Kitakyushu Office was established in 1999 in the City of Kitakyushu, a city known for its transition from a city experiencing severe pollution to an environmentally-advanced city. Kitakyushu currently aims to become the world's environmental capital. In 2010, the office was renamed as the Kitakyushu Urban Centre (KUC) and currently conducts practical research activities with Asian cities to promote local governmental initiatives to realise sustainable cities in the areas of low-carbon and resilient cities, sound waste management, and green growth and sound urban environmental management.

Mainstreaming Low-carbon and Resilient Policies into Urban Planning and Implementation

KUC facilitated city-to-city collaboration activities between Asian and Japanese cities using a MOEJ-led platform for creating low-carbon societies in Asia. KUC supported the implementation of 14 projects

under this City-to-City Collaboration Programme. KUC also supported Davao City in the Philippines to carry out mainstreaming of low-carbon and resilient policies through the development of a local climate change action plan (LCCAP). Based on an Executive Order issued by the Mayor, a technical working group (TWG) was created to facilitate the preparation of this plan for Davao City, focusing on a greenhouse gas (GHG) inventory, as well as both adaptation and mitigation measures. In addition, together with the Climate and Energy Area of IGES, KUC developed a country report (Japan part) for a comparative study on low-carbon city policy in Japan, China and Republic of Korea as part of the ESCAP North-East Asian Sub-regional Programme for Environmental Cooperation (NEASPEC). Besides, KUC supported the Climate Change International Technical and Training Center (CITC) in Thailand in the development of a training curriculum for climate change laws and regulations as a JICA technical expert team member.



Training programme for city-to-city collaboration "Climate Change Strategies for Local Governments"

Evolving Sustainable Waste Management Practices

KUC supported various national governments (Philippines, Malaysia, and Myanmar) and local governments (Davao City, Bandung City, and Medan City) in the improvement of waste management policies, plans, and practices. Specifically, KUC supported the national government of the Philippines in the development of a manual on “Waste Analysis and Characterisation Study: A Guide for Philippine Local Government Units”, and supported Medan City in the development of a work plan entitled, “Reduction of SLCs from Municipal Solid Waste Management in Medan City, Indonesia: 2019-2025”. Additionally, KUC will also support a Kitakyushu-based private company in the exploration of business opportunities for producing compost from organic waste in Balikpapan City, Indonesia, in collaboration with the City of Kitakyushu. KUC regularly explores opportunities to improve plastic waste management in Asian cities in collaboration with other international organisations. Also, KUC contributed a Japan case study chapter to a World Bank publication entitled, “Municipal Solid Waste Management: A Roadmap for Reform for Policy Makers”.

Promoting Green Growth and Sound Urban Environmental Management

KUC supported the City of Kitakyushu in the development of the world’s first voluntary local review (VLR) on SDGs together with the City Taskforce of IGES, along with a leaflet introducing SDG activities at city level entitled, “Kitakyushu City Reaches Out to the World through the Sustainable Development Goals 2018”. Likewise, KUC engaged

in a JICA verification survey on an environmentally-friendly soap-based fire-extinguishing agent for forest and peatland fire in Indonesia in collaboration with a private company, academia, and the city government. In addition, KUC participated in a JICA project team headed by the University of Kitakyushu to promote environmental education activities in North Sumatra Province, Indonesia.

Furthermore, in November 2018, KUC organised a joint seminar to commemorate the 55th anniversary of the commencement of Kitakyushu’s municipal system and the 20th anniversary of IGES. A report entitled “Actions for a Sustainable Society – Collaboration between Asia and the City of Kitakyushu” was released at this event. Likewise, KUC provided support to the mayor of Kitakyushu who gave a presentation at the Local and Regional Governments Forum in New York in July 2018, and also to the Deputy-Mayor who gave a presentation

at the Plenary of the 6th Asia Pacific Forum on Sustainable Development in Bangkok in March 2019.

Selected Publications

- “Actions for a Sustainable Society – Collaboration between Asia and the City of Kitakyushu”
- “Kitakyushu City the Sustainable Development Goals Report”
- “Proposals to Strengthen Japan’s Domestic Measures and Regional Cooperation on Stable and Environmentally Sound Plastic Scrap Recycling: Response to China’s Ban on Imports of Plastic Scrap”
- Chapter “Japan Case Study” in “Municipal Solid Waste Management: A Roadmap for Reform for Policy Makers”
- “WHAT A WASTE 2.0 – A Global Snapshot of Solid Waste Management to 2050”



Joint seminar of the 55th anniversary of the commencement of Kitakyushu’s municipal system and 20th anniversary of IGES “Sustainable City Built by Team Kitakyushu”

- “Discussions and Recommendations to Promote Japanese Local Governments to Conduct International Cooperation Projects in Environment Areas Using Public Funds”
- “Initiatives by Local Governments in the Local Production of Renewable Energy for Local Consumption”
- “Practice and Experience of Addressing Climate Change in Japan: Supplementary Reader for the Training Workshop on Climate Change Strategies for Local Governments FY2018”

Regional Centre

IGES Regional Centre in Bangkok (BRC) has served as a hub for networks and partnerships in the Asia-Pacific region since its establishment in 2011. It focuses on priority issues including climate change mitigation, adaptation, environmental safeguards, and sustainable cities, and manages relevant networks for knowledge sharing, as well as implements relevant projects in close collaboration with various supporting organisations and national and sub-national governments.

Climate Change Mitigation

The UNFCCC-IGES Regional Collaboration Centre (RCC) is supporting efforts to substantially scale up climate finance to contribute to the objectives of the Paris Agreement and has implemented several projects on synergies between financial inclusion and climate change, pipeline setup for accessing bilateral and multilateral funding, and country-driven strategic development for mobilising long-term climate finance. Additionally, the RCC

continues to provide CDM and standardised baselines support in the Asia-Pacific region and to assist ASEAN and Pakistan in exploring the potential of carbon pricing instruments. The RCC has also increased MRV capacity building under a project on Article 6 and transparency, and has reached out to non-state actors for their contributions under the Global Climate Action Agenda.

Climate Change Adaptation

With completion of the JICA technical cooperation project for strengthening the institutional and policy framework for disaster risk reduction and climate change adaptation in ASEAN, Member States concurred that floods and landslides were the two most common water-related disasters across the region, while improvement of hazard and risk assessments/risk mapping integrating future climate change projection was marked as highest priority. The new project aims to contribute to the overall goal of ASEAN in “building a resilient

ASEAN Community to reduce disaster losses and collectively respond to disasters” in line with the AADMER Work Programme 2016-2020 and Sendai Framework on Disaster Risk Reduction 2015-2030: Priority 1 to 4. Key activities including pilot projects, case visits, workshops and guideline development were started from October 2018.

In addition, in anticipation of the launch of AP-PLAT, BRC not only supported the operation of Climate Change Asia (CCA) for adaptation project proposal development for Asia-Pacific countries in cooperation with Asian Institute of Technology (AIT) Regional Resource Centre for Asia and the Pacific (RRC.AP), it also organised a workshop for a group of academics and practitioners working on climate change adaptation in the Asia-Pacific region. Participants shared their experiences in delivering capacity building programmes with a view to creating a consortium of training institutions that could assist IGES in its capacity building



Field survey on flooding
(Bago, Myanmar)

responsibilities under AP-PLAT in the future.

Localising the SDGs in ASEAN Cities

The first phase of the ASEAN SDGs Frontrunner Cities Programme (SDGs-FC) was launched at the programme's 1st Regional (Inception) Workshop in September 2018 in Tokyo. National Focal Points (NFPs) from eight ASEAN Member States nominated a total of 26 participating cities, comprising 13 candidate SDGs Frontrunner Cities and 13 Model Cities to propose innovative local actions linked to the SDGs. Cities' achievements are to be captured and presented in national SDGs workshops that aim to contribute to the UN's Voluntary National Review process. As of June 2019, NFPs and cities have nearly completed their SDGs action plans for implementation. Key topics include single-use plastics reduction, the 3Rs, integrated solid waste management, low-cost wastewater treatment, public greening, community-led eco-tourism, and low-carbon cities, which contribute to SDGs 3, 6, 7, 11, 12, 13 and 14. Progress was reported to the 2nd Regional Workshop and the 17th ASEAN Working Group on Environmentally Sustainable Cities (AWGESC).



The 1st regional workshop on ASEAN SDGs-FC (Tokyo)

Environmental Compliance and Enforcement

The International Network for Environmental Compliance and Enforcement (INECE) collaborated with the Asian Environmental Compliance and Enforcement Network (AECEN) under the assistance of United States Environmental Protection Agency (USEPA) in supporting the Ministry of Natural Resources and Environment of Vietnam (MONRE) to strengthen capacity and exchange information through a twinning programme in order to review and revise the Environmental Protection Law. This programme will subsequently lead to the replication of other twinning programmes in FY2019, which is under discussion with the USEPA. In addition, AECEN has also been facilitating information exchange/sharing through the Asia EIA network, which will also be continued in FY2019.



Training workshop by International Environmental Partnership

Sustainable Consumption and Production (SCP)

The SWITCH Asia Facility has conducted a series of multi-stakeholder dialogues to identify national priorities for support from SWITCH Asia. A second call for proposals has been released and a large number of proposals are currently being evaluated by the European Union. Another major development during the year was the addition of five Central Asian countries to SWITCH Asia. IGES is currently assisting the Facility to prepare concept notes for Lao PDR and Viet Nam following multi-stakeholder dialogues in those countries.

Global Environment Outlook (GEO)

GEO-6, UN Environment's flagship report, aims to help policymakers to deliver on the environmental dimensions of the SDGs and Multilateral Environmental Agreements (MEAs). BRC took the lead in the preparation of the e-book of the GEO-6 Industry in Asia Pacific in FY2018.

Selected Publications

- Report on Green Climate Fund Existing Portfolio
- Report on Financial Landscape for Improving Energy Efficiency in Thailand
- Report on Inclusive Green Finance
- Interim Progress Report on ASEAN SDGs Frontrunner Cities
- Project Progress Report on Disaster Risk Reduction by Integrating Climate Change Projection into Flood and Landslide Risk Assessment
- E-book of GEO-6 for Industry in Asia-Pacific

○ Beijing Office <IGES Sino-Japan Cooperation Project Office>

The Beijing Office was set up within the Sino-Japan Friendship Center for Environmental Protection of the Ministry of Environmental Protection of China (the present Ministry of Ecology and Environment of the People's Republic of China) in 2006 as a base to facilitate the implementation of research activities in China. The office conducts a variety of studies and research activities based on bilateral cooperation with China, as well as multilateral cooperation (including international organisations).

Figure 1: Cities where cooperation took place were distributed in 3 major designated areas to implement countermeasures against air pollution* (Beijing/Tianjin/Hebei area, Yangtze River delta area, and Pearl River delta area)

*Major areas designated in National Action Plan on Air Pollution Control



Source: JICA China Office WEB

Promoting the Co-benefits of Better Air Quality and CO₂ Reduction in China through City-to-City Cooperation between Japan and China

FY2018 was the last year of the “Japan-China city-to-city cooperation project”, a project to improve air quality in China started in FY2014. As the overall coordination platform of the project, IGES promoted Japan-China cooperation by organising seminars, holding training programmes in Japan, and implementing joint research and model/pilot projects. IGES also summarised the results of the five-year cooperation.



Advanced tentering machine introduced in a factory in Changshu city, Jiangsu province



Summary seminar on Japan-China city-to-city cooperation

The results of cooperation were compiled in a press release issued in March 2019 on the website of the Ministry of the Environment, Japan. Overall activities and major contents are shown in Table 1 and Table 2 below. The cities etc. where cooperation took place are shown in Figure 1.

Selected Publications

- Serial columns in “Kankyo Shimbun” (every month)
- Serial columns in “Global Net” magazine (every two months)
- Columns in “EIC Net” (irregular)

Table 1: Overall Activities from FY2014 to FY2018

No.	Activities	Total
1	Dispatching experts to give advice (including coordination with Chinese and Japanese local city governments and related organisations)	224 times
2	Organising Japan-China joint seminars (city-to-city cooperation seminars) (see photo)	10 times
3	Organising seminars in local cities in China	29 times
4	Training / research in Japan	73 times, with 438 people invited to Japan
5	Meetings among relevant parties in Japan	11 times
6	Monthly monitoring report on policy trends in China	47 months, about 2,000 pages

Table 2: Major Contents of Cooperation and Cities etc. in China Where Cooperation Took Place

City or province in China	City or prefecture in Japan	No.	Major Contents of Cooperation
Jiangsu province	Fukuoka prefecture	1	Model project on countermeasures against air quality in spinning, weaving and dyeing manufacturers (introduction of high-efficiency tentering machine and waste gas treatment facilities using Japanese advanced technologies) (see photo)
Guangdong province	Hyogo prefecture	2	Pilot project on reduction of VOC emissions in small- and medium-sized companies
Shanghai city	Kitakyushu city	3	Support for promoting reduction of VOC emissions based on self-management of private companies
		4	Analysis of source by utilising results from real-time monitoring of heavy metals in PM _{2.5}
		5	Joint research on photochemical oxidants
Tianjin city	Kitakyushu city Yokkaichi city Kobe city	6	Cooperation to improve capacity of administrative authority (to enforce countermeasures to improve air quality)
		7	Joint research on analysis of sources of VOCs
Shenyang city	Kawasaki city	8	Joint research on analysis of sources by monitoring PM _{2.5}
Dalian city	Kitakyushu city	9	Support to establish a plan to achieve air quality standards within a designated period
Tangshan city	Kitakyushu city	10	Support on remodeling of facilities in steel industry for emission of super-low density waste gas
Wuhan city	Oita city Kitakyushu city	11	Support to improve capacity of administrative authority to enforce permission and management system on emission of pollutants
Hebei province	Nagano prefecture	12	*Promotion of exchanges in environmental technologies
Beijing city	Tokyo metropolitan government	13	*Exchanges in environmental technologies with Beijing city
Chongqing city		14	Study on countermeasures to reduce emissions of VOCs from manufacturers
Xi'an city		15	Study on countermeasures to reduce ozone pollution by analysing the mechanisms of production of highly concentrated ozone
Xiamen city		16	Study on environmental restrictions utilising big data obtained by remote sensing monitoring of gas emissions from vehicles
		17	Study on restrictions of gas emissions utilising emissions data obtained while driving by NOx/PM on-board measuring device
Zhuhai city		18	Support to establish overall systems on countermeasures against VOCs to reduce ozone

* Cooperation done by the budget of city or prefecture in Japan

● Tokyo Sustainability Forum

The Tokyo Sustainability Forum (TSF) aims to facilitate impact generation with various stakeholders, particularly those based in Tokyo. It hosts the IPBES Technical Support Unit for the Regional Assessment for Asia and the Pacific (TSU-AP), as well as the IPBES Technical Support Unit for the Assessment of Invasive Alien Species (TSU-IAS) and is co-located with the office of ICLEI Japan. TSF implements the Japan Biodiversity Fund (JBF) IPBES Capacity Building Project and also works in collaboration with the Natural Resources and Ecosystem Services Area and the City Taskforce, respectively.

IPBES Technical Support Units

TSF continued to host IPBES TSU-AP and TSU-IAS, and supported their work, including the uptake of the IPBES regional assessment report for Asia-Pacific and the development of a thematic assessment report on invasive alien species.

IPBES Capacity Building Project

As part of the JBF IPBES Capacity Building Project started in April 2016, and in cooperation with the Asia-Pacific Network for Global Change Research (APN) and other relevant stakeholders, TSF organised two science-policy dialogue workshops based on the IPBES regional assessment report.

The first science-policy dialogue for South Asia and West Asia sub-regions was held in Kathmandu, Nepal on 27-28 February 2019, and was attended by 57 participants from 15 countries. The second dialogue for Oceania was held in Canberra, Australia on 4-5 April 2019, and was attended by 39 participants

from 15 countries. Discussions addressed common challenges on biodiversity and ecosystem services, as well as the uptake of IPBES assessment report.



IPBES Science-policy dialogue for South/West Asia sub-regions (February 2019, Kathmandu)

Business and Biodiversity

Since 2017, TSF, supported by the Environment Research and Technology Development Fund, has implemented a research project on development of models, indicators and methodology for economic evaluation to assess the impacts on biodiversity arising from business activities. Likewise, in collaboration with Conservation International Japan and the Nikkei BP ESG Management Forum, TSF co-organised a series of seminars on natural capital management. Relevant stakeholders, including representatives of business sectors, participated.

International Collaboration on Environmental Impact Assessment (EIA)

In order to promote international collaboration on EIA among Asian countries, and commissioned by Ministry of the Environment of Japan, IGES conducted research on EIA systems and their implementation in Malaysia and the Philippines,

developed an information platform for the Asia EIA Network, proofread English translations of EIA laws and regulations in Japan, and held EIA technical training seminars in Myanmar.



EIA technical training seminar in Myanmar



Group discussion

Function as a Satellite Office in Tokyo

TSF assisted IGES staff with meeting support and provided administrative support to the IGES President, Managing Director, and Senior Fellows/Fellows based in Tokyo for implementing their activities.

Selected Publications (Japanese only)

- "Project Report on Promoting Asian Regional Collaboration on EIA"
- "EIA Guidebook for Japanese Companies (Malaysia, Philippines)"

Activities at Other Facilities

Technical Support Unit (TSU) for the Intergovernmental Panel on Climate Change (IPCC) Task Force on National Greenhouse Gas Inventories (TFI)

The TSU for IPCC TFI provides scientific, technical and organisational support to the TFI under the supervision of the TFI Bureau (TFB) to fulfil the following two objectives.

- To develop and refine an internationally-agreed methodology and software for the calculation and reporting of national greenhouse gas (GHG) emissions and removals;
- To encourage the widespread use of this methodology by countries participating in the IPCC and by signatories of the United Nations Framework Convention on Climate Change (UNFCCC).

Development, Maintenance and Improvement of IPCC Inventory Software

The IPCC Inventory Software¹ helps inventory compilers to estimate emissions and removals of greenhouse gases according to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006 IPCC Guidelines). In FY2018, the TSU implemented a test of Tier 2 worksheets for the agriculture sector. In addition, the TSU continued to provide technical support to users.

Management of IPCC Emission Factor Database (EFDB)

The IPCC EFDB² is a database of emission factors and other parameters whereby national experts can find nationally appropriate values to develop national GHG inventories in accordance with the IPCC inventory guidelines. In FY2018, the TSU continued enhancing the usefulness of the database by collecting data, organising relevant expert meetings and supporting the EFDB Editorial Board, as well as implementing other activities to improve the database.

Production of Reports to Supplement or Refine the IPCC Inventory Guidelines

Based on the decision IPCC/XLIV-5, adopted at the 44th Session of IPCC in October 2016, the TSU continued activities for production of a Methodology Report entitled the “2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories” (2019 Refinement). In FY2018, the TSU organised one Lead Author Meeting in October 2018. The TSU also organised the Government and Expert Review of the Second Order Draft of the 2019 Refinement from 2 July to 9 September 2018, and the Government Review of the Final Draft from 28 January to 25 March 2019,



AFOLU – Flooded land break-out group’s meeting at the 4th Lead Author Meeting at FAO (October 2018, Rome)

in accordance with procedures established by the IPCC. The activities related to the 2019 Refinement were formally concluded with the adoption of the Overview Chapter and acceptance of the whole report at the 49th Session of the IPCC in May 2019 in Kyoto, Japan. Nevertheless, TSU will need to do the final copy-edit to prepare the 2019 Refinement for printing in FY2019.



4th Lead Author Meeting at FAO (October 2018, Rome)



Authors and TFI/TSU members, happy after the adoption/acceptance of the 2019 Refinement at the 49th Session of the IPCC (May 2019, Kyoto)

Collaboration with Other Organisations

In FY2018, the TSU continued cooperation with other organisations on inventory-related matters. For example, the TSU contributed its support to inventory-related capacity building programmes implemented by the UNFCCC and the National Institute for Environmental Studies (NIES) by sending programme officers as resource persons and

providing inventory-related materials developed by the IPCC TFI.

The TSU also collaborated with other projects in IGES, where appropriate, on matters relating to estimation of greenhouse gas emissions and removals.

1 <http://www.ipcc-nggip.iges.or.jp/software/index.html>

2 <http://www.ipcc-nggip.iges.or.jp/EFDB/main.php>

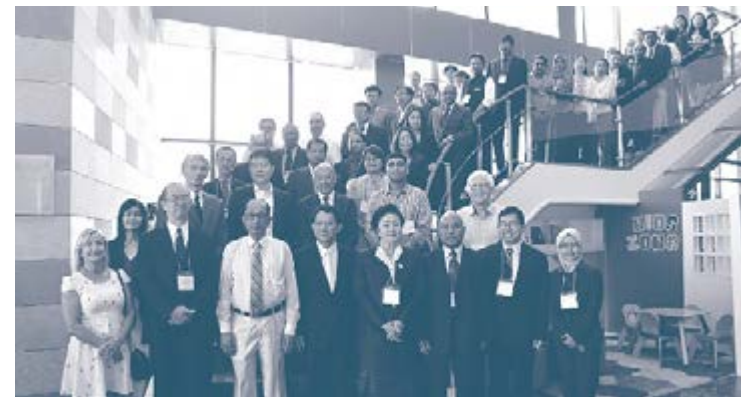
Asia-Pacific Network for Global Change Research (APN)

APN is an intergovernmental network that aims to promote collaborative research on areas such as climate change, biodiversity and ecosystems, changes in atmospheric, terrestrial and marine domains, and adaptation and resilience, as well as to develop the capacity of scientists, practitioners and others, especially in developing countries, in these areas. By supporting research and capacity development, APN assists in the development of policy that contributes to sustainable development and the creation of low-carbon societies.

Intergovernmental Meeting and Other Meetings

APN held its 23rd Inter-Governmental Meeting (IGM)

APN 23rd IGM (July 2018, Bangkok)



and Scientific Planning Group (SPG) Meeting in July 2018 in Bangkok, Thailand, and its 40th Steering Committee Meeting in March 2019 in Kobe, Japan.

Collaborative Regional Research Programme

APN provided support to international collaborative research projects that were submitted to the FY2018 call for proposals and approved for funding at the 23rd IGM.

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

APN provided support to capacity building activities for early-career scientists, practitioners and others in developing countries, in particular, for activities that were submitted to the FY2018 call for proposals and approved for funding at the 23rd IGM.

International Events

● Subregional Committee Meeting

APN established subregional committees for each region, i.e. Temperate East Asia, Southeast Asia and South Asia, to discuss and address regional research priorities and capacity development needs that are common within subregions. In FY2018, the Temperate East Asia Subregional Committee Meeting was held in September 2018 in Tokyo, Japan. Likewise, the South Asia Subregional Committee Meeting was held in March 2019 in Colombo, Sri Lanka, and the Southeast Asia Subregional Committee Meeting was held in May 2019 in Vientiane, Lao PDR.

● Proposal Development Training Workshop (PDTW)

APN organised a Proposal Development Training Workshop in September 2018 in Tokyo, Japan, to develop the capacity of early-career scientists

to compete for research funding. The theme of the workshop, held back-to-back with the 2nd Temperate East Asia Subregional Committee Meeting, was "Sendai, Paris and Beyond: Addressing Challenges of Water Security for Sustainability".



Proposal development training workshop (September 2018, Tokyo)

● Collaboration with Hyogo Prefectural Government

The Hyogo Prefectural Government provides support to APN, including hosting its Secretariat. In collaboration with the prefecture, APN co-organised the "Hokusetsu SATOYAMA International Seminar" in Takarazuka, Hyogo Prefecture. The aim of the seminar was to find new values or roles for satoyama in modern society and to promote efforts to sustainably conserve satoyama. Meanwhile, APN sent researchers to the "12th International Conference on the Environmental Management of Enclosed Coastal Seas (EMECS12)" in Pattaya, Thailand, to give presentations on their research outcomes. The conference was organised by the International EMECS Center, which is supported by the Hyogo Prefectural Government.

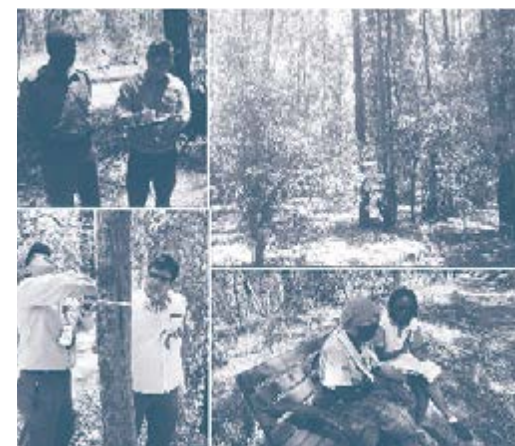
○ Japanese Center for International Studies in Ecology (JISE)

JISE primarily carries out field surveys and practical

research to restore and reconstruct ecosystems and biodiversity from local to global levels aiming to realise societies based on sustainable development from the perspective of plant ecology. In FY2018, JISE implemented the following activities to promote its projects, including training and information collection and provision on forests, nature regeneration and ecology.

Research Projects

On the international research front, JISE conducted basic and practical research projects aimed at the regeneration of tropical forests mainly in Malaysia, Kenya, Lao PDR and Cambodia, which were partially supported by external research grants. The projects promoted hands-on activities for reforestation and nature restoration using ecological approaches to clarify floristic composition and structure of natural forests, growth conditions of planted trees and raised seedlings, and providing technical support



Field surveys on natural resources of urban forests in Nairobi, Kenya (February 2019)

for school children to learn about biodiversity in educational institutions. In addition, JISE participated in joint research led by the IGES Natural Resources and Ecosystem Services (NRE) Area in collaboration with the Wangari Maathai Institute for Peace and Environmental Studies (WMI) of the University of Nairobi. This joint research worked on identifying common environmental issues for future collaborations and closer cooperation through conducting interdisciplinary research for evaluating forest resources and ecosystem services in Kenya. Furthermore, JISE strengthened mutual cooperation with the IGES-NRE, and promoted joint research on restoration of degraded forests in Southeast Asia, aimed at regeneration of Satoyama forests in Lao PDR.

On the domestic front, JISE carried out vegetation surveys mainly in the Kyushu and Hokuriku regions for maintaining disaster-prevention coastal forests and afforestation project sites, ecological surveys on windbreak forests and environmental protection forests in Tokyo and Yokohama, and phytosociological reviews on the vegetation classification system of Japanese forests. Some



Collaboration on tree-planting activity towards creation of school forests in Lao PDR (May 2019)

outputs of the above-mentioned research projects were released at various domestic academic meetings, as well as in the annual bulletin "Eco-Habitat", the "JISE REPORT" and newsletters.

In addition to the above activities, JISE conducted other activities on forest regeneration and contributed to the promotion of nature restoration in domestic regions through projects commissioned by private companies, local governments and non-profit organisations. These included vegetation surveys and planning for forest and nature restoration, as well as technical instruction in tree planting in several prefectures including Akita, Miyagi, Nagano, Gunma and Shizuoka.

Capacity Building

As capacity development projects aimed at developing skilled personnel for environmental conservation, JISE carried out outdoor environmental study programmes (i.e. ecology class for adults and children, four events) in collaboration with various stakeholders, including non-profit organisations, and a vegetation survey training in October 2018. In addition, JISE has further developed its collaboration with the Kanagawa Prefectural Government, conducting several collaborative educational projects (five events) with the Kanagawa Prefectural Museum of Natural History and the Kanagawa Institute of Industrial Science and Technology (KISTEC). Furthermore, JISE responded to requests from other local governments, educational institutions, and non-profit organisations, and provided technical instruction and guidance in their environmental educational programmes for various generations from infants to elderly people.



Environmental study programmes for citizens "Living things are interesting!" (April 2019)

Interaction

JISE conducted an Open Seminar in May 2019, entitled "APG System and Flora of Kanagawa 2018" in cooperation with the Kanagawa Prefectural Museum of Natural History. In addition, JISE held an Environmental Forum in June 2019, on the topic of "Bringing Japanese Forest Development Technology to the World--Environmental Activities in SDGs." The forum showcased the contents and results of domestic and overseas activities for reforestation that private companies and JISE researchers were engaged in.

Dissemination and Public Awareness

To disseminate news of JISE's activities and for public relations purposes, JISE distributed newsletters (three issues a year) highlighting our own activities as well as the efforts of various organisations in environmental conservation. JISE also published its annual bulletin "Eco-Habitat: JISE Research" and the occasional publication "JISE REPORT" (two issues), which contained both domestic and international research results related to ecology and practical activities for ecosystem conservation. In addition, JISE worked on the establishment of a new website.

● Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Technical Support Unit for the Regional Assessment for Asia and the Pacific (TSU-AP) Technical Support Unit for the Assessment of Invasive Alien Species (TSU-IAS)

IGES has been hosting the technical support unit for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Regional Assessment for Asia and the Pacific (TSU-AP) since 2015 at the Tokyo Sustainability Forum (TSF). Additionally, the IPBES technical support unit for the thematic assessment of invasive alien species and their control (TSU-IAS) was also set up at TSF in February 2019. These TSUs have functioned as extensions of the IPBES secretariat that is headquartered in Bonn, Germany. The purpose of the TSUs has been to support and assist in the coordination of these two IPBES assessments, including the drafting of the respective IPBES assessment reports.

The IPBES Regional Assessment Report on

Biodiversity and Ecosystem Services for Asia and the Pacific and its Summary for Policymakers were developed by more than 120 experts from 27 countries. It was approved at the sixth session of the IPBES Plenary in March 2018. In addition to providing support for the production of the assessment report, the IPBES TSU-AP contributed to uptake events in the Asia-Pacific region including a side event at the fifth Session of the Committee on Environment and Development of ESCAP (November 2018, Bangkok), a public symposium on IPBES organised by Ministry of the Environment of Japan (MOEJ) (November 2018, Tokyo), and subregional science-policy dialogue workshops organised under a capacity building project funded by the Japan Biodiversity Fund (February 2019 in Kathmandu and April 2019 in Canberra).

The IPBES assessment of invasive alien species was launched after the seventh session of the IPBES Plenary held in April/May 2019 in Paris, France. The assessment report will be compiled by approximately 80 experts around the world, over the next three to four years. IPBES TSU-IAS supported the selection of the expert group of the assessment and preparation of the first author meeting held in August 2019 in Tsukuba, Japan.

Funding for TSU operations is provided by the UNEP Trust Fund, matched by contributions from the Ministry of the Environment of Japan. Further, the TSU is operated in collaboration with entities including the United Nations University and Asia-Pacific Network for Global Change Research (APN).

About IPBES

IPBES is an intergovernmental body established in 2012 with the objective to strengthen the interface between science and policy related to biodiversity and ecosystem services. IPBES has four functions, scientific assessment, capacity building, knowledge generation and policy support. These functions are the pillars of IPBES' efforts to ascertain the status and trends of global biodiversity and ecosystem services, the drivers of change, and the impacts on human wellbeing. To date, IPBES has produced a thematic assessment of pollination and pollinators, a methodological assessment of scenarios and models, four regional assessments, a thematic assessment of land degradation and restoration and, most recently, a general global assessment. These outputs are expected to not only assess the state of progress in meeting the global biodiversity targets under the Convention on Biological Diversity as well as the SDGs, but also to contribute to policymaking at various levels, from local to international.



IPBES side event at the 5th Session of the Committee on Environment and Development of ESCAP (November 2018, Bangkok)

Strategic Management Office (SMO)

Outline

The Strategic Management Office (SMO) is made up of three sections: Planning and Management; Knowledge and Communications; and Research and Publications, and carries out comprehensive coordination of IGES research activities, as well as effectively promoting strategic research and the impact generation of outputs.

Major Activities in FY2018

Facilitation of Cross Unit Collaboration

SMO played a facilitation role in encouraging cross unit collaboration in major international process or events including the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24), the fourth session of the UN Environment Assembly (UNEA4), the Asia-Pacific Forum on Sustainable Development (APFSD) and the High-level Political Forum on Sustainable Development (HLPF).

Furthermore, at the preparation stage of these international processes, there was consolidation of IGES key messages, media briefings; during the events, participation and arranging side events and information dissemination and sharing through SNS; and then after the events, publication of

commentaries, translation of key documents, and seminars on insights and interpretation of these processes and events. In this way, IGES focused on disseminating results on multiple levels.

Strengthening Domestic Outreach

On the occasion of the release of the Intergovernmental Panel on Climate Change (IPCC) Special Report on 1.5°C in October 2018, the SMO prepared and published a Japanese handbook that comprehensively interprets the IPCC Special Report and its Summary for Policy Makers. This handbook was launched at the post-COP24 reporting seminar held at the end of December 2018, and has been downloaded nearly 3,000 times since then (as of June 2019), leading to the realisation that there is huge potential for this kind of outreach in Japan. In FY2019, key documents with high international impact, including the Special Report on Climate Change and Land and the Special Report on the Ocean and Cryosphere in a Changing Climate issued by the IPCC, as well as the Emission Gap Report by the United Nations Environment Programme (UNEP), are to be introduced to the Japanese audience, together with IGES outputs.

Stakeholder Engagement

SMO played a leading role in strengthening IGES stakeholder engagement. In FY2018, particular

focus was on collaboration with the science community and NGOs. In collaboration with the former, IGES was involved jointly with the City of Kyoto in May 2019 to hold the Commemorative Symposium on IPCC 49th Session entitled, "To Realise a Decarbonised Society: the State of the World and Kyoto's Challenges", and organised a panel session that invited two of the co-Chairs of the IPCC Working Group III. With NGOs, IGES strengthened a partnership with the Japanese NGO, Green Alliance Japan and translated the summary of its Civil Society Environmental White Paper "Green Watch" into English.

Increased Domestic and International Media Coverage

In FY2018, instances of domestic media coverage greatly increased, due to an increase in the number of articles on the website thanks to support and encouragement to each research unit, an increase in media briefings, proactive development and acquisition of external media coverage, and an increase in interviews, inquiries and articles published. A new press release service aimed at international media has been put to use, resulting in a large increase in overseas media coverage.

Regular publication of the IGES e-newsletter and an increased audience through social media have

contributed to an increase in website access through those channels. Monthly average pageviews increased to 68,039 in FY2018 as compared to 59,316 in FY2017 and increased information posted on the website has resulted in a remarkable rise in web access. As for publication downloads, these have shown fluctuations from a monthly average of 20,773 in FY2016, to 18,489 in FY2017 and then rising to 31,324 in FY2018.

Overall Coordination in Impact Accountability Effort

At the beginning of the FY2018, the SMO held a series of meetings with research units to collect potential cases for impacts, and subsequently, a further series of meetings was held with each unit for monitoring and reviewing, whereupon 36 cases for high level impacts were specified (see p.4-5 for details of six particularly excellent cases). Through this monitoring and reviewing of impact cases,

information was gathered from the World Resources Institute (WRI), the Stockholm Environment Institute (SEI), and International Institute for Sustainable Development (IISD), which was used for improving IGES internal system.

Flagship Research

IGES conducts flagship research focusing on strategically important policy agendas in the Asia-Pacific region and involving various research units.

The Tenth International Forum for Sustainable Asia and the Pacific (ISAP2018)

The International Forum for Sustainable Asia and the Pacific (ISAP) brings together internationally-engaged experts, governments, international organisations, businesses and NGO representatives to engage in discussions on sustainable development from the viewpoint of the Asia-Pacific region. ISAP2018 was jointly organised in July 2018 by IGES and the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS), and sessions included “Advancing Sustainable Development within Planetary Boundaries”, and “Realising the Transformative Potential of the SDGs”, with audience numbers from both Japan and overseas reaching around 900.



Post-COP24 Reporting Seminar

In December 2018, IGES held a post-COP24 reporting seminar entitled “Global Trends and Japan’s Direction: Strengthening Commitment to 2°C/1.5°C Target”. At this seminar, IGES researchers gave some of the first reports summarising the international negotiations on the Paris Rulebook. Further, representatives from Japanese business, local government and NGO who had taken part in COP24, were invited to give their impressions and take-aways from the event, and speak about their actions from now, as well as their expectations of Japan’s long-term strategy. About 600 participants were in attendance at the seminar.

A flagship report was published on Asia-Pacific landscape transformations in FY2018. SMO also facilitated cross-cutting research on climate change and the Sustainable Development Goals (SDGs), and engaged in timely outreach for major policy processes.

Quality Management of Research Outputs

IGES implements the “clean production” method of quality management, starting from the planning stages throughout the entire research and writing process of publications. Additionally, IGES actively incorporates internal and external reviews from impartial and diverse perspectives, aiming to enhance the quality of IGES publications.

Selected Publications

- Flagship Report “Asia-Pacific Landscape Transformations: Solutions for Sustainability”
- “Comprehensive Handbook on IPCC 1.5 °C Special Report” (in Japanese)
- “The Design of Environmental Priorities in the SDGs” (in Global Policy)
- “Strengthened Actions towards Decarbonised and Climate Resilient Society” (T20 Policy Brief)
- “Global Environment Outlook (GEO-6) Summary for Policymakers” (Japanese translation)
- “Asia and the Pacific SDG Progress Report 2019” (Japanese translation)

Selection and Award for Best Publication

From FY2018, with the purpose of promoting research activities and sharing outstanding research results, IGES President set up the Ocean Breeze Award. The six publications selected as finalists for the award are outlined below, and the technical report on “1.5-Degree Lifestyles: Targets and Options for Reducing Lifestyle Carbon Footprints” was selected for the best publication.

- Policy Report “SDGs and Business for the Future: Actions by Private Companies in Japan”
- Technical Report “1.5-Degree Lifestyles: Targets and Options for Reducing Lifestyle Carbon Footprints”
- Policy Brief “Proposals to Strengthen Japan’s Domestic Measures and Regional Cooperation on Stable and Environmentally Sound Plastic Scrap Recycling: Response to China’s Ban on Imports of Plastic Scrap”
- Peer-reviewed Article “Can Japan Enhance Its 2030 Greenhouse Gas Emission Reduction Targets? Assessment of Economic and Energy-related Assumptions in Japan’s NDC” (in Energy Policy)
- Peer-reviewed Article “Biodiversity/Ecosystem Services Scenario Exercises from the Asia–Pacific: Typology, Archetypes and Implications for Sustainable Development Goals (SDGs)” (in Sustainability Science)
- Peer-reviewed Article “Understanding National Biodiversity Targets in a REDD+ Context” (in Environmental Science & Policy)

Contributions to Local Communities

IGES actively participated in lectures and various events held for people in the local community, introducing IGES research activities and providing easy-to-understand commentary on global

environmental issues. IGES also contributed to activities for local school education by assisting with workplace experience for students and integrated studies on SDGs.

Main Lectures by IGES Researchers

20 November 2018	Lecture on SDG6 for Shonan Gakuen Senior High School Students	Hayama
2 December 2018	Workshop on Basic Understanding of SDGs for Hayama Residents	Hayama
13 December 2018	Lecture on the Effects of Climate Change and Adaptation	Hiratsuka
25 January 2019	Lecture on Waste Management in Indonesia for Totsuka Eco Coordinators Meeting	Hayama
5 February 2019	Seminar on Climate Change and Its Future Risks	Yokohama

Main Events & Exhibitions

3 May 2019	Shonan Village Festival 2019	Hayama
25-26 May 2019	Kanagawa Eco 10 Festa 2019	Yokohama



Students' workplace experience



Lecture for local eco coordinators



Appendix



Financial Statements (FY2018)

Balance Sheet (Summary)

Unit:1,000 yen

ASSETS	5,223,169	LIABILITIES	1,282,881
CURRENT ASSETS	1,603,408	CURRENT LIABILITIES	928,359
NON-CURRENT ASSETS	3,619,761	NON-CURRENT LIABILITIES	354,522
(ASSETS FOR BASIC FUNDS)	(250,000)	NET ASSETS	3,940,288
(RESTRICTED ASSETS)	(3,204,824)	RESTRICTED NET ASSETS	2,514,319
(OTHER NON-CURRENT ASSETS)	(164,937)	UNRESTRICTED NET ASSETS	1,425,969

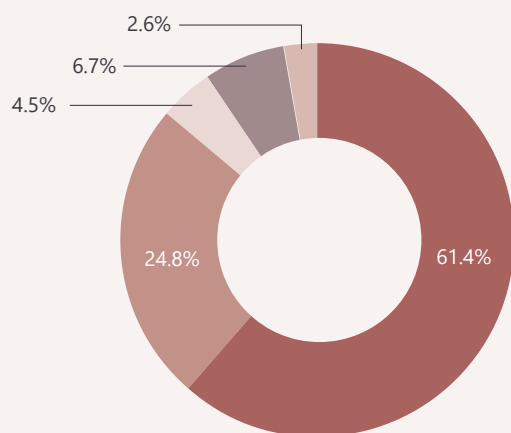
Statement of Activities (All IGES)

Unit:1,000 yen

		Accounting for Project for public interest purpose				Incorporated accounts	FY2018 Total	FY2017 Total
		Strategic Research*1	IPCC/TSU	APN	JISE			
I Changes in unrestricted net assets								
Operating activities	Revenues and gains	2,846,720	172,575	256,721	67,739	250,438	3,576,474*2	3,382,337
	Expenses and losses	2,820,707	174,861	257,250	67,739	250,438	3,570,376*3	3,245,662
Non-operating activities	Revenues from non-operating	0	0	0	782	0	782	267
	Expenses and losses from non-operating	2,282	306	151	0	275	3,014	98
II Changes in restricted net assets								
Total changes in restricted net assets		3,479	△2,550	0	△40,571	0	△39,642	△2,662
Net assets at end of year		1,187,227	133,897	247,869	2,291,944	79,351	3,940,288	3,976,065

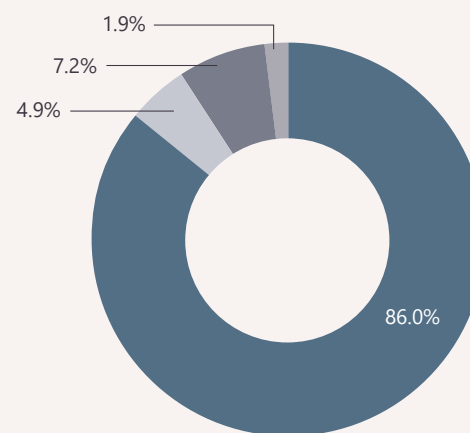
*1 For IGES research activities and dissemination of research outcomes *2, 3 Including internal transactions

Contents of revenues and gain



	Unit: 1,000 Yen
Contract revenue	2,197,847
Contribution*1	887,313
Grants	159,747
Subsidies for office lease	238,429
Income and others	93,138
Total	3,576,474

Expenses and losses



	Unit: 1,000 Yen
Strategic research*2	3,071,145
IPCC/TSU	174,861
APN	257,250
JISE	67,739
<Internal transactions>	△619
Total	3,570,376

*1 Including contribution for IPBES-TSU *2 Including incorporated accounts

About IGES

Background

- January 1995:** Establishment of IGES recommended by the Japanese Prime Minister's Advisory Group on the Global Environment in the Twenty-First Century.
- April 1996:** Final report on the proposed functions, organisational structure and other aspects of IGES issued by the Discussion Group on Comprehensive Environmental Studies and Education, former Environment Agency of Japan.
- March 1998:** Establishment of IGES
- April 2012:** Transition to a public-interest incorporated foundation

Personnel (As of 30 June 2019)	Number of Staff	Non-Japanese Staff*
Strategic Research	146	45
Projects for Public Interest other than Strategic Research	26	9
General Administration	25	3
Total	197	57

* Out of total staff for each category

IGES Headquarters and Offices

- Headquarters**
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(in alphabetical order)

Signatory Organisations and Institutions of the Charter for the Establishment of IGES

Total: 48

National Administrative Organisations (16)

Department of the Environment, Water, Heritage and the Arts (Australia)
Ministry of Environment (Cambodia)
Environment Canada (Canada)
Ministry of Environmental Protection (China)

Ministry of Environment and Forests (India)
State Ministry of Environment (Indonesia)
Ministry of the Environment (Japan)
Ministry of Environment (Korea)
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Ministry of Natural Resources and Environment (Malaysia)
Ministry of Nature and the Environment (Mongolia)
Ministry of Environment, Science and Technology (Nepal)
Ministry for the Environment (New Zealand)
Department of Environment and Natural Resources (The Philippines)
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International Organisations (6)

International Tropical Timber Organization
United Nations Centre for Regional Development
United Nations Economic and Social Commission for Asia and the Pacific
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United Nations Institute for Training and Research
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