

Integrative Strategic Research Programme for the 7th Phase (ISRP7)

FY2020 (Year 4)

Business Report

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Institute for Global Environmental Strategies

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1. About ISRP7

The Integrative Strategic Research Programme for the 7th Phase (ISRP7) of the Institute for Global Environmental Strategies (IGES) launched in July 2017 for a four-year implementation period. ISRP7 is built upon IGES's Medium-to-Long Term Strategy 2016-2025 (MLS), which was approved by the Eighth Board of Trustees (BOT) meeting in February 2016.

IGES intends to be a leading agent of change in Asia and the Pacific through intellectual inputs, mainly based upon its strategic research. Given the two important international agreements were agreed in 2015, namely the 2030 Agenda for Sustainable Development including Sustainable Development Goals (SDGs) and the Paris Agreement, strategic research in the coming years is likely to focus upon effective implementation. Quantitative analysis and data management with partner research institutes, and new models of governance based upon the concept of “global partnership” at all levels could be important areas for the institute.

In this connection, IGES recognises it is critical to strategically use the core fund to invest, select and conduct identified activities that can run throughout the phase to develop key expertise within IGES for in-depth policy analysis and to send out influential messages. Utilising the core fund, a more programmatic approach should be explored where pooled resources can leverage collaborating partners' resources for larger impacts, and most effective forms of knowledge products or activities can be identified, where IGES has advantages over other organisations, to induce impacts. IGES will implement its strategic research programme with multiple groups at its head office and satellite offices, namely:

- **Three Issue Areas:** Climate and Energy (CE), Natural Resources and Ecosystem Services (NRE), and Sustainable Consumption and Production (SCP)
- **Two Functional Centres:** Centre for Strategic and Quantitative Analysis (QAC), and Centre for Sustainability Governance (SGC)
- **Three Taskforces:** City (CTY), Finance (FIN), and Business (BIZ)
- **Five Satellite Offices:** Kansai Research Centre (KRC), Kitakyushu Urban Centre (KUC), Regional Centre in Bangkok (BRC), Beijing Office (BJG), and Tokyo Sustainability Forum (TSF)

At the same time, IGES renews its operation and management mode that enables more efficient and effective support for the implementation of the programme. From 1 July 2017, the former Secretariat and the Programme Management Office (PMO) were merged to create a Strategic Management Office (SMO) not only to provide institute-wide planning and management functions but also to shape and lead strategic research and policy analysis, development of business opportunities and effective communications through strategic engagement with stakeholders. SMO consists of three sections:

- Knowledge and Communications (KC)
- Research and Publications (RP)
- Planning and Management (PM)

These three sections will report to the Board of Directors and Board of Trustees (BOD/BOT) of IGES with the following responsibilities: KC will be responsible to ensure impact generation; RP for ensuring research/policy papers and other outputs planned every year, and PM for strategy development as well as sound management of finance and other key resources of the institute. The annual business report will be therefore organised in these three main sections. The report will also provide the summary of key achievements made by each unit of IGES, as well as by other projects for public-interest purposes in FY2020, i.e. the Technical Support Unit (TSU) for the

Intergovernmental Panel on Climate Change (IPCC), the Asia-Pacific Network for Global Change Research (APN), and the Japanese Center for International Studies in Ecology (JISE) and other information in the Annexes.

2. Impact Generation

2.1. Highlights of impact generation

In close collaboration with diverse stakeholders, IGES aims to generate “impact” that facilitates the transition towards realising sustainable societies. In its ISRP7, which began in FY2017, we set our target to have 25 successful cases annually. The target was met from FY2017 through 2020, with 25 (FY2017), 36 (FY2018), 35 (FY2019) and 37 (FY2020) cases.

In FY2020, out of 37 impact cases, 13 cases were categorised as “Outcome 3” (uptake of IGES proposal and acted upon by target stakeholders), and nine cases were categorised as “Impact 1” (changes in policy, planning and practices). Since FY2020 was the final year of ISRP7, many cases that had been in progress were completed. This partially explains the increase in the number of high-level impacts this year.

Below is a list of selected cases with high-level impacts (Impact 1 and Outcome 3) in FY2020.

Table 1: List of High-Impact Cases in FY2020

<Impact 1 Cases>

Case / Impact	Unit
<p>Mainstreaming resource efficiency and circular economy concepts and practices in Japan</p> <ul style="list-style-type: none"> ● <i>The Circular Economy Partnership in Japan</i> was launched in cooperation with the Ministry of the Environment, the Ministry of Economy, Trade and Industry and Nippon Keidanren (Japan Business Federation) in January 2021. ● IGES acts as the Secretariat of <i>the Circular Economy Business Platform</i>. 	<p>Led by SCP</p> <p>In collaboration with SMO, CTY, NRE, CE, QAC</p>
<p>Contributions on Local Actions for Sustainability Transition (Promoting 100% renewable energy in Hyogo Prefecture, Japan)</p> <ul style="list-style-type: none"> ● Hyogo Prefecture has strengthened its 2030 and 2050 climate change mitigation targets in March 2021, and formulated an implementation plan. ● IGES is identified as a key partner and knowledge resource for the plan’s implementation. <p>(Strategic youth empowerment for decarbonisation)</p> <ul style="list-style-type: none"> ● A project targeting high school students has influenced the policy processes of Hyogo Prefecture and produced a new collaborative project between the local authority and high school student volunteers. ● The governor of Hyogo Prefecture declared in congress that the prefecture will enforce its environmental education policy through the high school project. ● A project targeting university students has influenced the policy processes of Kobe University. An Environment Council (環境会議) was officially 	KRC

<p>established within the university to discuss the university's decarbonisation policy, in which students are expected to play a leading role.</p> <ul style="list-style-type: none"> ● Kobe University tries to put decarbonisation as one of the central pillars of the university's mid-term vision. 	
<p>Enhancing the capacities of ASEAN governments to develop and implement climate change adaptation policies and projects</p> <ul style="list-style-type: none"> ● Guidelines/training modules integrating climate downscaling into flood and landslide risk assessment were developed and disseminated. ● The guidelines will be used as reference by relevant agencies at the national level as part of their own capacity development. In Viet Nam, for example, the guidelines are to be included as part of the country's disaster risk reduction and management programme. Meanwhile, Lao PDR set up national and local committees/working group on DRR-CCA (disaster risk reduction and climate change adaptation). 	<p>Led by BRC</p> <p>In collaboration with NRE</p>
<p>Guiding policy directions toward sustainable waste management and resource efficiency in Asia and the Pacific through technical assistance for developing national and sub-national waste management strategies</p> <ul style="list-style-type: none"> ● Two countries (Indonesia and Sri Lanka) and one city (Hyderabad, India) have developed national and sub-national action plans for managing solid waste and plastic waste, in order to reduce their leakage into the environment, including in waterways, landfills and marine areas. 	<p>Led by CCET</p> <p>In collaboration with SCP, CTY, NRE, QAC, BRC, CE, SMO</p>
<p>Supporting policy dialogues, multi-stakeholder capacity development and network building on decentralised wastewater management towards achieving SDG6 in ASEAN Member States</p> <ul style="list-style-type: none"> ● Significant impacts on formulated policies in ASEAN to facilitate the effective implementation of decentralised domestic wastewater management solutions with the following examples: <ul style="list-style-type: none"> • Thailand: The Thai Government has decided to allocate USD 2.6 billion to develop 93 wastewater treatment systems in next few years. • The Philippines: <i>Policy and Guidelines on Sewage Treatment and Sewage Management System (Memorandum Circular No. 2019-62)</i> • Viet Nam: Decentralised wastewater treatment systems are receiving increased attention from policymakers and sanitation planners, and being recommended by various ministries, including MOC, MONRE and MARD. 	<p>NRE</p> <p>In collaboration with QAC, SGC</p>
<p>Proactive approach to the shaping of climate and energy policies of Japan through a series of IGES commentaries and op-ed articles</p> <ul style="list-style-type: none"> ● Japan is at a critical juncture in terms of the development of climate and energy policies. Discussion at the UN Climate Summit (September 2019) and COP25 (December 2019) led to criticisms of Japan's reactive climate policy and continued support for the construction of coal-fired power plants (both domestic and export). In response, Japan's climate and energy policies have undergone major developments from 2020 to the present. ● During this period, IGES has made a series of recommendations through commentaries and strategic outputs as op-ed articles. They highlighted the importance of science-based policy making and concrete policy measures to enable the transition to a decarbonized society. 	<p>CE</p> <p>In collaboration with QAC, KRC, FIN, BIZ, SMO</p>

<ul style="list-style-type: none"> ● The results of these activities are now materializing in the form of “stop of new, unabated international coal power projects,” “carbon neutrality by 2050,” “46-50% GHG reduction by 2030,” and “Model comparison analysis for 2050 at the Sub-Committee of METI”. 	
<p>Improving environmental quality in ASEAN cities through better long-term city planning and increasing capacity to implement transformative local actions that are closely linked to the SDGs</p> <ul style="list-style-type: none"> ● <i>ASEAN ESC Model Cities</i> was ASEAN’s platform for cities that implement innovative bottom-up practices (mainly for environmental improvement) since 2011. Upgraded to <i>the ASEAN SDGs Frontrunner Cities Programme</i> in 2018, the programme aims to support ASEAN cities to achieve inclusive, sustainable, resilient and dynamic development in line with <i>ASEAN Vision 2020</i>. ● At least 24 cities from Cambodia, Indonesia, Malaysia, Myanmar, Lao PDR, Thailand and Viet Nam participating in the programme demonstrated pioneering SDGs-compatible programmes such as the reduction of litter and single-use plastics, biodiversity conservation, rainwater harvesting, solar lighting and collection of recyclables. ● IGES acts as the Secretariat of <i>the ASEAN SDGs Frontrunner Cities Programme</i>. 	BRC
<p>Contributing to improved water quality in the Tonle Sap Lake through effective policy frameworks for pollution control</p> <ul style="list-style-type: none"> ● The Government of Cambodia is willing to uptake IGES’ proposal and recommended policies to revise/update their policies and approaches. ● The Tonle Sap Authority mentioned that the outcomes from this project have significantly contributed to the development of <i>the Tonle Sap Authority Strategic Plan 2016-2020</i>, and the Authority’s long-term water quality monitoring plan development. 	NRE
<p>Strengthening community resilience through the development of local institutions, capacities and services</p> <ul style="list-style-type: none"> ● The City of Santa Rosa, Philippines improved its <i>Comprehensive Land-use Plan and Local Climate Change Action Plan</i>. ● Two training guidebooks have been developed and are ready for supporting other localities in the Asia-Pacific. 	NRE

<Outcome 3 Cases>

Case	Unit
Implementing evidence-based capacity building for enhanced transparency under the Paris Agreement	<p>Led by CE</p> <p>In collaboration with KUC and BRC</p>
Promoting further implementation of the Joint Crediting Mechanism toward achieving NDCs	<p>Led by CE</p> <p>In collaboration with SGC</p>

Fostering political and social debates for carbon pricing practices in East Asia	CE
Increasing recognition on sustainable lifestyles – “1.5-Degree Lifestyles” report cited in Government of Japan’s Annual Report on the Environment, the Sound Material-Cycle Society and the Biodiversity in Japan 2021 (“Environment White Paper”), as well as in more than 10 newspaper/magazine articles	Led by SCP In collaboration with SMO, CTY, NRE, CE, QAC
Becoming a regional think tank for policy research on preventing plastic pollution and promoting circular economy in ASEAN+3 countries and beyond	Led by SCP In collaboration with NRE, KUC, BRC, SGC
Supporting SDGs localisation and building synergies between SDGs and COVID-19 recovery with the application of the “IGES SDG Interlinkages Tool”	Led by QAC In collaboration with SGC, CTY, SCP
Reflecting long-term scenario analyses into the policy implementation processes in Bhutan and Da Nang City, Viet Nam, applying the Shared Socioeconomic Pathways (SSPs) framework	Led by QAC In collaboration with SCP and NRE
Motivating Japanese companies to redouble efforts on SDGs in the COVID-19 era through publishing a book outlining practical steps that businesses can take to mainstream the SDGs	Led by SGC In collaboration with CTY and SCP
Influencing Japan’s SDGs implementation and governance with examples from foreign governments such as Finland, Sweden, Denmark, France, and Germany	Led by SGC In collaboration with CTY
Supporting a coherent approach to COVID-19 (see page 54, under the paragraph entitled “Facilitation of cross unit collaboration”)	Led by SGC In collaboration with CE and SMO
Realising 2/1.5 °C aligned Japanese climate policies (NDC, energy mix, carbon pricing) by amplifying progressive business voices	BIZ
Contributing to international biodiversity processes by contributing to a number of high-profile regional and global assessments and other processes conducted by United Nations programmes and agencies	NRE
Increasing support and incentives for sustainable natural resource management through responsible markets and businesses	NRE

In FY2018, IGES established the annual “Mountain View Award,” awarded by the IGES President to the team with the most impactful case to promote the Institute’s impact generation. The FY2020 award will be given to a case selected from the above list of high-impact cases.

2.2. Digital Outreach

The official IGES Twitter account and Facebook page were launched in June 2018 to attract new audiences and continued to be used for information dissemination in FY2020. The former gaining 3,278 followers on the Japanese account and 1,303 followers on the English account.

Table 2: Key Numbers of Social Media Activities (FY2020)

“Twitter Followers”

	FY2019	FY2020
Japanese Account	1,826	3,278
English Account	988	1,303

Facebook Page “Likes”

FY2019	FY2020
369	447

The number of website views (page views: PV) has been on an upward trend since FY2016, averaging 90,639 PV per month in FY2020, and finally exceeding 1 million PV for the year (Figure 1). The website was fully relaunched in August 2019, increasing the number of landing pages and improving the performance of in-page searches. Enriched contents over the past year and a half are thought to have contributed to this. In particular, the Group of Seven (G7) and Group of Twenty (G20) special page received a large number of views. Other external factors, such as the popularity of the Climate Change Webinar Series launched by the Climate and Energy (CE), and Prime Minister Suga's declaration in October 2020 to "aim for carbon neutrality by 2050," also had a significant impact on the increase in inflow from organic searches¹, new visitors, and time spent on the site.

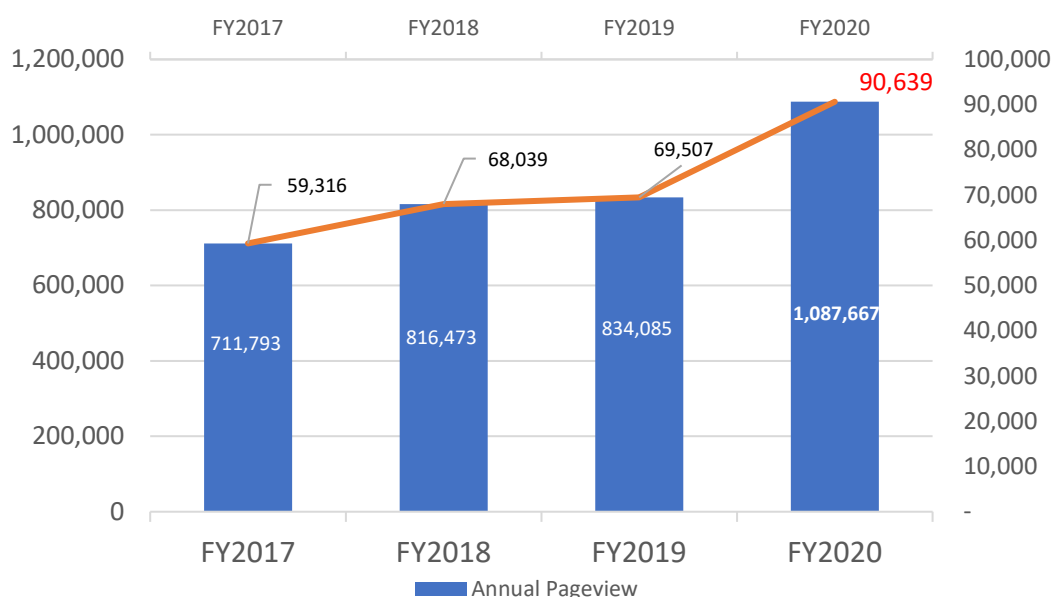


Figure 1: IGES Website Viewership (FY2017-2020²)

The bar shows the total annual PV (left axis) and the line shows the average monthly PV (right axis).

¹ Organic search: Organic search results are the query results in search engines, which are not affected by advertiser payments.

² From FY2019 we adjusted settings to remove automated traffic from our web analytics data. This will make the information more actionable. Using the previous methodology would have resulted in a count of 933,795 page views for FY2019.

The number of downloads of publications increased in FY2020. The inflow of organic searches from search engines has been increasing, while the abandonment rate decreasing, indicating that users are being appropriately directed to the desired pages. The increased number of organic searches is thought to be largely due to a global movement toward decarbonisation by 2050. Reflecting this trend, publications on the themes of decarbonisation and COVID-19 have been very popular. In addition to these, many publications on the theme of SDGs were also downloaded, and these three themes accounted for most of the top 10 downloaded publications.

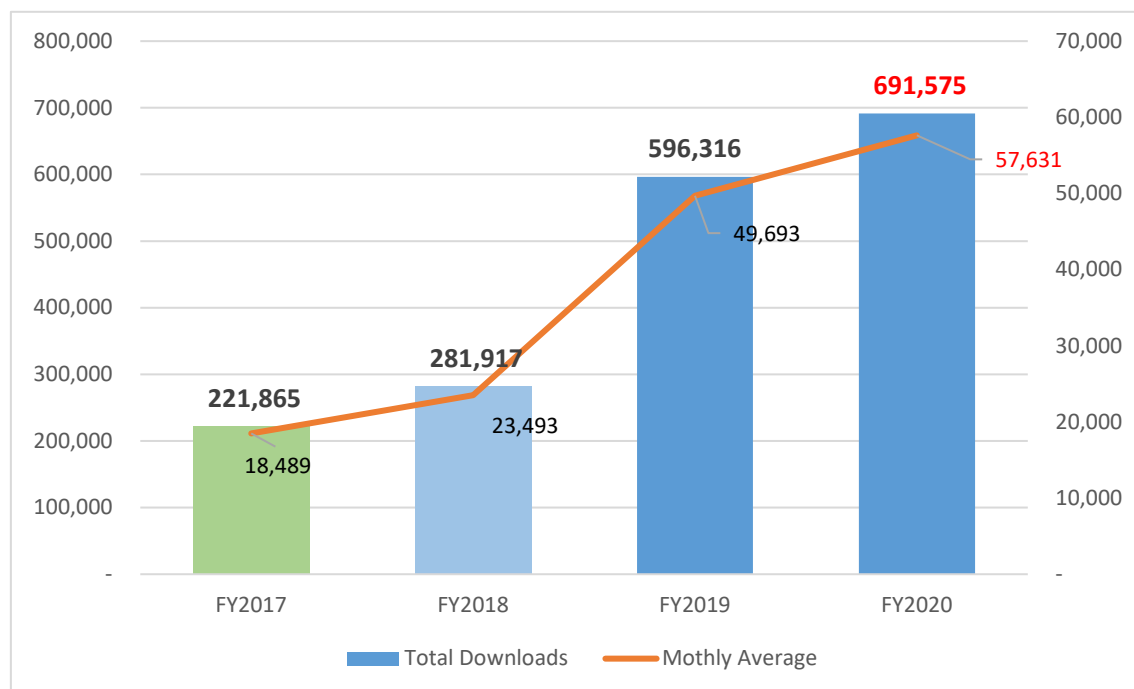


Figure 2: Downloads of IGES Publications (FY2017-FY2020)

The bars show the total annual download (left axis) and the line shows the average monthly download (right axis)

Table 3 is the list of top 10 downloaded publications. The Japanese version of the 1.5-Degree Lifestyle report, which attracted a lot of attention when it was released last year, continued to perform well and remains in the top three this year. Similarly, the Summary for Policymakers of the Intergovernmental Science and Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment Report was also ranked again this year, which indicates the growing interest in biodiversity. In addition to this report, two Japanese translations of key reports published in Europe and Asia and the Pacific were also ranked, indicating the high demand for Japanese translations of important evaluation reports. Many of the top ten downloaded publications were published last year on a wide range of topics, meaning that they have been downloaded continuously for more than a year. It will be important to continue publishing based on these trends and demands.

Table 3: Top 10 Downloaded Publications in FY2020 (Published in last two years)

Rank	Title	Type	Published Date
1	IGES List of Grid Emission Factors	Data or Tool	Feb-21
2	CCET guideline series on intermediate municipal solid waste treatment technologies Waste-to-Energy Incineration	Submission to Policy Process	Jun-20
3	1.5° C ライフスタイル — 脱炭素型の暮らしを実現する選択肢 — 日本語要約版(Japanese summary of “1.5-Degree Lifestyles: Targets and options for reducing lifestyle carbon footprints”)	Technical Report	Jan-20
4	Water-Energy-Food Nexus Perspective: Path Making for Sustainable Development Goals (SDGs) to Country Actions in Asia	Technical Report	Jan-20
5	Circular Economy and Plastics: A Gap-Analysis in ASEAN Member States	Policy Report	Oct-19
6	欧州委員会による欧州議会、欧州理事会、閣僚理事会、欧州経済社会評議会、地域委員会に対する報告書「欧州グリーンディール」(日本語翻訳版—仮訳)(Japanese summary of Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, "The European Green Deal")	Translation of non-IGES Material	Mar-20
7	IPBES 生物多様性と生態系サービスに関する地球規模評価報告書 政策決定者向け要約 (Japanese summary for policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services of the IPBES)	Translation of non-IGES Material	Mar-20
8	Panduan Operasional Pengomposan Sampah Organik Skala Kecil dan Menengah dengan Metoda Takakura	Training or Learning Material	Jan-20
9	ネット・ゼロという世界：2050 年日本（試案）(A Net-Zero World -2050 Japan-: Insight into essential changes for a sustainable future)	Research Report	Jun-20
10	アジア太平洋 SDG 進捗報告書 2020（日本語翻訳版）(Japanese translation of Asia and the Pacific SDG Progress Report 2020)	Translation of non-IGES Material	Jul-20

2.3. Media coverage

While the amount of media coverage in Japanese increased from the previous year, coverage in other languages dipped and this resulted in a slight decrease in the total amount of media coverage in FY2020. It is necessary to select the appropriate content and form for outreach (such as op-ed articles etc. in addition to press releases) so that IGES can deliver its messages to overseas media. Articles on the Online Platform for Redesign 2020, and Professor Takeuchi's Midori Academic Award stood out as the items with the most exposure in the Japanese media. In terms of keywords, the first half of the year saw the keywords such as the COVID-19 pandemic and SDGs, while the second half saw an increase in articles on decarbonisation and renewable energy. The increase in media exposure for these keywords was particularly noticeable from October onward.

Table 4: Total Amount of Media Coverage (number of articles) (FY2017-FY2020)

	FY2017	FY2018	FY2019	FY2020
Japanese	223	367	253	278
Other languages	34	87	58	23
Total	257	454	311	301
Monthly Average	21.4	37.8	25.9	25.1

Table 5: Key Targets of Impact Generation and Their Results in FY2020

Indicator	FY2020 Target	FY2020 Result
Cases of high level of influence	25	37
IGES publication downloads	250,000 in total	691,575
IGES website viewership	730,000	1,087,667
Media coverage (newspapers, magazines, TV/radio broadcasts, web-media)	250 in total	301

The position of IGES in the University of Pennsylvania think tank survey was unchanged last year at the 39th place globally among environment-related think tanks. The concrete implementation of the survey's criteria is not very clear, but IGES has regularly participated in one of the survey's think tank "summits" each year for the past few years in an effort to maintain visibility with the institute which conducts the survey.

Table 6: IGES in Rankings (FY2017-FY2020)

	2017	2018	2019	2020
GLOBAL GO TO THINK TANK by University of Pennsylvania (category: environment policy) (Published in January of the same fiscal year)	40	40	39	39

3. Outputs

3.1. Written publications

In FY2020 the target for peer reviewed journal articles was exceeded by over 100% for the second year in a row. This is the highest level ever achieved by IGES. The target for "written and policy and research outputs" was also achieved. Many of these outputs are produced in collaboration with external partners. Others are produced by cross-group collaboration among IGES researchers. Also, researchers may have had more time to work on outputs due to the reduction in travel time caused by the COVID-19 pandemic.

The targets for flagship/priority and timely outputs were met in FY2020. The flagship/priority output on climate was a research report on “Net Zero World 2050 Japan” which was translated into English this year. For SDGs, two policy reports were jointly produced with GCNJ, namely “Business and SDGs to Overcome the COVID-19 Pandemic: Actions by Companies and Organisations in Japan” (in Japanese; to be translated into English the following fiscal year), and “SDGs and Business in the ESG³ Era: Actions by Companies and Organisations in Japan” (translated into English this year). The focus of priority outputs expanded beyond climate and SDGs to include the COVID-19 pandemic and waste issues, and a joint report with UNEP was published on “Waste Management during the COVID-19 Pandemic: From Response to Recovery.” Two timely outputs on climate were working papers (in Japanese), one on assessing the potential to introduce renewable energy in East Japan, and another analysing China’s 2060 Net Zero declaration. Timely outputs on SDGs were policy reports on “Assessment of ASEAN Countries’ Concrete SDG Implementation Efforts: Policies and Budgets Reported in Their 2016-20208 Voluntary National Reviews,” “State of the Local Voluntary Reviews 2021,” and “Japan EU Comparative Analysis on Sustainable Finance Policy” (in Japanese). All of these outputs achieved a substantial number of downloads (mostly over 900) during the fiscal year, except one which was published at the end of the FY2020.

IGES began to put more emphasis on submissions to policy processes and commentaries in FY2020. Submissions to policy processes focused especially on COVID-19, SDGs, and waste. These included a position paper on “Implications of COVID-19 for the Environment and Sustainability,” IGES key messages for the High-level Political Forum (HLPF), a National Action Plan on Sustainable Production and Consumption for Viet Nam, a plastic waste management strategy and action plan for the Greater Hyderabad Municipal Corporation, and guidelines on intermediate municipal solid waste treatment technology and composting. The commentaries focused on climate issues, including Japan’s 2050 Net Zero declaration, how decarbonisation could be achieved, the potential for renewable energy in Japan’s energy mix, the contribution of a green recovery from COVID-19 to a decarbonised society, Japan’s plan for phasing out inefficient coal-fired power plants, and an evaluation of reporting options under Article 6.2 of the Paris Agreement. In 2021 May, IGES also published a commentary in Japanese entitled “Is RE100% scenario truly unrealistic? - We should consider a wider range of options for power system decarbonisation”.

IGES made important contributions to five major ongoing assessment reports in FY2020 as authors. IGES contributed to all three Working Groups (WG) of the IPCC Sixth Assessment Report, and one IGES researcher is the chapter scientist for one chapter of WG 2. An IGES researcher is a Lead Author of the IPBES Thematic Assessment on Sustainable Use of Wild Species. IGES is coordinating the ASEAN State of Climate Change Report. IGES also participated in UNEP’s Steering Committee on the Future of Global Environment Outlook (GEO).

³ ESG: Environment, social and governance

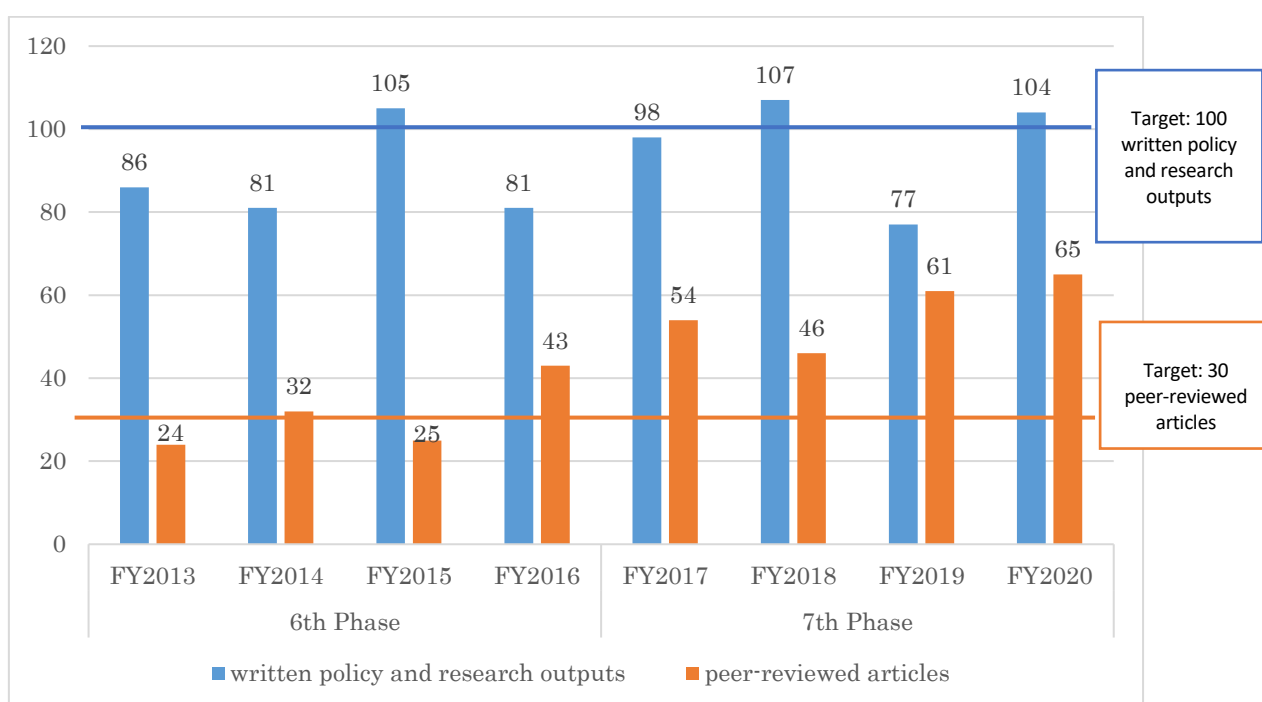


Figure 3: Written Policy and Research Outputs Compared to 7th Phase Targets

In addition, the emphasis on translated outputs has continued. Last year 37 translations were produced (E→J: 22, J→E: 12, other 3), five more than in the previous year. Most were produced using internal funds and IGES staff, although six were externally funded. Translated outputs remained popular, accounting for four of the top 25 downloaded outputs, so they may be having some impact. Major translations into Japanese included the United Nations Environment Programme’s (UNEP) Adaptation Gap Report (Executive Summary), the Asia and the Pacific SDG Progress Report of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), Resource Efficiency and Climate Change: Material Efficiency Strategies for a Low-Carbon Future (Summary for Policymakers) (International Resource Panel (IRP)), and a policy report published jointly by IGES and UNEP namely, “Waste Management during the COVID-19 Pandemic: From Response to Recovery”.

Table 7: Translated Outputs

		FY2019	FY2020
By Language	English→Japanese	23	22
	Japanese→English	9	12
	Other language	0	3
By Type of Output	Non-IGES Outputs	16	12
	IGES Outputs	9	19
	Commissioned work	7	6
	Total Translations	32	37

3.2. Citations of peer-reviewed articles

IGES continues to make good progress in terms of citations to peer-reviewed journal articles as shown in Table 8. IGES has tracked citations for six years using two different calculation methods, one from the Web of Science (WOS) which tracks citations mainly in academic articles, and one using Google Scholar, which tracks citations in a much wider range of publications including “grey literature” and outputs by international organisations. IGES has almost twice as many citations in Google Scholar compared to the Web of Science, and Google Scholar is considered more appropriate for IGES since the target audience for IGES outputs is much wider than just the academic community, which is the focus of Web of Science. Citations in the Web of Science increased by 1,077 between February 2020 and by 1,457 in February 2021, increases of 33% and 34%, respectively, for a total of 5,800. In comparison, citations from Google Scholar increased by 2,182 and 2,898 during these periods, increasing by 23% and 25%, respectively, totalling 14,478. The continued steady increase in the number of citations may be attributed to the increasing number of peer-reviewed articles as well as the increasing number of articles which are published in higher ranking journals such as Sustainability Science, Journal of Cleaner Production, Energy Policy, Applied Energy, Climate Policy, etc. It is also interesting that articles from the journal International Review of Environmental Strategies, which IGES stopped publishing in 2007, are still getting citations; this was facilitated when IGES published those articles directly on its website.

IGES does not track citations for other publication types because they are not included in Web of Science and checking one by one on Google Scholar is very time consuming. However, it was observed that Web of Science is now including some edited book chapters, though not consistently. Edited book chapters which are picked up by Web of Science are also included in the calculation of Google Scholar citations in Table 8. The results of the output-related indicators set for the ISRP7 are summarised in Table 9.

Table 8: Citations of IGES Publications (as of February 2021)

	Number of Articles				Number of Citations (WOS)				Number of Citations (Google Scholar)			
	Feb. '18	Feb. '19	Feb. '20	Feb. '21	Feb. '18	Feb. '19	Feb. '20	Feb. '21	Feb. '18	Feb. '19	Feb. '20	Feb. '21
WOS	214	281	358	430	2,409	3,266	4,343	5,800	5,050	6,541	8,381	10,914
Articles from Pub. DB / not in WOS	108	111	124	131	NA	NA	NA	NA	1,022	1,092	1,310	1,521
Sub Total	322	392	482	561	2,409	3,266	4,343	5,800	6,072	7,633	9,691	12,435
IRES*	141	141	141	141	NA	NA	NA	NA	1,570	1,765	1,889	2,043
TOTAL	463	533	623	702	2,409	3,266	4,343	5,800	7,642	9,398	11,580	14,478
Yearly Increase	+38	+70	+90	+79	+709	+857	+1,077	+1,457	+1,812	+1,756	+2,182	+2,898
% of Increase	+9%	+15%	+17%	+13%	+42%	+36%	+33%	+34%	+31%	+23%	+23%	+25%

Table 9: Outputs Targets and Achievements

		Target	FY2020 achievement
Priority outputs	Flagship/priority outputs focusing on climate and SDGs	2	4
	Timely output on climate	1	2

	Timely output on SDGs	1	3
	Written policy and research outputs	100	104
	Peer reviewed journal articles	30	65
	Contribution to global/regional assessments*	2	5

*: Number of ongoing and completed major global/regional assessment reports that IGES has contributed to.

3.3. Strategic Research Fund (SRF)

In FY2020, 15 SRF projects were approved. As in FY2019, nearly all the proposals were accepted, although a few proposals were shifted to the SOF, and most did not receive the full requested budget. Therefore, most of the projects were on a relatively small scale.

A review of the FY2019 SRF was conducted in FY2020, and the results were positive, similar to the reviews of the previous years. Overall, 32 completed outputs were produced, 10 more than 22 from the previous year's initial review), while another 18 outputs made significant progress (completed draft, submitted for review, or accepted for publication) (compared to 16 in the previous year). The number of funding proposals developed was 16, of which four were accepted, one rejected, and 11 were waiting for results at the time of the review. Some projects even achieved a certain level of impact despite the very short timeframe. IGES was invited to help Kanagawa Prefecture develop its Net Zero Vision. The SDG interlinkages tool informed Viet Nam's national action plan on SCP. The project on food waste contributed to Thailand's National action Plan on Sustainable Consumption and Production. Overall, the SRF served as an effective internal mechanism to support IGES's own research activities. The review found that significant underspending continued to be a challenge in FY2019, as only 62% of the funds were spent, an improvement from the previous year (56%). All projects underspent their budgets. The most common reason was a reduction in travel and meeting expenses due to COVID-19. Other reasons were similar to previous years: efficient management, including some substitution of external funds or other budgets, and good negotiation with subcontractors. Nevertheless, despite substantial underspending, many outputs and successful external funding proposals were produced, and good progress was made on impact generation.

In addition the FY2018 projects were surveyed again to check the longer term effectiveness of the SRF. It was found that in FY2019, the FY2018 projects produced six additional outputs and two additional funding proposals (one accepted and one waiting results).

4. Management

4.1. Operations and Human Resources

SMO-PM made continued efforts in improving institute-wide management with three focus areas i.e. (i) securing a sound financial base, (ii) improving operational efficiency and transparent corporate governance, and (iii) developing institutional human resource capacity and work environment. This year the new four-year research programme for the next phase (the Integrative Strategic Research Programme for the 8th Phase or ISRP8) was finalised in time for its launch in July 2021. Highlighted achievements by SMO-PM in FY2020 are summarised in Figure 4. IGES

continued to cope with the impacts of the COVID-19 pandemic while securing resources for implementation of the annual plans and improving efficiency in its operation.

For (i), SMO-PM continued to improve financial value-added (project FVA)⁴ through facilitating a quicker consultation with the management on approvals on project proposals and necessary cost-saving measures during the project implementation and operation. Development of an online IGES Proposal and Project Review System (PPRS) consisting of a review and approval for fundraising proposals, a database of past proposals, and a database of IGES projects made a significant progress for introduction early in the ISRP8 to support successful fundraising at IGES.

For (ii), SMO-PM continued updating and upgrading various administrative procedures. An online internal approval system was developed and introduced in July 2021, replacing the existing paper/stamp-based approval system in an effort to improve efficiency and transparency in the process across all offices of IGES. In response to an increased demand for hosting and attending online meetings, a few private single-use meeting rooms (HQ) and online meeting supporting equipment (HQ, TSF and KUC) were added, and IGES internet connections were upgraded (HQ and TSF). These improvements enabled IGES not only to strengthened engagement with its partners and stakeholders in a virtual space but also carry out business and projects despite the impacts of the COVID-19 pandemic. The ICT team led the above technical solutions outlined above, in close coordination with the facility management and other SMO personnel, as well as helping to raise the capacity of IGES staff members in using new equipment and tools. IGES also introduced an electronic contracting system on a trial basis prior to its full-scale introduction, and continued internal discussion on upgrading other IGES systems (accounting, etc.) for a longer-term use beyond ISRP7.

In addition, SMO-PM continued to provide legal review and advice on various contracts by its in-house legal expert. IGES also continued monitoring and improving its environmental footprint and passed an intermediate audit for its environmental management certification (Eco-Action 21 certification which is administered under Ministry of the Environment, Japan).

For (iii), the number of staff members was kept at the same level of the previous year due to the combined efforts on improving operation efficiency mentioned below (Table 10). In FY2020, IGES has successfully maintained to hold two certificates (childcare support certification and women's participation promotion). One major step in FY2020 was that IGES has established a system for teleworking to all staff members not only as a measure to reduce the risk of infections but also as a tool to improve productivity and promote the work-life balance of staff members, with introduction of Teleworking Guidelines. The new telework system has brought more flexible work styles and also cost reductions as a whole of IGES by change of payment method of commuting allowance. While COVID-19 has shifted project activities from overseas missions and face-to-face conferences/ workshops to online- conferences/workshops as well as webinars, it thus reduced staff travelling time and eased their intensive workload from their overseas mission or associated logistical preparation. This then contributed to achieving the target on overtime work reduction together with continued efforts on raising work efficiency. In FY2020, in the course of capacity development of staff members, special training sessions were offered to Principal and Senior staff members to improve leadership and communications.

Among these indicators, institute-wide efforts (Headquarters and Satellite Offices) were made to reduce overtime work. As of June 2020, the rate of reduction of total overtime (time-based) was at 68% in comparison with FY2016; and overtime per person has been continuously decreasing

⁴ See notes #3 of Table 15.

(Table 11). The results of management-related indicators set for the ISRP7 are summarised in Table 11.

Based on the comments and suggestions on the first draft received at the Boards of Directors and Trustees (BOD/BOT) meetings held in October 2020, IGES developed the final ISRP8 draft and received final approvals at the BOD/BOT meetings in May 2021. Staffing and other necessary arrangements were made for the ISRP8 implementation in time for its launch in July 2021.

Sound Financial Base	Operational Efficiency & Governance
<ul style="list-style-type: none"> Continued utilising project FVA for project proposal screening and unit-level financial management (Details in Settlement section). 	<ul style="list-style-type: none"> Online internal approval system was finalised and introduced in July 2021, replacing existing the paper-based system. Added private single-use meeting rooms and online meeting equipment; upgraded internet connection (HQ, TSF). Response to COVID-19
HR Capacity & Work Environment	<ul style="list-style-type: none"> Established Teleworking System with FY2020 Guidelines Held training sessions on leadership and communication by external lecturers/ In-house training & seminars on publications, fund management, etc. Maintained two certificates (childcare support certification and women's participation promotion).
ISRP8	<ul style="list-style-type: none"> Plans finalised and approved at the BODT meetings in May 2021. Necessary preparation and arrangement for launching

Figure 4: Key Achievements in Management in FY2020

Table 10: IGES Full-time Staff Members

Categories	FY2019 results (June 2019)	FY2020 results (June 2021)
Professional Staff	134	134
Principal staff	21	21
Senior staff	48	49
Professional staff	56	55
Dispatched from other organisations	9	9
Operation Staff	25	23
Total: IGES Staff members (Full-time)	159	157
Number of administrative staff (including part-time staff)	25.7	24.2
Total: IGES Staff members (Full-time/Part-time)	162.8	161.0
Ratio of administrative staff in total staff	15.8%	15.0%

Note: Temporary staff is excluded.

Table 11: Management-related Targets and Their Results in FY2020

	Indicator	FY2020 Target	FY2020 Result	(Reference) FY2020 (end of the 7 th phase target)
1	Ratio of administrative staff to total staff	16%	15.0%	15%
2	Reduction of overtime [%, in comparison with FY2016]	53% (time-based)	68% (time-based)	60% (time-based)
3	Improvement in the efficiency of IGES internal decision-making [%, in comparison with FY2016]	Over 50% and 45% for the same two metrics	23% 81%	80%

	Indicator	FY2016	FY2017	FY2018	FY2019	FY2020
Reference to item 2	Monthly overtime hours per person (results)	20.1	14.5	13.7	10.5	8.6

[Notes to indicators]

- 1: Administrative staff members correspond to the staff in the SMO-PM and those who are engaged in administrative work in satellite offices. IGES Fellows are excluded from total staff numbers.
- 2: Overtime by staff members who are not under the discretionary labour system was applied.
- 3: 23%: Improvement rate based on the number of request approvals (The monthly average of requested documents was reduced from 65 in FY2016 to 50 in FY2020.) The improvement rate shrank slightly from FY2019. One of the main reasons was an increase in the number of contract amendments in project contracts due to COVID-19. Although the number of request approvals did not decrease in FY2020, a paper-based approval system was replaced by an email-based system to ensure that the necessary approval process was properly completed even when teleworking due to the COVID-19 pandemic.
81%: Improvement rate based on the processing time for overseas mission approval. (Average processing time for overseas mission approval was reduced from 79.5 hours in FY2016 to 15.4 hours in FY2020.) In FY2020, only four mission requests were made due to COVID-19.

4.2. Summary of Financial Settlement

Overall revenue and expenditure in FY2020 was JPY 2,557 million and JPY 2,576 million respectively, resulting in a deficit of JPY 19 million.

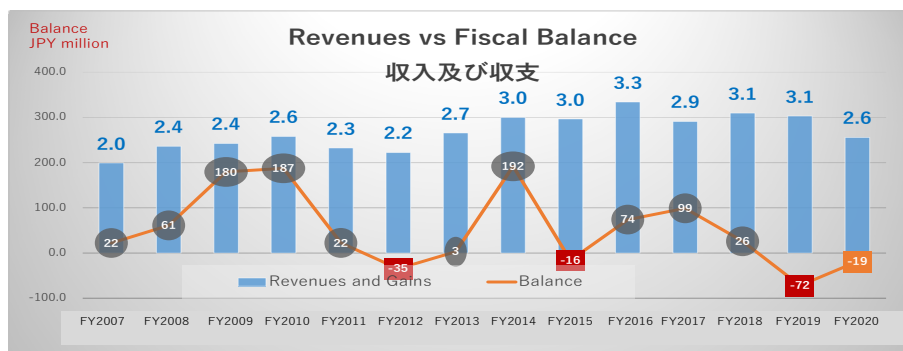


Figure 5: Fiscal Balance (FY2007-FY2020)

The equivalent amount of the deficit due to the scheduled costs of investments was withdrawn from the Deposit for Promoting Strategic Initiatives, resulting in a balanced substantial financial performance for FY2020.

Table 12: Fiscal Balance by Breakdown (FY2020) JPY million

	Budget	Result	Notes
Budget (regular)	0	+16	
Budget for Own Initiatives under the Deposit*	-75	-35	ISAP and investment expenditures
Total	-75	-19	

* Deposit for Promoting Strategic Initiatives

Table 13: Substantial Balance and Unrestricted Net Assets

		JPY million			
		FY2017	FY2018	FY2019	FY2020
Fiscal Balance 経常収支		99	26	▲ 72	▲ 19
Deposit for Promoting Strategic Initiatives 戦略事業促進準備資金	Withdrawal 引当			72	19
	Reservation 積み増し	99	26		
Substantial Balance 実質的な収支		0	0	0	0
(Reference)					
Unrestricted net assets at end of year 一般正味財産期末残高		971	994	922	903
(included in the above/内数) Deposit for Promoting Strategic Initiatives 戦略事業促進準備資金期末残高		352	378	306	287

Breakdown of Revenue and Expenditure

Major items for both revenue and expenditure are described in the table below.

Table 14: Breakdown of FY2020 Financial Results

	FY2017 (Result)	FY2018 (Result)	FY2019 (Result)	FY2020 (Result)	FY2020- FY2019
[JPY million]					
Revenue					
MOEJ Contribution	500	500	500	500	0
External Funds	2,029	2,217	2,152	1,677	-475
Subsidies from Local Gov.	354	349	346	349	3
Others	30	31	35	31	-4
Total Revenue	2,913	3,097	3,033	2,557	-476
Expenditure					
Operating costs for funded projects	930	1,129	1,047	579	-468
Operating costs for IGES own initiatives*	90	110	128	77	-51
Personnel Costs**	1,246	1,274	1,357	1,356	-1
Administrative Costs	548	558	573	564	-9
Total Expenditure	2,814	3,071	3,105	2,576	-529
Balance	99	26	-72	-19	53

* Includes personnel costs under Investment budget. ** Exclude personnel costs under Investment budget.

Ratio of administrative cost in the total expenditure	13.5%	12.6%	12.9%	15.5%	+2.6 points
Project Financial Value-Added (FVA)	1,115	1,124	1,136	1,129	-7
Project FVA Ratio	55.0%	52%	53%	66%	+13 points

On the revenue side, the overall volume of raised funds reached about JPY 1.7 billion, in addition to the contribution from MOEJ (JPY 500 million) as well as subsidies and support from local governments including Kanagawa Prefecture, Hyogo Prefecture and Kitakyushu City (JPY 349 million).

Under external funds, in addition to the domestic projects from Ministry of the Environment and others, IGES operationalised various overseas projects⁵ funded by Japan-ASEAN Integration Fund (JAIF), SWITCH-Asia SCP Facility of European Commission (EU), UNEP, UN-Habitat, UNU-IAS, Climate Works and others.

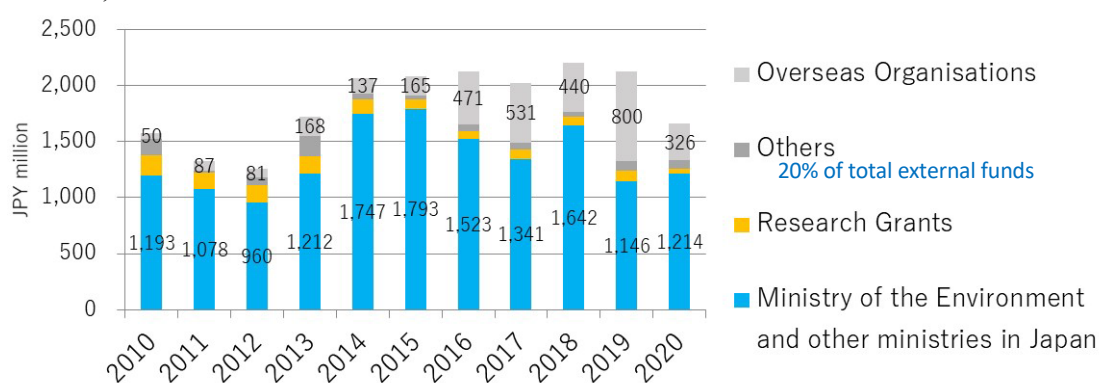


Figure 6: External Funds by Source (FY2010-FY2020)

It should be highlighted that the COVID-19 pandemic has promoted virtual/online activities especially for international/domestic conferences, capacity building activities and on-site research

⁵ Including projects funded by international funding agencies

activities. These activities resulted in a significant reduction of costs for overseas travel, conferences as well as on-site outsourcing, and this cost reduction was reflected in the decrease in revenue (JPY 475 million reduction compared to FY2019).

Among overseas projects, in particular, there were several major projects which had already been completed or were almost completed, but whose income will be accounted for in the FY2021. This is because of the extension of contract term/review period due to COVID-19 or political instability in the specified country. Ultimately, the amount of overseas projects income decreased resulting in a ratio of 20% out of the total amount of external funds.

Under these circumstances, the project FVA ratio on average increased to 66% at the settlement-base (+13% point compared to FY2019), which contributed to securing the amount of FVA which is almost at the same level of FY2019.

Expenditures

Total expenditure under externally funded projects and own initiatives was significantly decreased reflecting the lower expenditure for travel, conferences, and outsourcing due to COVID-19 and shifting to virtual/online activities (JPY 468 million reduction compared to FY2019). Personnel costs remained at the same level as for FY2019.⁶ Administrative costs decreased by JPY 9 million compared to FY2019, reflecting a decrease in costs for cafeteria operation at HQ, utilities, printing, etc. The ratio of general administrative costs out of the total expenditure was 15.5% reflecting the decrease in total expenditure.

Table 15: Finance-related Targets and Their Results in FY2020

	Indicator	FY2020 Target	FY2020 Result (Tentative)	(Reference) FY2020 (end of phase target)
1	Contribution from the Ministry of the Environment, Japan (MOEJ) ('IGES core fund')	JPY 500 million	JPY 500 million	JPY 500 million
2	Volume of external funds	JPY 2.2 billion	JPY 1.7 billion	over JPY 2 billion
3	Ratio of project financial value-added (FVA) in the external funds in total [Contract-based]	52%	66% (settlement-based)	49%
4	Ratio of international external funds in the external funds	Over 25%	20 %	over 25%
5	Ratio of general administrative cost in the total expenditure	13%	15.5%	12%

[Notes to indicators]

2: Exchange rate as of April 2020 (FY2020 Target) or June 2021 (FY2020 Result)

3: IGES applies the concept of "value-added" to the externally-funded project or group level (when aggregated) financial management (namely "project financial value-added" or 'project FVA'). Project FVA is calculated as: revenue less project operating expenditures such as outsourcing and travel costs. This is the amount available for personnel and other expenditures necessary for IGES strategic research and operations. The ratio of project FVA to the total project revenues (project FVA ratio) is used for an indicator for the fund availability for IGES's strategic activities. Target ratio is contract-based, and result ratio is settlement-based.

4: Exchange rate as of April 2020 (FY2020 Target) or June 2021 (FY2020 Result)







5: Headquarters building rental fee is excluded because it is fully subsidised by the local government.

⁶ In accounting, the incurred personnel costs are logged when the project is completed and corresponding payment is made. Thus, the personnel costs of FY2020 in Table 14 include those incurred for the whole period (including FY2019) in each project completed in FY2020, but it excludes those in the ongoing projects. For these reasons, this personnel costs (Table 14) do not directly reflect the number of staff members (Table 10).




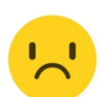

5. Overall Achievement in FY2020

As summarised in Table 16, the overall self-evaluation in FY2020 was satisfactory to excellent, despite the lingering impacts of the COVID-19 pandemic from FY2019. Steady progress of planned activities was made by effectively using virtual/online meetings and discussions when conducting projects. Extensive efforts were also made to secure the necessary income to strengthen activities while maintaining and improving operational efficiency, along with the introduction of teleworking and establishing a new workstyle in response to COVID-19.

Table 16: Summary of FY2020 Achievement (Self-evaluation)

	FY2020 Self-evaluation	Remarks
Impact Generation		9 “Impact 1” cases and 13 “Outcome 3” cases are reported out of a total of 37 cases.
Outputs		Continued high number of peer-reviewed journal articles, especially in journals with relatively high impact factors. More books, commentaries. Continued significant increase in citations of IGES publications.
Operations and Human Resources (HR)		Introduction of new online system and tools made remote business activities at IGES more effective and efficient. Training sessions were offered to Principal and Senior staff members to improve leadership and communications.
Financial Settlement		While project activities were affected by COVID 19 and income decreased, efforts were made to secure necessary FVA and maintain a sound financial base.
Overall	 	Excellent - Satisfactory

Self-evaluation is expressed in five types of facial expressions as below.

Exceptionally excellent	Excellent	Good / Satisfactory	Need for improvement	Unsatisfactory
				

ANNEX 1. SUMMARY OF KEY ACHIEVEMENTS BY UNIT

1. Three Issue Areas

1.1. Climate and Energy (CE)

With particular focus on the Asia-Pacific region, IGES CE 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.

(1) Intended impacts during ISRP7

- The Paris Agreement is operationalised
- Materialisation of Greenhouse Gas (GHG) emissions reduction through implementation of the Joint Crediting Mechanism (JCM)
- Political and social debates on carbon pricing in Asia are progressed
- Climate policy is developed by offering visualised pathways to decarbonisation

(2) Major activities in FY2020

Operationalisation of the Paris Agreement

IGES contributed to an international negotiation on Article 6 of Paris Agreement by participating in COP meeting as a member of Japanese delegation. By utilizing the knowledge and expertise gained through the support for international negotiation, IGES conducted a mutual learning programme for enhanced transparency in cooperation with the governments of Asian developing countries, focusing on Article 13 and 6 reporting. In addition, IGES organised regional knowledge-sharing workshops for enhanced transparency in collaboration with major international partners, such as the UNFCCC Secretariat, the UNFCCC Regional Collaboration Centre (RCC) and the Global Support Programme implemented by the UNEP-DTU. Furthermore, IGES newly established cooperation with the Japan Aerospace Exploration Agency (JAXA) for the advancement of inputs from the Japanese satellite community to the global stocktake (GST). IGES started playing a key role in bridging science and international policy discussions, leading to further exploration in the new phase.

Materialisation of GHG Emission Reductions and Contribution to SDGs 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 11 MRV (monitoring, reporting and verification) methodologies. In addition, JCM-SDGs linkage guidance was produced to identify and analyse how the JCM projects contribute to achieving the SDGs. Toward further understanding and implementation of the JCM, IGES developed a methodology guidebook for the JCM and organised the JCM annual assembly workshop, inviting all JCM partner countries to ensure better understanding of the corresponding adjustment and Article 6 of the Paris Agreement.

Impacts on Political and Social Debates on Carbon Pricing in Asia

Carbon pricing policy is taking shape in Asia, such as the implementation of national emissions trading schemes in China and the Republic of Korea. IGES served as Japan's focal point for jointly implementing the fifth Forum of Carbon Pricing Mechanisms in Japan, Korea and China, and contributed to discussions on the trilateral cooperation. IGES conducted timely overview and analysis of the design features and implementation progress of emissions trading schemes in China and the Republic of Korea. As a steering committee member, IGES supported an initiative of Asia Society Policy Institute for expanding emissions trading schemes in Asia. A working paper on the latest progress and prospect of China's emissions trading scheme was published, thereby stimulating the mutual learning of 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 or 1.5°C goals in China and India, and a comparative study on low-carbon policy in Japan, Korea and China. Domestically, IGES conducted a simulation analysis of power grid system of eastern Japan for the maximum expansion of renewables. IGES contributed to a Japan chapter of Climate Transparency, a Germany-based research network for G20 countries. Likewise, IGES provides the most up-to-date information through regular updating of the IGES Climate Databases on various topics. IGES also in collaboration with the National Center for Climate Change Strategy and International Cooperation (NCSC), a Low Carbon Development Indicator System.

To communicate national and international trends towards decarbonisation, the IGES Climate Change Webinar Series was launched, with a total of 11 webinars conducted from April to July 2021, watched live by a total of 4,320 people.

(3) Selected publications

- Policy Brief “Integrating Clean Air, Climate, and Health Policies in the COVID-19 Era: The Role of Co-benefits and the Triple R Framework”
- Book “Renewable Energy Transition in Asia: Policies, Markets and Emerging Issues” (Palgrave Macmillan)
- Working Paper “Co-innovation for Low Carbon Technologies: The Case of Japan-India Collaboration”
- Working Paper “The Latest Progress and Prospect of China's National Emissions Trading Scheme” (in Japanese)
- Working Paper “An Estimation of Renewables Integration in Eastern Japan under the Flow-based Operation of Power Transmission System” (in Japanese)
- Working Paper “Joint Crediting Mechanism and Sustainable Development Goals Linkage Guidance”
- Discussion Paper “CDM Supply Potential for Emission Reductions up to the End of 2020”
- Discussion Paper “Understanding Article 6.2 Reporting with the JCM: Experience from Mutual Learning Program”
- Briefing Note “Understanding the First Global Stocktake under the Paris Agreement” (in Japanese)
- Commentary “Evaluation of Options for Reporting under Article 6.2 of the Paris Agreement”
- Learning Material “JCM Methodology Guidebook”

- Six series articles on “Transformation of China’s Climate Change Policy After the Operationalisation of the Paris” (Bimonthly Magazine “Global Warming” in Japanese)
- A contribution to “Economic Class” of NIKKEI newspaper “Review of China's Industrial Policy (part 2)” (in Japanese)
- Database “Global Database of National GHG Inventory (GHGI) Capacity in Developing Countries”
- IGES Climate Databases
 - “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”
 - “Potential Supply of Pre-2020 CERs”

1.2. Natural Resources and Ecosystem Services Area (NRE)

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.

(1) Intended impacts during ISRP7

- Increased knowledge, support and incentives for landscape and ecosystem management
- Increased integration of policies and planning across sectors that impact land and natural resources
- Strengthened community resilience through development of local institutions, capacities and services
- Increased provision of scientific data, knowledge and tools for biodiversity conservation and adaptation planning
- Improved water quality through effective policy frameworks for pollution control
- Increased support and incentives for sustainable natural resource management through responsible markets and businesses

(2) Major activities in FY2020

Contribution to International Biodiversity Processes

IGES staff contributed to authorship of the IPBES sustainable use of wild species assessment report and the IPBES nexus scoping report; translation of the IPBES global assessment; external review of the draft IPBES nexus assessment scoping report; the draft IPBES sustainable use of wild species assessment report; the draft IPBES values assessment report; the draft IPBES transformative change scoping report; the draft planning for future work programmes of IPBES; and peer-reviewed documents for the Convention on Biological Diversity (CBD). Some of these review opportunities provided an opportunity to suggest citing relevant IGES publications. IGES also registered as an observer at key meetings of the CBD and IPBES. In addition, to help local implementation of the global biodiversity goals, IGES conducted a series of research and capacity building activities on Local Biodiversity Strategies and Action Plans (LBSAPs), including an LBSAP policy brief

publication and an online workshop on LBSAP attended by Japanese local governments. An IGES staff member was also included as an expert in the scoping report on the IPBES thematic assessment of interlinkages among biodiversity, water, food and health.

Advisory function to IPBES TSU

NRE staff continued to serve in an advisory role to the technical support unit (TSU) for the IPBES assessment on invasive alien species and their control. This TSU is hosted by IGES at the Tokyo Sustainability Forum.

Pilot on Participatory Watershed Management

IGES and partners helped local governments in the Philippines develop more resilient land-use and climate change action plans through a scenario analysis and impact assessment process. Impacts of land-use change and climate change on flooding, water quality and habitat quality were assessed using GIS and modelling software. Two training guidebooks were developed (Participatory Watershed Land-Use Management Guidebook, and Participatory Coastal Land-Use Management Guidebook), and several training sessions were provided to local governments. Development of an adaptation funding proposal for Green Climate Fund is underway.

Data Collection Survey in Response to Heavy Oil Spill in Mauritius

An IGES staff member was dispatched to Mauritius to respond to a heavy oil spill from the bulk carrier vessel, MV Wakashio, to contribute to a JICA project, as a member of an expert team. The mission was to collect data and survey on the socio-economic (livelihood) situation, coastal ecosystem services and eco-tourism in the affected areas. During the two-month mission, the survey included a number of meetings and consultation with the relevant ministries of Mauritius, UN agencies and local NGOs as well as interviews and questionnaire surveys with local communities.

Establishment of Environmental Conservation Platform of Tonle Sap Lake

IGES has been implementing a 5-year SATREPS project funded by JICA/JST on developing a water environment analytical tool for Tonle Sap Lake in Cambodia, the largest inland water body in Southeast Asia. The research team has been working with the Institute of Technology of Cambodia and relevant partners in both Japan and Cambodia to establish an environmental conservation platform for the conservation of Tonle Sap Lake. They have: (i) established a solid research-oriented structure and facilities at the Institute of Technology of Cambodia; (ii) encouraged science-based management by the Government of Cambodia; and (iii) enhanced the Tonle Sap Water Environmental Platform (TSWEP) to become an international hub of freshwater ecology and management in Southeast Asia.

Integrated Decentralised Domestic Wastewater Management in ASEAN

IGES has been working closely with all ASEAN Member States to implement a regional initiative to promote policy dialogues and capacity building of multi-stakeholders on integrated decentralised domestic wastewater management in ASEAN countries (2018-2020). A series of capacity-building lectures were presented to more than 60 representatives from all ASEAN countries. This project has facilitated ASEAN Member States in achieving the relevant targets under SDG 6 on water and sanitation. The project also served as a policy and institutional design development platform for multi-stakeholders on integrated domestic wastewater management, sharing good technological and management practices, as well as appropriate policies for the effective implementation of decentralised wastewater management approach in ASEAN countries. Two ASEAN Regional Policy Dialogues on promoting decentralised wastewater management approach were held, and a “Regional Policy Roadmap Towards the Achievement of Integrated Domestic Wastewater Management” for ASEAN has been developed and launched.

Socio-hydrological perspective of climate change adaptation: Comparative study in large riverine islands in India, Bangladesh and Viet Nam

Amidst rapid global changes and the unfavourable environmental conditions they induce, communities in isolated riverine islands are affected due to their poor adaptive capacities. Among their main vulnerabilities are their water resources. Using a socio-hydrological approach, this work explored how the nexus of human–water relations can be applied to improve adaptive measures to maintain hydrological cycles along with managing local water needs. Socio-hydrological models are being used by IGES experts to quantify feedbacks between water resources and communities at multiple scales with the aim of expediting stakeholder participation for the sustainable management of those resources.

Mainstreaming Biodiversity Conservation and Sustainable Management in SEPLS

IGES and partners supported six more projects to demonstrate the value and potential of socio-ecological production landscapes and seascapes (SEPLS) around the world. The total number of such projects since 2013 has now grown to 48. A new Satoyama Development Mechanism (SDM) website was developed to facilitate interactive information exchange between the project implementers, the SDM Secretariat and a general audience. In addition, the SDM project results were publicised in a variety of ways, including at side-events organised at the High-level Political Forum on Sustainable Development (HLPF) and ISAP2020; and via the Satoyama Initiative Thematic Review vol. 6 on transformative change.

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

IGES and partners have been working on developing scenarios in changing mangrove ecosystem services to promote proactive landscape and seascape planning in India, Japan, Taiwan, the Philippines and Fiji. The results in the form of spatial outputs are important to operationalise ecosystem-based disaster risk reduction concepts in the study areas.

Responsible Timber Trading

IGES and partners have been working to provide information on the timber production process and regulations to support the implementation of Japan's Clean Wood Act (CWA). Literature reviews, trade analyses and interviews were conducted in Mozambique and Australia. Summaries of the studies were published on the website "Clean Wood Navi" managed by the Forestry Agency and an online seminar was organised. Additional information is being collected in Indonesia, Malaysia and Viet Nam. Furthermore, IGES and partners have studied compliance of the CWA by timber business entities in Japan by questionnaire and interview studies. IGES also supports the Forestry Agency to manage and improve the "Clean Wood Navi." IGES knowledge and experience accumulated through these projects were recognised, and IGES recently started a 2-year project to analyse timber legality assurance systems and good practices for sustainable timber trade in China, Myanmar and Viet Nam, funded by the International Tropical Timber Organization (ITTO).

New York Declaration on Forests

The New York Declaration on Forests (NYDF) which was adopted at the UN Climate Summit in 2014 is an ambitious global forest goal integrating international agreements, such as the Paris Agreement, the Sustainable Development Goals (SDGs) and the 2020 Strategic Plan for Biodiversity. IGES participates the NYDF Assessment Partners, an international network of research institutes and NGOs that independently assesses the progress of NYDF targets and contributes to develop the goal assessment reports, translated the report summary for the Japanese audience.

JCM REDD+⁷

IGES supported MOEJ by providing advice on a project proponent for a JCM REDD+ project to develop a methodology and project design document.

Regional/Local Circulating and Ecological Sphere (Regional/Local-CES)

IGES and START International Inc. (START) are collaborating to promote the Regional/Local Circulating and Ecological Sphere (Regional/Local-CES) concept in South Asia and Southeast Asia. Together with partners, IGES and START are elaborating the Regional/Local-CES concept through analysis of best practices and proposal of pathways for the creation and operationalisation of regional CES in various contexts. IGES and START jointly organised the first Regional Workshop on Circulating and Ecological Sphere Approach for Re-designing the City Regions Resilient. The workshop engaged participants from nine city regions in South and Southeast Asia and discussed priorities for the region and a decision to establish a Consortium on the CES. IGES also co-organised the second International Symposium on Disaster Resilience and Sustainable Development (DRSD), where IGES and AIT co-convened a technical session on the Circulating and Ecological Sphere, and Ecosystems.

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 FY2020, the WEPA annual meeting was conducted as a video conference with the participation of government officials from 13 countries. In addition, IGES supported WEPA Action Programs in Indonesia, Cambodia and Myanmar, in order to promote concrete actions for improving water governance in each country.

Supporting a Reform Process of AEON Foundation's Grant Program

AEON Foundation requested IGES to provide professional support for a reform process of their Grant Program in the conservation sector. The total amount of the annual grant is approximately JPY 100 million. During fiscal year 2020, IGES reviewed current practices of the grant programme, identified issues and challenges that needed to be addressed, and then proposed a list of activities to be considered under the reform process.

International Symposium on Climate Action and Disaster Risk Reduction

In recent years, the severity of climate-related disasters has intensified across the world, and great damage has been caused by typhoons and heavy rainfall in Japan. Climate change is predicted to exacerbate disaster risk in the future, and so adaptation to climate change by taking measures on disaster prevention and reduction has become a pressing issue. An international symposium on "Climate Action and Disaster Risk Reduction" was organised to consider how synergies between three major global agendas (the Paris Agreement, the Sendai Framework for Disaster Risk Reduction, and the SDGs) can be strengthened, in the context of intensifying climate-related disasters and current domestic and international climate change adaptation efforts. IGES played a key role as secretariat for the symposium.

⁷ Reduction of Emission from Deforestation and forest Degradation, and Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks

The 7th Asia-Pacific Adaptation Network Forum

The Government of Japan has provided ongoing support to the Asia-Pacific Adaptation Network (APAN) since its establishment in 2009, and for the 7th APAN Forum in March 2021. MOEJ was the host for the first time and IGES greatly contributed to the success of the forum.

Sustainable Management of Commons in Socio-ecological Production Landscapes (SEPLs) in Slovenia and Japan

This bilateral research project aims to compare SEPLs in Japan and Slovenia with regards to ecosystem services and commons. Specifically, the project has investigated potential similarities and differences in a bundle of ecosystem services and their associated values, contextualised and localised the concept of new commons, and explored solutions for better governance strategy of SEPLs to sustain ecosystem services and bio-cultural diversity in Slovenia and Japan.

Resilience and Ecosystem Services Assessment of Cultural Landscape in Ethiopia

In the Gurage socio-ecological production landscape of Ethiopia, “Jefoure” refers to a traditional grass-covered road with households on either side. This study aims to map and characterise Jefoure roads to help manage them sustainably. This study generates valuable empirical information regarding a Gurage landscape feature that is not common knowledge, and it can support decision-makers and other conservation initiatives aimed at sustainable management.

(3) Selected publications

Peer-reviewed Articles

- “Enhancing the Sustainability of Tree Growing by Smallholder Farmers in Remote Areas: An Insight from Madagascar” (International Journal of Agricultural Sustainability)
- “Scenario Based Hydrological Modeling for Designing More Climate Resilient Water Resource Management Measures: A Case of Brahmani River, Odisha, Eastern India” (Sustainability)
- “Bushmeat, Wet Markets, and the Risks of Pandemics: Exploring the Nexus through Systematic Review of Scientific Disclosures” (Environmental Science and Policy)
- “Country Representatives’ Perceptions of the Biodiversity Science-Policy Interface” (Conservation)
- “A River Basin Approach for the Coordinated Implementation of Water Related Targets in Sustainable Development Goals (SDGs)” (Water, Climate Change and Sustainability)
- “Adaptation Communication of Indigenous and Local Knowledge: Can Community Radios be Mobilized in the Hindu Kush Himalaya Region?” (Media and Disaster Risk Reduction Advances, Challenges and Potentials)
- “Enhancing Synergies in Nature’s Contributions to People in Socio-ecological Production Landscapes and Seascapes: Lessons Learnt from Ten Site-based Projects in Biodiversity Hotspots” (Sustainability Science)
- “Mapping and Characterizing the Jefoure Roads That Have Cultural Heritage Values in the Gurage Socio-ecological Production Landscape of Ethiopia” (Landscape and Urban Planning)
- “Spatial Characterization of Non-material Values across Multiple Coastal Production Landscapes in the Indian Sundarban Delta” (Sustainability Science)
- “Challenges and Opportunities for Septage Management in the Urban Areas of Indonesia - Case Study in Bandung City” (Journal of Engineering and Technological Sciences)
- “Socio-hydrology: A Key Approach for Adaptation to Water Scarcity and Achieving Human Well-being in Large Riverine Islands” (Progress in Disaster Science)

- “Post-2020 Biodiversity Targets Need to Embrace Climate Change” (Proceedings of the National Academy of Sciences of the United States of America)

Policy Briefs

- “Local Biodiversity Strategies and Action Plans (LBSAPs) to Accelerate Actions for Biodiversity by Local Governments”
- “Toward the Establishment of Sustainable Faecal Sludge Management - Lessons Learned from WEPA Partner Countries and Japan”
- “Applying Sanitation Value Chain Approach towards Appropriate Wastewater and Faecal Sludge Management in Thailand” (IGES & AIT Policy Brief)
- “Biodiversity Challenges and Solutions in Asia and the Pacific”
- “Raising Awareness of the IPBES Regional Assessment for Asia and the Pacific”

Books

- “Fostering Transformative Change for Sustainability in the Context of Socio-Ecological Production Landscapes and Seascapes (SEPLS)” (Springer Nature)
- “Environmental Resilience and Transformation in Times of COVID-19: Climate Change Effects on Environmental Functionality” (Elsevier)
- “Participatory Coastal Land-use Management (PCLM) Guidebook: Participatory Approaches and Geospatial Modeling for Increased Resilience to Climate Change at the Local Level”
- “Participatory Watershed Land-use Management (PWLM) Guidebook: Participatory Approaches and Geospatial Modeling for Increased Resilience to Climate Change at the Watershed Level”
- “Linking Urban Food Systems and Environmental Sustainability for Resilience of Cities” (Springer Nature)
- “Sustainable Solutions for Urban Water Security: Innovative Studies” (Springer Nature)

Issue Briefs

- “Addressing the Associated Risks of COVID-19 Infections from Water and Wastewater Services in Asia through a Decentralised Wastewater Treatment Approach”

Submissions to Policy Process

- “Vietnam National Action Plan on Sustainable Consumption and Production (2021 - 2030)”
- “Development of the National Action Plan on Sustainable Consumption and Production (2021 - 2030) in Vietnam: An Assessment of the Progress in 2016 - 2020”

Non Peer-reviewed Articles

- 「EU 木材規則に対応した欧州の木材関連事業者の取組」
- “Regional/Local Circulating and Ecological Sphere (Regional/Local-CES) Concept for Advancing Resilient Development in South Asia and Southeast Asia”

Communication Material

- “Safe Water Use on Tonle Sap Lake” (video clip produced by the SATREPS Project in Tonle Sap Lake)

PR, Newsletter or Other

- IPBES パンフレット

Translations of Non-IGES Material

- 「適応ギャップ報告書 2020 (エグゼクティブ・サマリー) (日本語翻訳版)」
- 「森林と開発の両立: インフラと採鉱産業の対応、人々の持続可能な生計の促進」

Briefing Notes

- 「気候適応サミット 2021 にみる国際的な気候変動適応イニシアティブの動向」

1.3. Sustainable Consumption and Production (SCP)

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.

(1) Intended impacts during ISRP7

- Establishment of SCP model cases towards long-term sustainability living within one planet (SCP Model Case)
- IGES/SCP is recognised as a regional policy research hub on SCP policy in Asia and the Pacific both at global and regional level (SCP Research Hub)
- Resource efficiency and the Reduce, Reuse, Recycle (3Rs) are progressed at the key international policy forum (the 3Rs) by IGES acting as knowledge catalyst
- IGES to be recognised as a Regional Policy Think-tank on circular economy and plastics through its strategic partnership with ASEAN, Economic Research Institute for ASEAN and East Asia (ERIA) and other international regimes for Asia and the Pacific (*Added intended impact statement in May 2020*)
- National and local governments in developing countries in Asia enhanced sustainable waste management and resource circulation (3Rs) policies and strategies to reduce the impact of climate change (NDCs) and improve human well-being (SDGs) (*Redefined intended impact statement in May 2020*)⁸

(2) Major activities in FY2020

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 supports eight new projects aiming to facilitate sustainable lifestyles and livelihood at the city and community level (* IGES has supported 24 projects in total since 2016). The achievements and lessons learnt of the 17 preceding projects were summarised in the publication *Co-Creating Sustainable Ways of Living: 17 Stories of On-the-Ground Innovations* (September 2020). To facilitate sustainable education, IGES coordinated the Global Search for Sustainable Schools in nine countries, showing how schools served as centres for collaboration among local teachers, students and community members in learning and working on sustainable lifestyles and livelihoods. The COVID-19 pandemic had huge impacts on selected projects including sustainable schools, but it also gave opportunities to revisit effective approaches for sustainable living. IGES and partners organised a session at ISAP2020 on Collaborative Learning and Co-creation of Sustainable Living to share and discuss efforts in the respective countries and communities, and published a discussion paper "Sustainable Living beyond COVID-19." The achievements of the sustainable schools project were highlighted at a side event at the UNESCO World Conference in May 2021.

⁸ Original intended impact in ISRP7 was "Capacity of less developed economies in national, city and regional waste management is developed"

To examine possible future lifestyles for long-term sustainable living within the limits of one planet, IGES conducted the 1.5-Degree Lifestyles project. It worked with local governments, experts and citizens to create scenarios of future low-carbon and resilient living through citizens' workshops and household experiments in six cities, including Yokohama and Kyoto. The results will inform new projects in FY2021 including one on Urban Carbon Mapping. Moreover, IGES has developed a few new channels to cooperate with and communicate to a broader range of stakeholders through the publication of the 1.5-Degree Children's Books and secondary school lectures.

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 the leading organisation for research on the theme of "Policy Design and Evaluation for SCP in Asia and the Pacific" (S-16: Environment Research and Technology Development Fund), IGES researchers edited and contributed five papers for the Special Issue on "Sustainable Consumption and Production Patterns: Policy Design and Evaluation" of Sustainability and also developed the final project report for S-16.

In January 2021, S-16 project and IGES co-organised a Public Symposium "Securing Sustainable Consumption and Production Patterns after COVID-19". In May 2021, IGES also co-organised a special session on "Facilitating Transition to Sustainable Lifestyle" at the 15th Asia Pacific Roundtable on Sustainable Consumption and Production (APRSCP).

As a member of the consortium of SWITCH-Asia SCP Facility funded by EU, IGES contributes to the SCP Guideline of Seafood Industry in Viet Nam and Industrial Analysis of SCP in the textile sector in Cambodia.

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

To contribute to putting resource efficiency and circular economy onto the central agenda for emerging economies in the region, IGES engaged in key international processes to support the Japanese government such as G7 (Group of Seven), G20, Organisation for Economic Co-operation and Development (OECD) Working Party on Resource Productivity and Waste (WPRPW), UNEP International Resource Panel (IRP), GACERE (Global Alliance Circular Economy and Resource Efficiency), WEF-MOEJ Circular Economy Roundtable, and ASEAN.

To support G20 Implementation Framework on Marine Plastic Litter, IGES continues in its main editorial role for developing the 2nd G20 Report on Actions Against Marine Plastic Litter as well as maintaining the portal site on G20 Actions and Progress on Marine Plastic Litter.

To mainstream marine plastic litter issues in Asia and the Pacific, IGES took a proactive role to develop regional collaborative functions through its involvement in the Regional Knowledge Center of Marine Plastic Debris (RKC-MPD) established at the Economic Research Institute for ASEAN and East Asia (ERIA), Closing the Loop Project of UNESCAP, and as a partner organisation of the Alliance to End Plastic Waste (AEPW).

As a part of an EU-funded project "Rethinking Plastics", IGES conducted research on "Comparative Analysis of Circular Economy and Green Public Procurement Policy in EU and Japan".

From 2021, IGES will continue to implement the second phase of a Japan International Cooperation Agency (JICA) project to support Da Nang City in implementing model projects for source separation and the 3Rs.

IGES also has been involved in the Platform for Accelerating the Circular Economy (PACE) under the World Economic Forum (WEF) together with Japan and has developed a network with WEF and WRI (World Resource Institute) which serves as the host for PACE. IGES has contributed PACE reports such as the Action Agenda Toward a Circular Economy and Circular Indicators for Governments, and was acknowledged as one of the key contributors. Following discussion on potential collaboration with the PACE secretariat (WRI) and with a recommendation from MOEJ, IGES joined PACE as a knowledge partner, which could lead to increased recognition as a global knowledge think-tank on RE and CE.

IGES was assigned to serve as secretariat for the first public private partnership of CE (Japan Partnership for Circular Economy: J4CE). IGES has started work on developing an official website and carries out operations such as member management and dissemination of monthly news on CE. In addition, IGES has contributed to providing expertise on CE to select and develop noteworthy cases of CE in Japanese companies.

IGES Centre Collaborating with UNEP on Environmental Technologies (CCET)

Sustainable waste management and resource efficiency are arguably one of the cross-cutting issues affecting many aspects of society, the environment and its economy in Asia and the Pacific. It has also a strong impact on achieving the targets set in the UN Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change. CCET, in collaboration with UNEP- International Environmental Technology Centre (IETC), has been assisting national and local 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.

With the technical support of CCET, two Asian countries (Indonesia and Sri Lanka) and two cities (Hyderabad and Negombo) have already developed national and local action plans on solid waste management with particular focus on plastic waste polluting marine environment. These plans aim to strengthen the enabling environment in improving waste management and have already been endorsed by the respective governments. In FY2020, CCET also expanded its collaboration with other UN entities, and new projects and partnerships have developed. For example, CCET collaborated with ESCAP to support four ASEAN cities (Da Nang, Surabaya, Kuala Lumpur and Nakhon Si Thammarat) to develop city plastic action plans targeting marine litter from a land-based approach. CCET with UNEP (Geneva) assisting two African countries (Kenya and Ethiopia) to develop national roadmaps for greening healthcare infrastructure through the analysis on current medical waste management. CCET is also involved with UNEP (West Asia Office) to assist the government of Iraq in developing a national roadmap for food waste reduction and commercialisation of composting.

CCET also worked to strengthen its partnership with other regional programmes and networks in Asia and the Pacific in addressing the waste management and resource circulation subjects and policy dialogues. With the involvement of the South Asia Co-operative Environment Programme (SACEP) and all eight member countries in the region, the Roadmap for Sustainable Waste Management and Resource Circulation in South Asia, 2019-2030 was developed and officially endorsed by the member countries. CCET has collaborated with the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) for efficient and effective dissemination and implementation of activities in those countries. CCET also played a leading role within the IGES team in assisting the government of Myanmar and Cambodia in developing national plastic action plans under the ASEAN activities. In addition, CCET coordinates the implementation of waste management hub activities of the Clean and Climate Air Coalition (CCAC) in Asia and the Pacific.

In collaboration with other academic and development partners, CCET has developed a series of knowledge products, training and capacity building materials targeting policymakers and practitioners. CCET with UNEP-IETC and other international and national partners have developed a UN Report on Safe Management of Medical Waste under the COVID-19 Pandemic. CCET with ESCAP developed urban case studies on plastic waste management in Southeast Asia and an eLearning course on cities and marine plastic pollution. CCET also published a regional report on plastic atlas – Asia edition – with the Heinrich Boell Stiftung Hong Kong Office and the Break Free from Plastic Asia Pacific. In addition, CCET published a series of policy reports on solid waste management in developing countries with the Asian Development Bank Institute (ADB) and the United States Environmental Protection Agency (US-EPA)

(3) Selected publications

- Discussion Paper “Co-creating Sustainable Ways of Living: 17 Stories of On-the-ground Innovations”
- Discussion Paper “Sustainable Living beyond COVID-19: Capabilities, Collaboration, Collective Action”
- Book 「はかつて、へらそう CO2 1.5℃大作戦①はかる編」「はかつて、へらそう CO2 1.5℃大作戦②へらす編」
- Peer-reviewed Article “Implementation of Accelerated Policy-Driven Sustainability Transitions: Case of Bharat Stage 4 to 6 Leapfrogs in India” (Sustainability)
- Peer-reviewed Article “To See a World in a Grain of Sand—The Transformative Potential of Small Community Actions” (Sustainability)
- Peer-reviewed Article “Applying Foresight to Policy Design for a Long-Term Transition to Sustainable Lifestyles” (Sustainability)
- Peer-reviewed Article “Expansion of Policy Domain of Sustainable Consumption and Production (SCP): Challenges and Opportunities for Policy Design” (Sustainability)
- Peer-reviewed Article “Evaluation of Household Food Waste Generation in Hanoi and Policy Implications towards SDGs “Target 12.3” (Sustainability)
- Peer-reviewed Article “Co-designing Workshops on Sustainable Consumption and Production in Southeast Asia: Application of Idea Cards and Structuring Methods” (Sustainability: Science, Practice and Policy)
- Peer-reviewed Article “Integrated Strategies for Household Food Waste Reduction in Bangkok” (Sustainability)
- Peer-reviewed Article “Food Waste in Da Nang City of Vietnam: Trends, Challenges, and Perspectives toward Sustainable Resource Use” (Sustainability)
- Peer-reviewed Article 「新型コロナウイルスによる持続可能な消費生産形態の 変化と課題ならびに政策展開」 (環境経済政策研究)
- Policy Report “Development of the National Action Plan on Sustainable Consumption and Production (2021 - 2030) in Vietnam: An Assessment of the Progress in 2016 - 2020 and Recommendations for 2021 - 2030 (in English and Vietnamese)”
- Submission to Policy Process “The National Action Plan on Sustainable Consumption and Production (2021 - 2030) in Vietnam”
- Non peer-reviewed Article 「これからの暮らしを共につくるとのこと」 (月刊グリーン・パワー)
- Non peer-reviewed Article 「脱炭素社会のライフスタイル『みんなで作る 1.5℃ライフスタイル』」 (消費者教育研究)
- Non peer-reviewed Article 「消費と生産のトランジションへ」 (グローバルネット)

- Non peer-reviewed Article 「廃棄物・リサイクル問題の最新国際動向：SDG12、循環経済、海洋プラスチック問題」（自治体国際化フォーラム）
- Non peer-reviewed Article 「EU 循環経済（CE）—コロナ後の社会経済の移行を見据えて」（環境管理）
- Non peer-reviewed Article 「EU 循環経済政策：化学物質管理との関連性も含めて」（化学物質と環境）
- Conference Proceedings 「欧州事例から見る資源効率性・循環経済政策指標の現状と展望」2020 年度環境情報科学研究発表大会（2020）第 17 回環境情報科学ポスターセッション一般の部理事長賞受賞
- Policy report “G20 Report on Actions against Marine Plastic Litter: Second Information Sharing based on the G20 Implementation Framework ”
- Presentation “Resource Efficiency and Circular Economy in Japan Policies and practices”5th European Resource Forum 2020

<CCET>

- Submission to Policy Process “eLearning Course on Cities and Marine Plastic Pollution: Building a Circular Economy”
- Submission to Policy Process “Guidelines for Safe Closure and Rehabilitation of Municipal Solid Waste Dumpsites in Sri Lanka” (in English, Sinhala, Tamil)
- Submission to Policy Process “Enhancing Circular Economy Perspectives - Plastic Waste Management Strategy and Action Plan for Greater Hyderabad Municipal Corporation”
- Submission to Policy Process “Waste Management Strategy and Action Plan for Negombo City, Sri Lanka, 2020–2030” (in English, Sinhala, Tamil)
- Submission to Policy Process “Ecology Note – Towards a Clean, Green and Beautiful Bhutan” (in English, Dzongkha)
- Policy Report “Plastic Atlas Asia Edition: Facts and Figures about the World of Synthetic Polymers”
- Policy Report “Digging Through - An Inside Look at Municipal Waste Management in Myanmar”
- Policy Report “Best Practices for Solid Waste Management: A Guide for Decision-Makers in Developing Countries”
- Policy Brief “Solid Waste Management in Developing Asia: Prioritizing Waste Separation”
- Discussion Paper “Plastic Waste in Southeast Asia: Urban Case Studies”
- Working Paper “Challenges and Opportunities of Source-Segregated Waste Collection in Sri Lanka”
- Working Paper “Effective Plastic Waste Management in Sri Lanka”
- Working Paper “Towards Sustainable Operation and Management of Centralized Composting in Sri Lanka”

2. Two Functional Centres

2.1. Centre for Strategic and Quantitative Analysis (QAC)

Strategic and Quantitative Analysis Centre (QAC) functions as a hub to promote science-policy linkage for achieving sustainable development. It contributes in 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 looks 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, trade and the environment in collaboration with key partners.

(1) Intended impacts during ISRP7

- Policymakers are better informed on SDGs and effective policy implementation at both the national and city levels
- Transformational changes needed to achieving the long-term mitigation targets and the SDGs are materialised
- Measurement of the progress made in achieving the 2030 targets for climate change and for the SDGs is enhanced by effective data and indicators

(2) Major activities in FY2020

Integrated Policy Making through the Applications of IGES SDG Interlinkages Tool

Supported by IGES Strategic Research Fund, IGES developed the pioneering SDG Interlinkages Tool covering 27 countries in Asia and Africa. New features of V4.0 of the Tool includes options for saving selections and adding new targets.

(<https://sdginterlinkages.iges.jp/visualisationtool.html>).

Under a project supported by the Japan Science and Technology Agency (TaSE, Towards a Sustainable Earth), IGES developed an Interactive SDG Tool for River Basins (<https://sdginterlinkages.iges.jp/luanhe/index.html>). Luanhe River Basin, the focus area of the project, is selected for a case study for this tool.

At the international level, United Nations Department of Economic and Social Affairs (UNDESA) included the tool as an example of SDG integration in the 2020 Handbook for Voluntary National Review (VNR), and UN Economic and Social Council (ECOSOC) selected the tool as a good practice for the High Level Political Forum 2020 Exhibition (<https://sustainabledevelopment.un.org/hlpf/2020#exhibit>). The tool was used to support UNDESA's VNR capacity building on SDG integration into national development planning (2019). In addition, based on the knowledge developed by IGES related to SDG interlinkages analysis, IGES provided important inputs to UN-Habitat's Global Urban Monitoring Framework development.

Through collaboration with relevant stakeholders at the national, sectoral and sub-national levels, the SDG Interlinkages Tool was applied to support the development of: i) a stakeholders' engagement-based case study on SDG and climate actions integration, planning and priorities in West Java Province of Indonesia; and ii) a major discussion on SDG interlinkages in Indonesia's Voluntary National Review 2021.

Net-zero Emissions Reports and Activities

Based on the research report "A Net-Zero World -2050 Japan-: Insight into essential changes for a sustainable future" published in June 2020, IGES disseminated the vision for achieving net-zero

emissions in Japan and the required efforts for its achievement with various stakeholders, namely companies, governmental committees, local government officials, media and citizens. Furthermore, IGES and Kanagawa Prefecture jointly developed a draft Vision for Kanagawa Decarbonisation based on interviews with local governments in Kanagawa Prefecture. The draft Vision has been submitted to the Prefecture's Environmental Basic Plan Sub-committee.

Efficient operation of power transmission lines is essential to achieve net-zero GHG emissions due to their important role in linking the generation of renewable energy, such as wind power, from remote areas to electricity demand centres. In cooperation with the Climate and Energy Area, IGES conducted a simulation analysis of Japan's power systems using the PROMOD package developed by ABB, and published the two working papers on power systems analysis in Hokkaido and the East Japan Region. The results were shared with stakeholders in the power sector at seminars and then disseminated with a wide audience via the news media.

A draft report was prepared on the challenges and opportunities for achieving a net-zero emissions society in Asia through transformation and green recovery in selected Asian countries (China and India) and ASEAN (as a region). In November 2020, IGES presented the draft report at a thematic session at the International Forum for Sustainable Asia and the Pacific (ISAP 2020) and opened discussions with leading researchers in China, India and Indonesia on the transformation towards net-zero emissions. Ahead of COP26, IGES is preparing a report that integrates the development of long-term scenarios for energy and land use systems, and carried out analysis of social and institutional issues related to the transition towards a net-zero world in Asia (excluding West Asia).

Development of a Regional Strategy on Climate Mitigation and Adaptation in ASEAN

Under the Japan-ASEAN Integration Fund (JAIF) project on the assessment of the state of climate change in the ASEAN region, IGES prepared an Inception Report which includes the methodology and framework for the development of a regional strategy for climate actions on mitigation and adaptation. A couple of regional meetings were held in 2020 and 2021 convening project partners, including the ASEAN Secretariat, relevant think tanks in ASEAN countries and the national focal points of the ASEAN Working Group on Climate Change (AWGCC). The final report will be launched at the ASEAN Summit to be held in 2021.

Long-term Scenario Analysis for Cities: Methodology Development and Applications

How climate policies can be integrated into development planning and implementation at the local level is an important research area. Methodologies for integrating scientific evidence into long-term development planning are urgently needed. An IGES researcher developed socioeconomic pathways on an urban scale by downscaling the global Shared Socioeconomic Pathways (SSPs) developed by the climate change research community. The urban scale SSPs can play a significant role in the development and implementation of sustainable development strategies. An application of the methodology include an on-going case study in Da Nang City, Viet Nam. The SSPs analysis in Da Nang City is being developed under a project on city-to-city collaboration supported by the Ministry of Environment, Japan with collaboration between Da Nang City and Yokohama City. Another application is the SSPs Bhutan which has been developed through the collaboration with the chief urban planner of the Ministry of Works & Human Settlements, Royal Government of Bhutan. In addition, SSPs Built Environment Japan was developed with five future pathways, including indicators particularly developed for the built environment and with a focus on drastic transformation in the post COVID-19 era in Japan.

(3) Selected publications

- Research Report “A Net-Zero World -2050 Japan-: Insight into Essential Changes for a Sustainable Future”
- UNDESA’s commissioned reports on the country studies of SDGs integration into national development planning in Ethiopia, Lao PDR and Tanzania
- Luanhe River Basin Research Brief “Lessons Learnt from Synergies and Trade-offs between SDGs at the Sub-national Scale”
- Peer-reviewed Article “Urban–rural Linkages: Effective Solutions for Achieving Sustainable Development in Ghana from an SDG Interlinkage Perspective” (Sustainability Science)
- Peer-reviewed Article “Urbanization, Carbon Neutrality, and Gross National Happiness: Sustainable Development Pathways for Bhutan” (Cities)
- Peer-reviewed Article “A Future Outlook of Narratives for the Built Environment in Japan” (Sustainability)
- Book Chapter “Impacts and Implications of the COVID-19 Crisis and Its Recovery for Achieving Sustainable Development Goals in Asia: A Review from an SDG Interlinkage Perspective” (In “Environmental Resilience and Transformation in Times of COVID-19”, Elsevier)

2.2. Centre for Sustainability Governance (SGC)

IGES worked to promote forms of governance that can enable the integration of multiple development objectives into development plans under 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 explored how cities can govern low-carbon transitions. A third area of study focused 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.

(1) Intended impacts during ISRP7

- A more integrated and inclusive approach to implementing the SDGs is adopted at least 3 countries (and cities)
- SDGs are mainstreamed into their core operations and planning processes in at least 3 Japanese cities, businesses, and civil society organisations (CSOs)

(2) Major activities in FY2020

Business and the Sustainable Development Goals (SDGs)

In 2020, IGES published a book entitled SDGs の手法とツールがよくわかる本 that outlines concrete steps for Japanese companies to achieve the SDGs. IGES also continued its collaboration with the Global Compact Network Japan (GCNJ) and launched the most recent results of that cooperation: a new report that discussed opportunities progress on the SDGs in Japan in the wake of COVID-19. The report discusses the changes in business and work styles that have occurred due

to the pandemic, as well as the basic stance of companies and organisations in dealing with sustainability issues and expected future initiatives.

Enhancing Governance of the SDGs in Japan and Beyond

In 2020, IGES was commissioned by the Ministry of Foreign Affairs, Japan to develop a report comparing how several countries in Europe govern the SDGs. The report also offered some lessons that could be learned in Japan as it seeks to accelerate progress on the SDGs. IGES also developed a paper for the Asian Development Bank Institute that employed a unique metagovernance framework to analyse how countries are governing the SDGs in the COVID-19 era.

Strengthening the Environmental Dimensions of the SDGs

In 2020, IGES joined the Asian Development Bank, the United Nations Environment Programme (UNEP), and the International Institute for Sustainable Development (IISD) in supporting an e-learning class on “Strengthening the Environmental Dimensions of the SDGs”. The class attracted over 600 registered participants from more than 80 countries, raising awareness of opportunities for using the SDGs to advance a more sustainable future.

Shaping the Regional Agenda on the SDGs

In 2020, IGES developed a set of key messages for the Asia Pacific Forum on Sustainable Development (APFSD). The messages outlined how policymakers in Asia and the Pacific can preserve a harmonious relationship between nature and humanity in the COVID-19 era.

Advancing Co-benefits in Asia

In 2020, IGES worked with researchers from the International Institute for Applied Systems Analysis (IIASA), UNEP, Clean Air Asia, Beijing Normal University, and the Institute for Advanced Sustainability Studies (IASS) to publish a timely policy brief on how co-benefits can integrate air pollution, climate change and health policies in Asia. Follow up work will be conducted in several cities in 2021 to examine the feasibility of implementing the brief’s recommendations. IGES also was selected to participate in a multi-year research project supported by the Ministry of Environment, Japan (Suishinhi) on mitigating short-lived climate forcers in Asia.

(3) Selected publications

- Book 「SDGs の手法とツールがよくわかる本」
- Policy Report “SDGs and Business to Overcome the COVID-19 Pandemic: Actions by Companies and Organisations in Japan” (English and Japanese versions)
- Policy Report “SDGs and Business in the ESG Era: Actions by Companies and Organisations in Japan”
- Submission to Policy Process 「持続可能な開発目標（SDGs）に関する自発的國家レビューに関する意見」
- Submission to Policy Process: “Implications of COVID-19 for the Environment and Sustainability” (English and Japanese versions)
- Peer-reviewed Article “Sustainable Wastewater Management in Indonesia's Fish Processing Industry: Bringing Governance into Scenario Analysis” (Journal of Environmental Management)
- Peer-reviewed Article “Understanding School Travel Behavior and the Impact of Awareness Raising to Promote Resilient Public Bus System” (Transport and Communications Bulletin for Asia and the Pacific)
- Policy Brief “Growing Support for Climate-Smart Agriculture by Scaling Up Farmer and Climate Field Schools: Recommended Policy and Institutional Reforms”

- Policy Brief “Leveraging the Sustainable Development Goals to Enhance Environmental Sustainability in Asia and the Pacific”
- Policy Brief “Integrating Clean Air, Climate, and Health Policies in the COVID-19 Era: The Role of Co-benefits and the Triple R Framework”
- Research Report “Innovations for Sustainability Pathways to an Efficient and Sufficient Post-pandemic Future”
- Training Materials “Training Curriculum Integrating Air Pollution and Climate Change Planning in Cities in Asia”
- Submission to Policy Process “IGES Key Messages on “Sustainable and resilient recovery from the COVID-19 pandemic in Asia and the Pacific”
- Discussion Paper “A Sustainable COVID-19 Response, Recovery, and Redesign: Principles and Applications of the Triple R Framework”
- Working Paper “Governing the SDGs in the COVID-era: Bringing Back Hierarchic Styles of Governance?” (ADB Working Paper Series)
- Book Chapter “Tracing Sustainability Transitions in Seoul Governance: Enabling and Scaling Grassroots Innovations” (Climate Change Governance in Asia)
- Translation of Non-IGES Material 「アジア太平洋 SDG 進捗報告書 2020（日本語翻訳版）」
- Non-peer Reviewed Article 「コロナ時代の三つの課題と政策統合」（月刊グリーン・パワー）

3. Three Taskforces

3.1. City Taskforce

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.

(1) Intended impacts during ISRP7

- Capacity of cities to incorporate SDGs into city planning and implementation is enhanced.
- Cities developed carbon neutral strategies or conducted multi-benefit activities towards sustainable society.

(2) Major activities in FY2020

Supporting SDG Localisation through Voluntary Local Reviews (VLRs)

In FY2018, IGES supported three Japanese municipalities, namely Shimokawa Town (Hokkaido), Toyama City, and Kitakyushu City to produce the Voluntary Local Review (VLR) reports that were the first VLRs in the world together with the VLR of New York City. In FY2019, IGES supported the VLR report of the City of Hamamatsu, which the Mayor of Hamamatsu launched at an event at the SDG Summit held in New York in September 2019. IGES also published the Shimokawa Method for Voluntary Local Review (VLR) that shows practical steps for the VLR based on the experience of VLR of Shimokawa Town, as reference material for local governments interested in conducting their VLR.

IGES provides showcases for SDG actions by local governments through the “VLR Lab,” an online platform of VLR launched in March 2019 in collaboration with partner organisations including the United Cities and Local Governments Asia-Pacific (UCLG ASPAC). In June 2021, IGES published the State of the VLR 2021, the second volume of a series started in 2020 aiming to annually review the progress of the VLR movement. The report explores VLRs published in 2020 focusing on the influence of the VLR process on the SDG governance structure and the integration between national and local on the review process.

IGES also contributed to information-sharing and capacity development on SDG localisation through a session on VLR-VNR Linkage at ISAP2020, as well as two webinars on VLRs organised under the framework of the SDGs Public-Private Partnership by the Cabinet Office of Japan, and the Asia Pacific Mayors Academy led by the UNESCAP and UN-Habitat.

Sharing Lessons and Providing Support towards Zero-carbon Cities

IGES has been supporting city-to-city collaboration projects such as “T2KLLCS” (Tokyo to Kuala Lumpur Low Carbon System) since 2019. Under a collaborative project conducted by Tokyo and Kuala Lumpur (KL), Tokyo shared its building energy efficiency and renewable energy policy schemes and programmes, in order to support the development of a sustainable building policy framework for KL, thereby contributing to securing the city’s own budget to conduct four energy efficiency retrofitting projects on KL’s public buildings and providing zero carbon scenarios towards 2050. IGES co-organised the Zero Carbon City International Forum with the Ministry of the Environment, Japan, UNFCCC Secretariat, and ICLEI in March 2021. Twenty-eight cities and relevant entities from 15 countries and 11 international organisations and institutions participated in the forum, where the mayor of KL declared that the city will aim to be carbon neutral by 2050. In West Java, Indonesia, a study to explore the linkage between the climate and the SDGs was carried out in collaboration with QAC.

IGES also continued to contribute to the China-Japan-Korea Joint Research on Decarbonisation of Cities endorsed at the 20th Tripartite Environment Ministers Meeting among China, Japan and Republic of Korea (TEMM 20) in Suzhou, China, in June 2018, and the final report of “Good Practices towards Decarbonization and Sustainable Cities” was produced.

(3) Selected publications

- “Hamamatsu City Voluntary Local Review 2019”
- “Taiyo Juken SDG Report 2019”
- “Shimokawa Method for Voluntary Local Reviews”
- “State of the Voluntary Local Reviews 2020: Local Action for Global Impact in Achieving the SDGs”
- “Good Practices towards Decarbonisation and Sustainable Cities”
- “Long-term Strategy to Achieve DKI Jakarta's Low Carbon Society 2050”

3.2. Finance Taskforce

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.

(1) Intended impacts during ISRP7

- SDG finance tracker is developed in the Asian region by establishing a database on flow of SDG-aligned finance or SDG finance
- Finance shift by Japanese companies to low-carbon/resilient investment using pressures from overseas investors is enhanced by IGES acting as a Facilitator on climate engagement between overseas investors and Japanese companies
- A mechanism to promote financing low-carbon/adaptation technology development and transfer in Asian region is established by developing innovative technologies through financing

(2) Major activities in FY2020

Green Bond Knowledge Platform

The Finance Taskforce has been engaged in commissioned work on green bonds from the Ministry of the Environment of Japan (MOEJ) since April 2017. MOEJ has strongly facilitated the issuance of green bonds in Japan through development of the Green Bond Guidelines, support for demonstration projects, subsidy programmes and the knowledge platform. Since April 2018, IGES has served as the secretariat of the knowledge platform on green bonds, which was expanded to become the Green Finance Portal from April 2020, adding other green finance products with their policy tools.

The Finance Taskforce also supported MOEJ in a secretariat role regarding the revision process of the Green Bond Guidelines (initially established in 2017) and in the drafting process of the Green Loan and Sustainability Linked Loan Guidelines. The revised Green Bond Guidelines and the new Green Loan and Sustainability Linked Loan Guidelines were released in March 2020.

In FY2020, the finance taskforce continued to collect and consolidate information on the status of the global green bond/green loan/sustainability linked loan market, green bond/loan guidelines in various countries and regions, good practices on these financial products, definition and taxonomy of green projects, and so forth. One new area highlighted in FY2020 was Climate Transition Finance which aims to finance transition efforts toward decarbonisation by carbon intensive companies (brown companies) in particular. The finance taskforce collected information on good practices for this topic including the International Capital Markets Association (ICMA), Green Bonds Initiative, and other global financial institutions. Some of this information was utilised to issue the Basic Guidelines on Climate Transition Finance in early May 2021. These provide guidance on transition-labelled financial instruments prepared by the Ministry of Economy, Trade and Industry (METI), the Financial Services Agency (FSA) and MOEJ.

Sustainable Finance

In order to mobilise the huge amount of funding required to implement the SDGs, it is essential to build sustainable financial systems in which the financial sector, including banks, investors and other service providers, will shift 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. In Japan, the Expert Panel on Sustainable Finance, established under the FSA, produced and issued a report to clarify the most up-to-date thinking on key aspects of sustainable finance policy. IGES has been following such global and domestic trends on sustainable finance.

In FY2020, the finance taskforce focused on mainly three areas in sustainable finance.

(1) Strategic Partnership to Implement the Paris Agreement (SPIPA): Japan-EU Policy Dialogue on Climate Change: The finance taskforce conducted research work on identifying and comparing best practices for policies on sustainable finance both in the EU and Japan. In particular, policy developments related to sustainable finance in Japan were updated, including the Expert Panel on Sustainable Finance (FSA), the Council of Experts Concerning the Follow Up of Japan's Stewardship Code and Japan's Corporate Governance Code (FSA), the Taskforce on Preparation of the Environment for Transition Finance (METI/FSA/MOEJ), the Expert Panel on Climate Change (Cabinet office), the National/Regional Decarbonization Realization Committee (Cabinet Office), and the ESG High Level Panel (MOEJ).

(2) Regional ESG finance: The finance taskforce collected and consolidated information on ESG good practices by local banks, in order to identify challenges and opportunities to enhance ESG finance at the local level, under commissioned work by MOEJ. Discussions began on how to integrate ESG finance in the SDGs certification system in Kitakyushu, and on how to assess the impact of the SDGs by local banks including Shiga Bank, which promotes ESG finance to protect local environment and support decarbonisation efforts by companies.

(3) Climate adaptation finance: The finance taskforce conducted research work with NRE (Adaptation team) to identify barriers and opportunities for the private sector to finance climate adaptation. As a result of the work, guidelines were developed on climate adaptation finance for private financial institutions. The guidelines summarise the implementation approach and the role of financial institutions in addition to showing the basic concept of adaptation finance. They also aim to support the creation of successful cases by introducing specific good practices. This work was jointly conducted with Mitsubishi UFJ R&C under MOEJ's commissioned work.

(3) Selected publications

- Research Report “State of the Voluntary Local Reviews 2021: From Reporting to Action”
- “Taiyo Juken SDG Report 2020” (voluntary SDG review by a SME)
- Peer-reviewed Article “Sustainable Transition towards a Resilient and Decentralized Future: Japan’s Circulating and Ecological Sphere (CES)” (Sustainability Science)
- Book Chapter “Skenario Pembangunan Rendah Karbon di Indonesia, Studi Kasus Jakarta dan Semarang” (Ketahanan Iklim Perkotaan (English: Urban Climate Resilience))
- Book Chapter “Pembangunan Rendah Karbon di kota-kota di Indonesia- Faktor Pendukung, Peluang dan Tantangannya” (Ketahanan Iklim Perkotaan (English: Urban Climate Resilience))

3.3. Business Taskforce

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.

(1) Intended impacts during ISRP7

- Japanese Energy/climate policies to become consistence with 2°C Pathway in 4 years.
(*Redefined intended impact statement in May 2018*)

(2) Major activities in FY2020

Developing Momentum for Decarbonisation in Japanese Industry

As the secretariat of the Japan Climate Leaders' Partnership (JCLP), IGES has supported the participation of JCLP co-chairs in the High-level Roundtable on Climate Action held at the UN General Assembly to share and discuss good practices for avoiding the climate crisis. Support was also extended for an appearance by JCLP on NHK's programme "Shiten Ronten (Point of View, Point at Issue)", as well as a meeting with COP26 President, Alok Sharma. In addition, IGES has contributed to developing momentum on decarbonisation among businesses through dialogues between overseas business groups and JCLP, and transmission of information to domestic industries by JCLP.

Expansion of the Corporate Network of JCLP

JCLP has continued to expand in size during FY2020. Its membership has grown from 146 in June 2020 to 189 members as of June 2021 (29% growth from the previous year). As a measure of its significance in the Japanese business sector, the joint sales figures of JCLP members make up approximately 20% of sales for all Japanese companies.

Supporting Decarbonisation by Businesses

JCLP cooperated with The Climate Group to support the participation of Japanese companies in RE100⁹, EV100¹⁰ and EP100¹¹. In particular, the number of RE100 companies has increased by 22 in one year to 56 companies (about 4.8%¹² of Japan's electricity demand) as of the end of June 2021, further increasing their impact. In addition, RE100 has been frequently featured in governmental committees and the media, and has some impact on considerations for Japan's decarbonisation policies and in raising awareness. In May 2020, JCLP launched a project to study the implementation of physical Power Purchase Agreements (PPA) in Japan, and through a year of support from the JCLP secretariat, the project has led to the formation of a pilot project and accelerated decarbonisation efforts. In addition, the JCLP secretariat also contributed to raising awareness of RE100 in Japan by informing the Japanese media that the number of companies participating in RE100 has exceeded 300 worldwide, that 50 companies in Japan have joined RE100, and that the electricity consumption of RE100 companies has exceeded that of the UK.

Promoting Expansion of Renewable Energy in Japan

IGES and JCLP, together with ICLEI Japan and Green Purchasing Network launched "RE Action", a new initiative in Japan for SMEs, educational institutions, medical institutions and local governments to declare switching to 100% renewable electricity by 2050. The initiative was established in October 2019 with 28 participating organisations. RE Action and RE100 have a complementary relationship with the aim of expanding demand for renewable energy in Japan, and the number of participating organisations has increased from 70 in June 2020 to 151 as of the end of June 2021. Seventeen organisations from ministries, prefectures and ordinance-designated cities have joined as ambassadors to support this activity, including Ministry of the Environment and Kanagawa Prefecture. In some cases, such as in Tottori Prefecture, the initiative has been used as a banner to build momentum for promoting renewable energy among municipalities, associations of commerce and industry, SMEs and financial institutions.

Policy Engagement

⁹ International business initiative committed to 100% renewable power, working to massively increase corporate demand for and delivery of renewable energy

¹⁰ International business initiative aims to drive the transition to electro-mobility.

¹¹ International business initiative pledged to double the energy productivity of businesses.

¹² Reference figures including overseas offices

JCLP has participated in the following committees that encourage recommendations for ambitious policy engagement from a corporate perspective: 2050 Carbon Neutral National Forum at the Prime Minister's Office; Expert Panel on Climate Change held by the Prime Minister; Policy Subcommittee and Carbon Pricing Subcommittee of the Central Environment Council; and the Subcommittee for Medium- and Long-term Climate Change Countermeasures (Ministry of the Environment).

In addition, JCLP participated in the Minister of the Environment's Policy Subcommittee on Carbon Pricing. JCLP also held dialogues with the Minister of the Environment, the Vice Minister of Economy, Trade and Industry, and the Minister of State for Regulatory and Administrative Reform to convey the enthusiasm of companies for decarbonisation and to call for the introduction of more ambitious policies. JCLP issued six statements and recommendations, held dialogues with the Ministry of the Environment, the Ministry of Economy, Trade and Industry, the Ministry of Land, Infrastructure, Transport and Tourism, and the Cabinet Office, and published a public notice of its views in the LDP's journal. IGES supported in its coordination as the JCLP secretariat.

(3) Selected publications

- Policy Proposals on Carbon Pricing and Emissions Trading Scheme (by JCLP)
- Policy Proposals for Accelerated Adoption of ZEVs for Road Freight (by JCLP)
- Policy Proposals on Diversification of Non-FIT Renewable Energy Options (by JCLP)
- Position Statement on Japan's Mid-Term Greenhouse Gas Emissions Reduction Target (by JCLP)
- RE100 companies call on the Japanese government to increase renewables ambition ahead of COP26 (by 53 RE100 Members)
- Policy Proposals on Soaring Electricity Wholesale Trading Market This Winter (by JCLP)
- Policy Proposals on Japan's Energy Mix Calling for a Renewable Electricity Target of 50% by 2030 (by JCLP)
- Climate Leaders' Signal
- JCLP Website & Twitter
- Renewal of JCLP Brochure

4. Five Satellite Offices and IPBES-TSU-IAS

4.1. Kansai Research Centre (KRC)

The Kansai Research Centre (KRC) carries out research focused on actions taken by the private sector, in particular businesses that promote environmental and energy conservation measures, under the theme of "Business and the Environment". Specifically, KRC contributes to actual reduction in GHG emissions in developing countries by promoting the transfer and diffusion of low-carbon technologies (LCTs).

(1) Intended impacts during ISRP7

- Low-carbon technology diffusion in developing countries
- Improved decentralised natural resources management for disaster risk reduction (DRR) (added in FY2018)
- Development of regional circular and ecological sphere (R-CES) models in Hyogo (added in FY2019)

- Consolidating messages for transforming to the decarbonised society targeting youth (added in FY2020)

(2) Major activities in FY2020

Low-carbon Technology Transfer in India and Thailand

In India, KRC has been promoting technology transfer of Japanese low-carbon technologies (LCTs) to Indian companies through the Japan-India Technology Matchmaking Platform (JITMAP), which was launched in 2016 with The Energy and Resources Institute (TERI) with support from MOEJ. In January 2021, an online workshop was held to help Indian stakeholders such as Indian steam-intensive manufacturing companies deepen their understanding of the Steam Management System designed by TLV International, Inc. (Hyogo Prefecture, Japan). In February 2021, another online workshop was held to inform Indian stakeholders about the status of smoke emission control and management in thermal power plants, as this is one of the main causes of pollution in India. The workshop also highlighted the importance of introducing technologies to accurately measure and evaluation smoke emissions. In addition, IGES investigated the application status of recommended LCTs and effective operational practices of the Indian companies where feasibility studies were implemented in the past. This study confirmed that several local companies have introduced the LCTs such as Air Compressors and Energy-Efficient Transmission Belts, and many companies have adopted effective operational practices of Compressed Air Systems, thereby achieving energy savings. It was also found that participants in the sessions for training of trainers had contributed to the adoption of energy-saving equipment by Indian companies through their own energy audits.

In Thailand, under a project by the Ministry of the Environment, Japan, with the cooperation of the Energy Conservation Center, Japan (ECCJ), IGES proposed the adoption of practical energy conservation measures to the Department of Alternative Energy Development and Efficiency (DEDE) of the Department of Energy. Specific recommendations include analysing data from the periodic report on the amount of energy used submitted by designated factories and buildings every year, evaluating the energy saving tendency and determining the energy intensity for each industry based on it, and providing free energy-saving diagnosis and equipment subsidies for small and medium-sized enterprises that lag behind in terms of promoting energy-saving. Positive responses to these proposals have been obtained from DEDE officials, and the results of discussions were shared at a joint meeting with the Natural Resources and Environment Policy Planning Bureau (ONEP) of the Ministry of Natural Resources and Environment (MONRE), Thailand Greenhouse Gas Management Organization (TGO), the Bangkok Metropolitan Government (BMA), Japan Embassy in Thailand and JICA Thailand Office. A declaration on decarbonisation and whether this is feasible, is being studied in Thailand, with this project scheduled to continue providing support.

Japan Platform for Redesign: Sustainable Infrastructure (JPRSI) works

MOEJ has launched the Japan Platform for Redesign: Sustainable Infrastructure (JPRSI) to promote the overseas expansion of high-quality environmental infrastructure. IGES, together with the Overseas Environmental Cooperation Center (OECC) and Global Environment Center (GEC), serves as the secretariat. JPRSI aims to support the activities of private companies that are actively working on overseas expansion of environmental infrastructure such as waste management, wastewater and smoke treatment, energy saving, renewable energy development and smart city development through forming a network of related ministries, agencies, local governments, private companies, financial institutions and experts and thereby strengthening their proposal capabilities and business matching. IGES, particularly KRC and KUC, supports JPRSI project development through formulating local human resources networks and sharing information on the intercity collaboration projects.

Regional Circular and Ecological Sphere Model Project in Hokusetsu Region

The Hokusetsu Satoyama Regional-CES Project is an initiative aimed at revitalising the local economy by effectively utilising local resources for the Hokusetsu area (Takarazuka City, Kawanishi City, Inagawa Town, Sanda City) in Hyogo Prefecture. This project was selected by the Ministry of the Environment as a "Platform Project for Creating a Regional Circulation Symbiotic Zone that Energizes Local Areas in the Environment" in FY2019 and FY2020. By exchanging opinions and coordinating with the parties concerned, a project for effective utilisation of woody biomass through the conservation of the Satoyama has become the core activity. This project focuses on the prefectural environmental forest (866ha) in the Nishitani district of Takarazuka City. It harvests about 2,000 tonnes of timber, mainly broad-leaved trees, annually in a sustainable manner from the 100,000 tonnes of stock, and turns it into chips for heat. The project aims to form a business model and in 2021, aims to build a logging and maintenance system, manufacture and sell fuel chips, and launch a regional energy company that provides sales and maintenance services for wood chip boilers.

Promoting Renewable Energy 100% in Hyogo

Long term-transition to a decarbonised society requires the proactive participation of local governments as well as non-state stakeholders, and also requires well-designed coordination of multi-level governance. This project aims to collect information from industry energy consumers, provide strategic information to facilitate discussions among stakeholders, and look for policy options for a decarbonised society at the prefectural level. In FY2020, an analysis was conducted based on a questionnaire survey targeting about 2,000 energy consumers in Hyogo prefecture, as well as interviews with relevant stakeholders including both supply and demand-side entities. The results of these surveys formed a basis for policy proposals to be implemented by the municipal government. The IGES proposal has resulted in further exploration to develop a financial scheme and relevant policy frameworks to make more use of renewables, which is a key focus of the continuing activity in FY2021.

Collaborative Lecture Course on Decarbonised Society at Kobe University

In collaboration with Kobe University's Econo-Legal Studies (ELS) programme, IGES held a total of 12 lectures on the theme of a carbon-free society in the first half of 2020, for third and fourth grade students and graduate students. The contents of the lectures included the United Nations Framework Convention on Climate Change, efforts of each country under the Paris Agreement, energy policy, carbon pricing, initiatives by private companies and financial institutions, efforts by local governments and regional energy companies, etc. Students then discussed the legal and the socio-economic systems to bring about change. In the second half of the year, a proposal promoting decarbonisation at Kobe University was compiled and submitted to the director of the SDGs Promotion Office. The contents of the proposal were (i) to become Japan's first comprehensive university declaring carbon neutrality; (ii) to hold an "environmental conference" that includes stakeholders such as students; and (iii) to develop a practical research and education programme under the theme of decarbonisation. The environmental conference mentioned in (ii) above was actually held in April 2021. The collaborative lecture course is due to be continued in 2021 and messages from the students are being compiled to contribute to the decarbonisation of Kobe University and the promotion of decarbonisation in collaboration with local governments such as Kobe City and the local community.

Support for Hyogo High School Environmental / Future Leader Development Project

The Environmental Policy Division under the Environmental Creation Bureau of Hyogo Prefectural Agricultural Administration and Environment Department, and the Hyogo Environmental Creation Association held a five-day workshop on "Hyogo High School Student Environment and Future Leader Development Project" in FY2020. KRC planned and drafted this programme and moderated

the five-day workshop. The overall theme was "Climate Change Countermeasures and Realization of a Carbon-free Society". Participants learned the actual situation of climate change and its impact on the economy, society and environment, as well as measures by each country and local efforts in the first three days (3 October, 14 November, 12 December), drafted a message on the fourth day (13 December), and presented this message to the directors of Hyogo Prefectural Agricultural Administration and Environment Department and the media on the final day of the workshop (23 January). The lecturers were representatives from the National Institute for Environmental Studies, Toyota Motor Corporation, Borderless Japan Co., Ltd., Kobe Shimbun Co., Ltd., Prefectural Environmental Management Bureau and IGES. A total of 37 students participated, from 16 schools in the prefecture. In the final round, participants were divided into seven groups and each group presented on the following topics, respectively: environmental education; local government communication to residents; setting up high school student environmental measures promotion committee members; promotion of environmental activity movements; business for solving social problems; nudging for environmental actions; and explanation on environmental problems in an easy-to-understand manner. Some of the students then participated in a follow-up activity to create a pamphlet for high school students explaining the prefecture's global warming countermeasure promotion plan, ensuring that activities continue to expand.

(3) Selected publications

- Hokusetsu Satoyama R-CES Project website: <https://hokuces.jp/>
- "Citizenship Education and its Application in Japan: Kobe University Students' Policy Proposals towards a Decarbonized Society" (Kobe Law Journal)
- Commentary "Is the RE100% Scenario Truly "Unrealistic"? Addendum: Response to the RITE's Commentary" (Japanese version)
- Commentary "Is RE100% scenario truly unrealistic? – We should consider a wider range of options for power system decarbonisation" (Japanese version)
- "Keywords to Use Renewable Energy for Sustainable Businesses" (Japanese version)

4.2. Kitakyushu Urban Centre (KUC)

The Kitakyushu Office was established in 1999 in the City of Kitakyushu, which made the transition from a city known for pollution to an environmentally- advanced city. Kitakyushu 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.

(1) Intended impacts during ISRP7

- Low-carbon and resilient policies are mainstreamed into urban planning and implementation in Asian cities
- Sustainable waste management practices are evolved in Asian cities
- Green growth and sound urban environmental management are promoted in Asian cities
SDGs are localised in a meaningful manner for local stakeholders (*Redefined intended impact statement in May 2020*)¹³

¹³ Original intended impact in ISRP7 was "Green growth and sound urban environmental management are promoted in Asian cities"

(2) Major activities in FY2020

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

In light of the increasing number of zero-carbon cities in Japan, IGES conducted a survey on the background and current status of the cities in Kyushu which have declared a commitment to zero-carbon, and the challenges they face. The results were compiled into a report and published as an IGES Issue Brief (both in English and Japanese), and disseminated at workshops and events hosted by the Ministry of the Environment, Japan (MOEJ). In addition, IEGS participated in individual projects (i.e. collaboration projects between Palau – Kitakyushu; Iskandar – Kitakyushu; Soc Trang - Hiroshima) of the MOEJ's "City-to-City Collaboration Project for a Zero Carbon Society" (20 projects were adopted in FY2020). This project aims to deploy overseas the zero/low-carbon technologies and know-how accumulated in Japanese cities under the framework of city-to-city collaboration. IGES has been working on this project continuously since FY2013, and contributed to maintaining momentum toward the realisation of a zero-carbon society at the city level in Japan and internationally, even under the COVID-19 pandemic. IGES participated as a short-term expert in a JICA project to support the Climate Change International Training Center (CITC) in Thailand, which was established as a base for South-South cooperation, and conducted capacity building for staff in ASEAN member states by developing a training curriculum and holding training courses on climate law and regulations.

Evolving Sustainable Waste Management Practices

With the aim of building a resource-circulating society, IGES provided support to central and local governments and international organisations in Asia on waste management policies, planning and implementation. Specifically, IGES was commissioned by UN-HABITAT to be an implementation partner of the Healthy Oceans Clean Cities Initiative (HOCCI), a project to reduce marine plastics in six model cities in the Philippines. In addition, an international proposal for the establishment of a resource-circulating model targeting plastic waste in Samet Island, Thailand was accepted by Alliance to End Plastic Waste (AEPW), and a feasibility study was initiated. The Japan-ASEAN Integration Fund's (JAIF) SDGs Frontrunner Cities Program supported the development of an action plan for reducing marine plastics in Viet Nam and local action plans in Hai Phong City and Bac Lieu Province, as well as the implementation of a pilot project for reducing marine plastics. In addition, IGES provided technical assistance to the World Bank, providing support for the institutional design and implementation of a pilot project on Extended Producer Responsibility (EPR) policy for plastic waste in Bangladesh. In Japan, IGES contributed to the creation of the "Kitakyushu Circular Economy Vision" which shows the future direction of environmental industries located in Kitakyushu in transition to a circular economy, working in collaboration with a local business consortium.

Promoting Green Growth and Sound Urban Environmental Management (Localising the Sustainable Development Goals (SDGs) in Kitakyushu City and Kyushu Region)

IGES researchers have been acknowledged as practitioners and experts on SDGs localisation, and have been invited to various important international and domestic events as speakers. These include the International Forum on the SDGs for Regional Revitalization (by Cabinet Office Japan, Jan. 2021); VNR-VLR Lab at the 8th Asia-Pacific Forum on Sustainable Development (APFSD) (by UNESCAP, Mar. 2021); Creative City Policy (by Ministry of Culture, Mar. 2021); Mayors Academy (by UNESCAP, Apr. 2021); and Localising the Global Goals (by UN Global Compact Network UK, Jul. 2021). Regarding the OECD's Territorial Approach to the SDGs, IGES contributed to the successful finalisation of the Kitakyushu City's report and launch event in June 2021. While the role of Kitakyushu City as a pilot will end this year, IGES will remain as a member of the Steering Committee of OECD to continue to work further on developing a Tool Kit and Snap

Shot of indicators to maximise the output of the programme. IGES organised the 2nd Kitakyushu SDGs Training online in March 2021 and further promoted collaboration with local stakeholders including contributions to the 8th Higashida Conference for Sustainability; taking part in the evaluation process for selecting award nominees of Kitakyushu SDGs Award 2020 as a committee member; and providing lectures at several universities. As a new initiative, IGES led a discussion with MOEJ regional office in Kyushu, the City of Kitakyushu, and local financial institutes to develop an ESG finance system in conjunction with the SDGs registration system set up by the city government.

(3) Selected publications

- Issue Brief “Commitment to Net Zero Carbon Emissions by 2050 by Local Governments in the Kyushu Region of Japan: Background, Current Situation, and Challenges” (English and Japanese versions)
- Report Chapter “Overseas Water Business Initiated by City of Kitakyushu” (Chapter 4 of Kitakyushu Overseas Water Business Association’s 10th Year Anniversary Report) (Japanese version)

4.3. Regional Centre in Bangkok (BRC)

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.

(1) Intended impacts during ISRP7

- Increased capacities of Asia-Pacific governments to develop and implement climate change adaptation policies and projects
- Improved environmental compliance and enforcement of pollution control practices in 18 Asian member countries.
- Know-how and resources to drive clean development are adopted to create more sustainable capacity for regional engagement in climate change mitigation activities
- Improved environmental quality in ASEAN cities through better long-term city planning and higher capacity to implement transformative local actions, closely linked to the SDGs

(2) Major activities in FY2020

Climate Change Mitigation

The UNFCCC-IGES Regional Collaboration Centre (RCC) provides multifaceted support to facilitate the implementation of the Paris Agreement. RCC conducted a survey to encourage Parties to enhance ambition in their updated and new Nationally Determined Contributions (NDCs) and organised a workshop on Good Practices in Update and Implementation: Challenges and Lessons Learned from Asia, Middle East and North Africa. For climate finance, RCC has implemented several Needs-Based-Finance projects in a number of subregions, including ASEAN, Asian LDCs, Central and North Asia and Polynesia. On market mechanisms, the RCC continues to provide support for the Clean Development Mechanism (CDM) and standardised baselines in the Asia-Pacific region and assists ASEAN countries and Pakistan in exploring the potential of carbon pricing instruments. RCC has also played a more prominent role for monitoring, reporting and verification

(MRV) networks in South East and South Asian countries, and has paired with partners to organise a series of virtual workshops on the Enhanced Transparency Framework and existing MRV mechanisms.

Climate Change Adaptation

Climate change brings an additional dimension to existing disaster vulnerabilities in the ASEAN region. The need to incorporate climate change impact into hazard and risk assessment cannot be over emphasised. A project on disaster risk reduction by integrating climate change projection into flood and landslide risk assessment (ASEAN DRR-CCA) has been designed to provide adequate transfer of necessary knowledge, tools and techniques related to hazard and risk assessments, integrating future climate projections/scenarios through joint-implementation in selected river basins. The project targets long-term positive impact and aims to make meaningful progress by improving institutional mechanisms and integration of DRR/CCA into local development plans, enhancing technical skills and techniques to help address future systematic risks and enhance better inter-ministerial/agency coordination. The ability to understand uncertainties in assessing future systemic risks is a step forward in risk reduction planning and implementation.

The Final Seminar of ASEAN DRR-CCA was held on 23 February 2021, marking the completion of Phase-1 and the official launch of the ‘ASEAN Guidelines on Integrating Climate Change Projections into Flood and Landslide Risk Assessments and Mapping’ endorsed by 10 ASEAN countries. Since October 2018, 15 activities have been carried out with more than 600 participants altogether. In addition, a set of questionnaires was designed to collect indirect/direct impacts of disasters, collect socio-economic data to assess vulnerability and capacity to respond to disaster in 40 selected communities/villages. Findings, good practices and lessons learned during the implementation have been documented through various knowledge platforms and information audio-visual materials, available at <http://aseandrr.org>. Complementing the AADMER, SFDRR, the Paris Agreement and the SDGs, activities will continue to exhibit synergies with future interventions to address emerging disaster and climate change risks.

In addition, BRC contributed to the launch of the Asia-Pacific Adaptation Information Platform (AP-PLAT) Capacity Development Program together with NRE. Under MOEJ commissioned work, BRC carried out analysis of existing adaptation training programmes in the Asia-Pacific region, held a pilot mentoring activity for GCF project formulation, and organised a workshop in order to identify current challenges associated with adaptation training in the region, and to discuss the benefit of regional collaboration among training institutions.

Localising the SDGs in ASEAN Cities

The 4th (Regional) Closing Workshop of the ASEAN SDGs Frontrunner Cities Programme (SDGs-FC) was organised on 1-2 December in virtual format with about 70 participants. The Workshop recognised the collective programme outputs (1 Regional Report, 8 Country Report, 25 city reports on the SDGs, 11 city showcase videos & 1 Regional Showcase Video) and recognised the achievements of participating cities in improving the local environmental quality through innovative bottom-up 3R, urban greening, and MRV initiatives. In addition, a proposed concept and direction for the SDGs-FC future phase was presented by IGES and endorsed by the focal points. Subsequently, the Project Completion Report was submitted and accepted in March 2021.

Environmental Compliance and Enforcement

Environmental governance and enforcement remain key challenges in developing countries in Asia, where legal frameworks for environmental protection are under development. To ensure the development of sound environmental policies and their effective implementation, there is a need for knowledge exchange and transfer between those currently developing policies and countries with

more mature and tested frameworks in place. Asian Environmental Compliance and Enforcement Network (AECEN) has been holding discussions with the United States Environmental Protection Agency (USEPA) under the Biden Administration, together with the International Network for Environmental Compliance and Enforcement (INECE) and the Environmental Law Institute (ELI) and its partners (ADB, AusAID, EPAT, AELERT etc.), in order to strengthen partnerships for long-term collaboration on environmental compliance and enforcement as well as environmental social safeguarding.

AECEN has been promoting and sharing a series of EIA articles (Phase 5 and 6) through the Asia Environmental Impact Assessment Network to increase capacity and knowledge-sharing among government officials in AECEN member countries as well as other practitioners worldwide.

Sustainable Consumption and Production (SCP)

Launched in 2007, the EU SWITCH-Asia programme has achieved more than a decade of progress on SCP in 24 countries in the region. For SWITCH-Asia's second phase of implementation in Viet Nam, IGES is leading a team of experts providing technical assistance on enhancing SCP in the seafood sector in Viet Nam by conducting policy assessment and capacity building in collaboration with the Vietnam National Cleaner Production Center and Oxfam. In Cambodia, IGES is leading a team of expert as part of SWITCH-Asia technical assistance to enhance policies on SCP and circular economy in the garment sector. This assistance includes preparing a policy analysis report, and conducting consultations with stakeholders such as the Garment Manufacturing Association in Cambodia (GMAC), GARMENTS-Asia Project, and the SWITCH-Asia Switch Garment project. These activities are being widely promoted through SWITCH-Asia channels, ensuring that IGES gains high visibility among the European Union and relevant stakeholders.

In just less than two years, the impact and results of SWITCH-Asia Communication Strategy have gone beyond expectations: 10,000 Twitter followers; more than 200,000 Facebook followers; a potential audience of over 31 million (people who have seen SWITCH-Asia contents); and more than 180,000 website page views. The Programme is currently developing Phase II of the Communication and Social Media Strategy to be implemented from September 2021. There are 40 new publications that are being prepared by experts in Southeast and East Asia, South Asia and Central Asia. National and regional events are also being organised on a variety of topics including SCP and Sustainable Housing, Fashion and Garments Sustainability, Plastics and Waste Management, Agri-food and Communications.

(3) Selected publications

- Survey Report “The Progress of the Development of Nationally Determined Contributions”
- Discussion Paper “Explore Regional Mitigation Cooperation through Carbon Pricing in ASEAN”
- 7 Country SDGs Reports (Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand and Viet Nam)
- 1 Regional Report on Cities & SDGs
- 25 City Priority SDGs/Activity Reports (Kep, Kamport, Pursat, Banjarmasin, Malang, Banyuwangi, Luang Prabang, Xamneua, Kaysone-Phonevihan, Yangon, Mandalay, Bagan, Nay Pyi Taw, Shah Alam, Kuala Langat, San Carlos, Valenzuela, Phuket, Udon Thani, Bansang, Chaman, Takhli, Wiangteong, Hai Phong)
- 1 Project Completion Report (commissioned report to JAIF/funder)
- 11 City Showcase Videos, 1 Regional Showcase video

- “ASEAN Guideline on Integrating Climate Change Projection into Flood Risk Assessments and Mapping”
- “ASEAN Guideline on Integrating Climate Change Projection into Landslide Risk Assessments and Mapping”
- 4 Case Study Report: Demonstration of application of methodologies, selection of tools and datasets, identification of key stakeholders – based on findings of pilot studies.
- Regional Synthesis Report “Integrating DRR and CCA in ASEAN”
- Abstract for Global Assessment Report on Disaster Risk Reduction 2022 (GAR-2022) Contributing Paper: “Disaster Risk Reduction in the ASEAN Region: Understanding and Assessing Systematic Risks of Floods and Landslides in a River Basin Context”
- Showcase videos, factsheets, website for ASEAN DRR-CCA [<http://aseandrr.org>]
- Proceeding of the workshop on Asia - Pacific Climate Change Adaptation Information Platform (AP - PLAT) Capacity Development Programme

4.4. Beijing Office (BJG)

The Beijing Office was set up within the Sino-Japan Friendship Center for Environmental Protection of the Ministry of Environmental Protection 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).

(1) Intended impacts during ISRP7

- Co-benefit of better air quality and CO₂ reduction in China are promoted through city-to-city cooperation between local governments in China and Japan.
- (Completed in FY2017) Policy recommendation and maintenance manual on wastewater treatment are adopted in local cities in China

(2) Major activities in FY2020

Promoting the Co-benefits of Better Air Quality and CO₂ Reduction in China through Model Projects

The “Japan-China city- to-city cooperation project” was started in FY2014 to improve air quality in China, based on the existing relationship of friendship cities between Japan and China, and aimed at promoting Japan-China cooperation mainly by capacity building. This cooperation (Phase 1) ended in FY2018. From FY2019, new cooperation (Phase 2) started based on the “Agreement between the Ministry of the Environment, Japan, and Ministry of Ecology and Environment of the People’s Republic of China on cooperation to implement researches and model projects to improve air quality,” which was signed by the Ministers of the Environment of Japan and China at the Tripartite Environment Ministers Meeting among Japan, China and Korea (TEMM) in June, 2018. Policies of cooperation in Phase 2 are shown below. In FY2019, IGES focused on coordination with stakeholders and local governments in Japan and China, and also on starting up new model projects. IGES started the following seven projects. The projects continued in FY2020, and discussion was also carried out on the possibility of disseminating the results of some of the model projects within China and also to third countries.

Policies of Cooperation in Phase 2

When deciding specific content for cooperation, research and model projects should be selected and implemented so as to fulfill the conditions shown below:

- (1) Impact given to policies and contribution to better air quality
- (2) Co-benefits of GHG reduction
- (3) Contribution of Japanese environmental technologies and facilities
- (4) Possibilities of horizontal development in China and development to Asian countries (third countries)

Model Projects being implemented in Phase 2 are as follows.

No.	Model projects
1	Model project on energy conservation and reduction of air pollutant emissions by introducing new technology to recover and reuse exhaust heat
2	Model project on measures for reduction of particular matter emissions by utilising residual stems from crops
3	Model project on measures to control small-scale distributed sources of air pollution in the restaurant industry
4	Model project on reduction of VOC emissions from manufacturers
5	Model project on CO ₂ reduction by integrated use of household waste
6	Model project on energy conservation and reduction of pollutant emissions in textile dyeing industry
7	Model project on measures in priority areas to reduce ozone pollution over wide areas

(3) Selected publications

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

4.5. Tokyo Sustainability Forum (TSF)

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 and is co-located with the ICLEI Japan office. The Forum 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.

(1) Major activities in FY2020

IPBES Technical Support Unit

TSF continued to host the IPBES Technical Support Unit for the Assessment of Invasive Alien Species (TSU-IAS), and supported its work, including the development of a thematic assessment report on invasive alien species.

IPBES Capacity Building Project

TSF developed the final report for the IPBES Capacity Building Project that was started in April 2016 by JBF, and successfully completed the project.

International Collaboration on Environmental Impact Assessment (EIA)

In order to promote international collaboration on EIA among Asian countries, and commissioned by the Ministry of the Environment, Japan (MOEJ), TSF conducted research on EIA systems and their implementation in China, developed an information platform for the Asia EIA Network, and held EIA technical training seminars in Myanmar.

IGES Evening Forum

To strengthen cooperation between IGES and related organisations including MOEJ, TSF launched “IGES Evening Forum,” for cross-cutting exchanges of views. Two forums were held in collaboration with the Natural Resources and Ecosystem Services Area and the City Taskforce, respectively.

Function as a Satellite Office in Tokyo

TSF took necessary COVID-19 countermeasures to prevent infection, 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.

(2) Selected publications

- “Project Report on Promoting Asian Regional Collaboration on EIA”
- “EIA Guidebook for Japanese Companies (China)”

4.5.1. IPBES-TSU hosted at Tokyo Sustainability Forum

IGES has been hosting the technical support unit for the IPBES assessment of invasive alien species and their control (IPBES-TSU-IAS) since February 2019 at TSF. The TSU has functioned as an extension of the IPBES secretariat that is headquartered in Bonn, Germany. The purpose of the TSU has been to support and assist in the coordination of the IPBES invasive alien species assessment, including drafting the assessment report.

(1) Intended impacts

- The region-wide scientific assessment on biodiversity and ecosystem services in the Asia-Pacific Region is widely recognised
- Scientifically sound and policy-relevant information on Biodiversity and Ecosystem Services in the Asia-Pacific Region is reflected in policies

(2) Major activities in FY2020

The IPBES assessment of invasive alien species was launched in May 2019. In this project, around 90 experts selected from more than 40 countries are working on the scientific assessment of the status and trends of invasive alien species, their impacts to biodiversity and socio-economy, and policies or measures for their prevention and management. The final report and its summary for policymakers will be published in 2023.

IPBES-TSU-IAS has been providing support to the overall coordination of drafting work of the assessment report including the planning of the assessment timeline, organisation of author meetings, and managing references and data. In FY2020, the TSU organised the second author meeting (November-December 2020, online), and the first and the second meeting to advance the summary for policymakers (February-March 2021 and June 2021 respectively, online).

Additionally, it contributed to the organisation of the second dialogue workshop between authors and representatives of indigenous peoples and local communities (October 2020, online).

Funding for TSU operations is provided by the UNEP Trust Fund, matched by contributions from the Ministry of the Environment, Japan.

5. Strategic Management Office (SMO)

As a mechanism to effectively promote strategic research and the impact generation of outputs in the Integrative Strategic Research Programme for the 7th Phase (from FY2017), the former Programme Management Office (PMO) and Secretariat were merged to create the Strategic Management Office (SMO). The SMO is charged with three functions: Knowledge and Communications (KC); Research and Publications (RP) and Planning and Management (PM).

5.1. Knowledge and Communications (KC)

(1) Intended impacts during ISRP7

- Enhanced profile of IGES both in Japan and abroad
- IGES expertise amplified and IGES messages well-received, in two or more areas (viz. climate change and SDGs), nationally and internationally among key stakeholders and incorporated into their visions, plans and actions
- Networks and opportunities established and enhanced to advance knowledge co-learning and co-generation around low-carbon, resilient and sustainable development strategies and actions
- Events and multi-stakeholder policy processes managed for effective dissemination and achievement
- IGES's knowledge and expertise adopted and applied by target stakeholders through effect knowledge services and exchange; and targeted stakeholders gain necessary knowledge and capacity to implement practical sustainability solutions
- Sustainability innovations streamlined into policies, planning and practice

(2) Major activities in FY2020

Monitoring & evaluation of cases of impact generation

KC identified 37 high-impact cases during FY2020 through its monitoring and evaluation activities.

- KC collated expected impact generation cases from each research unit at the beginning of the fiscal year and conducted mid-term reviews on their progress.
- When evaluating impact cases, KC analysed each impact case with several categories; by five impact clusters (International process impacts, Policy/institutional change impacts, Practical solution impacts, Media impacts, and Journal/knowledge product impacts), by key themes, by target countries, and etc.

Facilitation of cross unit collaboration

KC took the lead to convene periodic cross-unit meetings regarding climate change and SDGs (every first Monday of the month for climate change and every third Monday for the SDGs) to share relevant information and create opportunities for cross-unit collaboration.

In addition, under the recognition that COVID-19 pandemic is closely linked with many global environmental challenges and raises serious concerns on how to build sustainable societies in the

future, IGES conducted a series of discussions amongst teams concerned and developed two position papers in May and December 2020, respectively.

From internal discussions, IGES proposed the concept of the “Triple R Framework”, which calls on the importance of redesigning socio-economic systems toward sustainable and resilient societies, while directly responding to the COVID-19 pandemic and promoting recovery from crises. The Triple R Framework was incorporated into the “Online Platform” launched in September 2020 by the Government of Japan, and introduced at the “Daring Cities 2020” Forum in October 2020 held by ICLEI and Bonn City in Germany. In addition, IGES organised ISAP2020 in November 2020, with the theme of “Just Transitions Toward Sustainable Societies in Asia and the Pacific: Building Forward Better for Our Future Beyond COVID-19”, and held five plenary and 13 thematic sessions under the overall theme.

Effective outreach

Outreach improved both in quality and quantity.

- The IGES e-newsletter, which has been published once a month since FY2018, has been improved in FY2020 by enriching its contents and improving its readability. In the English version, number for distribution, open rate, and click rate have all improved since last year. On the other hand, the Japanese version has seen a decrease in all of these figures, suggesting the need to improve the content. At the same time, we will aim to acquire new readers in both Japanese and English.
- The number of website views (page views: PV) has also continued to increase since FY2016, and is on track to increase even more than the previous year to an average of 90,639 PV per month in FY2020. Since the full relaunch of the website in August 2019, we have been working to enhance the content, and the information accumulated on the site has contributed to an increase in inflow from organic searches and improved time spent on the site.
- In addition, the number of downloads of publications continued to increase in FY2020. The increase in the inflow of organic search results from search engines and the decrease in the abandonment rate have also continued since last year, indicating that we have been able to appropriately guide users to the desired pages.
- In FY2020, the first half of the year was dedicated to media briefings, followed by the second half supporting a series of webinars for general audiences led by the climate change and energy unit. In addition to this, following Prime Minister Suga's declaration of "carbon neutrality by 2050" in October 2020, the number of inquiries from the media increased. At the same time, due to the timely release of commentaries and reports in line with these global trends, the amount of media coverages in FY2020 exceeded that of FY2019.
- We are also continuing to communicate through social media, and have gained 3,278 followers on the Japanese account and 1,303 followers on the English account on Twitter, and 447 "likes" on Facebook
- In FY2020, due to the COVID-19 pandemic, many planned business trips and meetings were postponed or cancelled. IGES organised or co-organised 190 meetings (over 10 months of FY2020, which excluding the three-month period from April to May 2020 during the first State of Emergency), which is an increase from the previous year (178 meetings held). Moreover, the number of online meetings was dramatically increased to (188 out of 190).
- The technical skills of IGES staff members assisting in the organization of online meetings are improving. Meanwhile, challenges remain, such as how to organise meetings which will better attract audiences and how to deliver our messages to potential audiences that

we have not reached (or could not reach) previously. New ideas that are not bound by the conventions of traditional/previous meeting arrangements are warranted.

Main achievements are provided in Section 2.

5.2. Research and Publications (RP)

(1) Major activities in FY2020

Direct contribution to research and research outputs

- To directly produce and contribute to flagship/priority and other outputs, RP conducted research on issues related to SDGs, climate and governance. Main outputs included a policy report on “Assessment of the ASEAN Countries’ Concrete SDG Implementation Efforts,” a commentary on Japan’s renewable energy potential, a briefing note on “Optimistic Prospects for US Climate Policy in the Biden Administration”, an article in the monthly journal *Green Power* on “リデザインの勧め—コロナ危機からのグリーンリカバリー” (in Japanese). RP also contributed to two children’s textbooks on decarbonisation (in Japanese). Eleven short articles on climate and energy issues were published in a Japanese online publication “Energy Shift.”
- RP coordinated the following six externally funded projects related to quantitative analysis, organising workshops/symposia and capacity building:
 - Carbon Pricing Suishinhi Project (led by Waseda University),
 - International Institute for Applied Systems Analysis (IIASA) Japan Committee Secretariat (MOEJ fund),
 - OECD coordination project (MOEJ fund)
 - G20 support (MOEJ fund)
 - 1.5 Degree Lifestyles project (funded by UNEP, collaborating with SCP)
 - JICA capacity building project.
- RP coordinated the IGES contribution to IISD’s Energy Policy Tracker related to COVID-19 recovery policies
- RP supported Prof. Takeuchi’s participation in UNEP’s Steering Committee on the Future of GEO (Global Environmental Outlook).
- RP coordinated and/or contributed to several translations (Japanese/English) of major outputs such as the UNEP’s Adaptation Gap Report (Executive Summary), the Asia and the Pacific SDG Progress Report of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), and a policy report published jointly by IGES and UNEP on Waste Management during the COVID-19 Pandemic: From Response to Recovery.

Institute-wide research management

- RP managed the SRF application process. RP also conducted a review of the achievements of the FY2019 SRF projects and is in the process of reviewing the FY2020 projects.
- RP compiled the institute-wide publication plan with the list of planned outputs, and coordinated reporting on actual outputs. RP also compiled the citation statistics for peer reviewed journal articles and analysed the impact factors of journals in which IGES researchers publish articles.
- The Publication Policy was maintained, and RP also continued to manage the publication approval process.
- The transfer to IGES of the editorial office of the peer reviewed journal “Sustainability Science” was completed. Fourteen IGES researchers serve as editors, and over 15 IGES

researchers served as reviewers. Nine articles by IGES researchers were published in the journal during FY2020.

- RP supported the process for selecting the IGES President's Award for Best Publication

Research-related support

- RP manages the Library including maintenance of database subscriptions.
- RP provided editing services, not only for research outputs but also for communications and management-related documents.
- RP coordinated translation services.

Institute-wide achievements regarding outputs are indicated in Section 3.

5.3. Planning and Management (PM)

(1) Major activities in FY2020

Planning and Management streamlined the procedures in planning and decision-making simultaneously taking consideration of appropriate resources management (financial and human) and provided corporate management services to maintain the organisational status and interest, support research activities through five functions: (i) Planning and Evaluation, (ii) Information and Communication Technology (ICT) Systems, (iii) Financial Management, (iv) HR Management, and (v) General Administration.

Main achievements are provided in Section 4.

ANNEX 2: KEY ACHIEVEMENT BY OTHER PROJECTS FOR PUBLIC-INTEREST PURPOSES

1. 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).

In FY2020, the total amount of the funds received was JPY 176 million (including JPY 150 million from the Government of Japan), while the total expenditure was JPY 126 million. The unspent amount of JPY 50 million, which was caused mainly by the underspending on travels due to the COVID19 pandemic, is deposited into the Deposits for IPCC TFI TSU Project so as to be appropriately used in FY2021 and after.

(1) Development, Maintenance and Improvement of IPCC Inventory Software

The IPCC Inventory Software¹⁴ 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 FY2020, the TSU worked extensively in developing the software through drafting specifications for the updates, contracting software company and testing beta versions of the software, as well as in developing supporting tools, as Excel files and add-ons. TSU has attended a number of events to present the software, and participated in workshops organised by the UNFCCC Secretariat on training in its use.

(2) Management of IPCC Emission Factor Database (EFDB)

The IPCC EFDB¹⁵ 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 FY2020, the TSU continued enhancing the usefulness of the database by collecting data, organising relevant expert meetings, including data meetings in the energy sector, and supporting the EFDB Editorial Board, as well as implementing managing and developing activities to improve the use of the database.

(3) Production of Methodological Reports

The TSU has started preparatory work to produce a new Methodology Report on estimation of short-lived climate forcers (SLCF) emissions, following the decision taken by the IPCC at its 49th Session.

¹⁴ <http://www.ipcc-nggip.iges.or.jp/software/index.html>

¹⁵ <http://www.ipcc-nggip.iges.or.jp/EFDB/main.php>

The TSU has collected information on SLCFs sources and estimation methodologies, produced two analytical tools of such information, shared those tools through virtual events with experts identified by TFB as participants to the expert meetings, and collected feedback. Further, TSU worked on corrigenda for the 2006 IPCC Guidelines and their 2019 Refinement.

(4) Inventory Internship Programme

In FY2020, this programme was not implemented.

(5) Collaboration with Other Organisations

In FY2020, 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 participating to virtual events organised by those organisations as well as by providing inventory-related materials developed by the IPCC TFI.

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

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

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

As a summary of its financial status, the overall expected revenue in FY 2020 is JPY 260 million, and the expenditure is JPY 237 million. This has resulted in a surplus of approximately JPY 23 million. This surplus is the remaining costs of ongoing projects for multiple fiscal years and is reserved for the Deposit for Promoting APN Projects so as to achieve a substantial financial balance in FY 2020.

APN conducted the following activities in FY2020.

(1) Collaborative Regional Research Programme

To contribute to the development of policy options that respond to global change from the scientific perspective in the Asia-Pacific region, APN provided support to the Collaborative Regional Research Programme (CRRP) approved at the 43rd Steering Committee Meeting.

(2) Capacity Building Programme (CAPaBLE) etc.

To build the scientific capacity in research on global change and sustainability in developing countries, APN provided support to the Capacity Building Programme (CAPaBLE) etc. approved at the 43rd Steering Committee Meeting.

(3) Direction and Activities of APN

i. Development and Approval of the Fifth Strategic Plan

The Fifth Strategic Plan outlining specific goals and supporting mechanisms of APN in the fifth strategic phase (2020-2024) was developed, and was subsequently approved at the 24th Intergovernmental Meeting (IGM) held online in February 2021. The IGM was initially planned to be held in June 2020 in Bangladesh; however, it was postponed due to the COVID-19 pandemic.

ii. Subregional Committees

To discuss the challenges and research needs common to the subregion, and ensure the effective implementation of programmes and activities at the subregional level, APN has established subregional committees in Temperate East Asia, Southeast Asia and South Asia. In FY2020, APN established the subregional committee for the Pacific, which coincides with the Fifth Strategic Plan that sets to strengthen collaboration with relevant institutions and support research on global change and sustainability issues in the Pacific region.

iii. Proposal Development Training Workshop (PDTW)

The Proposal Development Training Workshop (PDTW), which aims to develop the capacity of early-career scientists to compete for research funding, was planned to be held in Southeast Asia back-to-back with the Southeast Asia Subregional Committee meeting. However, it was postponed due to the COVID-19 pandemic.

(4) Contributions at Environmental Forums

i. Contributions at International Forums

APN made presentations and participated in discussions in a number of online international forums, including the 2020 Pacific Ocean Pacific Climate Change Conference (POPCCC) in October 2020, the 7th Asia-Pacific Adaptation Network (APAN) Forum in March 2021 and the 13th meeting of the UNFCCC SBSTA Research Dialogue in June 2021.

ii. Joint Activities with the Hyogo Prefectural Government

APN and Hyogo Prefectural Government, which hosts the Secretariat and provides operational support to APN, jointly organises annual forums to raise awareness on environmental issues among the residents of Hyogo Prefecture. In FY2020, APN, Hyogo Prefectural Government and IGES, jointly organised the "Regional Circular and Ecological Sphere (Regional-CES) Forum" in February 2021 in Kobe City. Prof. Kazuhiko Takeuchi, President of IGES, made a keynote speech and Prof. Rajib Shaw, Graduate School of Keio University, was invited to give a lecture.

3. 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 FY2020, JISE implemented the following activities to promote its projects, including training and information collection and provision on forests, nature regeneration and ecology.

As a summary of its financial status, overall revenue in FY2020 was JPY 54 million and the expenditure was also JPY 54 million, resulting in a good balance. The revenue from the interest from JISE Funds accumulated in the past has contributed to this balance.

(1) 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 and Lao PDR, which were partially supported by external research grants. The projects promoted hands-on activities for reforestation and nature restoration by using ecological approaches to clarify floristic composition and structure of natural forests and growth conditions of planted trees and raised seedlings, and by providing technical support for school children to learn about biodiversity in educational institutions. In addition, JISE strengthened mutual cooperation with the IGES Natural Resources and Ecosystem Services (NRE) Area, and promoted research on ecosystem services evaluation and utilisation of forestry resources aiming at regeneration of Satoyama forests in Lao PDR as well as a research on restoration of degraded forests in Southeast Asia.

On the domestic front, JISE carried out research on vegetation restoration of hardwood plantations in forest control/public works sites and around urban rivers (Fukui) and ecological surveys on environmental protection forests (Tokyo). Some outputs of the above-mentioned research projects were presented at various domestic academic meetings, as well as being published in the annual bulletin “Eco- Habitat”, the “JISE REPORT” and newsletters. In light of restrictions on field surveys due to COVID-19, it was a good opportunity to summarise research results so far, with several research papers being published.

In addition to the above, 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 Tokyo, Gunma and Nagano.

(2) Capacity Building

Previously held in-person, capacity development programmes for the purpose of developing skilled human resources for environmental conservation were cancelled or postponed to prevent the spread of COVID-19 infection. Taking this opportunity, efforts were carried out for future on-line programmes, by conducting trial sessions and preparing materials. In addition, JISE cooperated in creating web contents for learners entitled "Ensuring Biodiversity and Coexistence with Nature" on the Kanagawa Environmental Research Center website "Environmental Manabiya" as a collaborative project. The results were published in the "JISE Report".

(3) Interaction

JISE conducted an Open Seminar in June 2021, entitled “Learn from Past Disasters-Actual Conditions of Large-Scale Disasters and Disaster Lessons-”. Twenty-six years have passed since the Great Hanshin-Awaji Earthquake, ten years have passed since the Great East Japan Earthquake, and, in two years’ time, it will be one hundred years since the Great Kanto Earthquake in 1923. JISE planned this seminar to provide an opportunity to think about future disaster prevention measures from the perspective of environmental issues through the actual experiences of damage caused by large-scale disasters. This was the first time for this seminar to be held online, and it attracted the participants from a wide range of fields in addition to environmental researchers.

(4) Dissemination and Public Awareness

To disseminate news of JISE’s activities and for public relations purposes, JISE distributed newsletters (three issues a year) highlighting its 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.

ANNEX 3: LISTS OF THE UNITED NATIONS UNITS, INTERNATIONAL NETWORKS/INITIATIVES OR ORGANISATIONS THAT IGES HOSTS, SERVES AS SECRETARIAT FOR, OR HAS COLLABORATIVE AGREEMENTS WITH

(As of June 2021)

United Nations units (4)

No.	Name of the unit	Year (hosting division at IGES)
1	Intergovernmental Panel on Climate Change (IPCC) Task Force on National Greenhouse Gas Inventories (TFI) Technical Support Unit (TSU)	September 1999- (HQ)
2	IGES Centre Collaborating with UNEP on Environmental Technologies (CCET)	March 2015- (HQ)
3	United Nations Framework Convention on Climate Change (UNFCCC)-IGES Regional Collaboration Centre (RCC)	September 2015- (BRC)
4	The Technical Support Unit for the Assessment of Invasive Alien Species (TSU-IAS) for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)	February 2019- (TSF)

Networks to which IGES serves as the secretariat (12)

No.	Name of the network	Main function
1	ASEAN SDGs Frontrunner Cities Programme	Regional network which promotes bottom-up innovative practices/policies by ASEAN's frontrunner cities.
2	Asian Co-benefits Partnership (ACP)	Network to support the mainstreaming of co-benefits into sectoral development plans, policies and projects in Asia launched at the Better Air Quality 2010.
3	Asian Environmental Compliance and Enforcement Network (AECEN)	Regional Network of national and sub-national agencies from Asian countries committed to improving compliance and enforcement launched in 2005 with support from the USAID and partner organisations including ADB, USEPA and UNEP and others.
4	Clean Asia Initiative (CAI)	Initiative to help economic development in Asian countries to leap over environmental degradation by passing on Japan's experiences of technologies, organisations, and systems.
5	International Institute for Applied Systems Analysis (IIASA) Japan Committee Secretariat	Research collaboration currently focuses on solving global scale problems mainly in the field of systems analysis.
6	International Research Network for Low Carbon Societies (LCS-RNet)	Researchers' network which dedicates to governmental policy making processes to promote low-carbon societies. Initiative the G8 Environment Ministers' Meeting.
7	Japan Climate Leaders' Partnership (JCLP)	Support Japanese private-sector network to promote the transition to sustainable and low-carbon society.
8	Japan Partnership for Circular Economy (J4CE)	Strengthen public-private partnerships with the aim of further fostering understanding of the circular economy among a wide range of stakeholders.
9	Knowledge Hub of the Asia-Pacific Water Forum	One of the regional water knowledge hubs to generate and share water knowledge and building capacity in the Asia-Pacific region.
10	Low Carbon Asia Research Network (LoCARNet)	Asian Researchers' network to facilitates science-based policies for low-carbon development in the Asian region, launched by LCS-RNet
11	SWITCH-Asia Sustainable Consumption and Production Facility	Facility to provide information on the SWITCH-Asia grant projects and contribute to a wider dissemination of information material on SCP. The facility is jointly implemented by GIZ, IGES and adelphi.
12	Water Environment Partnership in Asia (WEPA)	Network to improve the water environment in Asia by strengthening water environmental governance.

Collaborative agreement (39)

No.	Institute	Scope
International organisations (11)		
1	Asian Development Bank (ADB)	Climate change, wastes, energy, water resources
2	Economic Research Institute for ASEAN and East Asia (ERIA)	Strengthen policy research for circular economy and prevention of marine plastic pollution in ASEAN+3 Countries
3	IPBES	Establishment of and collaboration through the IPBES-TSU for the Assessment of Invasive Alien Species
4	International Council for Local Environmental Initiatives (ICLEI)	City level collaboration for sustainable cities
5	ICLEI Japan	City level collaboration for sustainable cities
6	International Institute for Sustainable Development (IISD)	Knowledge exchange
7	United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP)	SDGs, knowledge sharing and mutual support to conferences
8	United Nations Environment Programme (UNEP)	Climate change, wastes, air pollution
9	UNEP-International Environmental Technology Centre (IETC)	Establishment of Collaboration Centre on Environmental Technology
10	United Nations Framework Convention on Climate Change and its Kyoto Protocol (UNFCCC)	CDM data exchange
11	UNFCCC	Establishment of and collaboration through the UNFCCC Regional Collaboration Centre (RCC)
Research collaboration (17)		
1	Alliance to End Plastic Waste	Strengthen engagement with cities to promote sustainable waste management
2	Asian Institute of Technology (AIT)	Policy research on sustainable development
3	Asia-Europe Foundation (ASEF) The Stockholm Environment Institute (SEI) The Hanns Seidel Foundation (HSF) ASEM SMEs Eco Innovation Center (ASEIC)	Contribution to the Asia-Europe Environment Forum (ENVforum) to foster inter-regional cooperation between Europe and Asia on sustainable development and its environmental dimensions.
4	Earth League Institutional Members	To express intention to be an institutional member of the Earth League
5	Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE), Viet Nam	Research collaboration on major topics incl. SDGs, Low-carbon development, Green tech. and Innovation, Circular economy
6	International Centre for Integrated Mountain Development (ICIMOD)	Research collaboration on natural resources management
7	Korea Environment Institute (KEI)	Research collaboration in the major thematic areas incl. climate change
8	National Environment Commission (NEC), Royal Government of Bhutan	Research collaboration in the area of climate change and its impact in Bhutan
9	National Institute of Ecology (NIE), Republic of Korea	Research collaboration on ecological management and conservation
10	New York Declaration on Forest (NYDF) Assessment Partner	Collaboration in supporting activities associated with NYDF Progress Assessment
11	Overseas Development Institute (ODI), Stockholm Environment Institute (SEI), Institute for Sustainable Development and International Relations (IDDRI)	Joined the Adaptation Without Boundaries Initiative (AWBI) to be voice of the importance of addressing transboundary climate risks.
12	Partnerships in Environmental Management for the Seas of East Asia (PEMSEA)	The establishment of IGES as a PEMSEA Regional Center of Excellence (RCoE) in Climate Change Adaptation and Disaster Risk Reduction
13	PT Sarana Multi Infrastruktur (PT SMI), Indonesia	Research collaboration towards realisation of SDGs
14	Sino-Japan Friendship Center for Environmental Protection	Research collaboration on environmental protection
15	START International, Inc.	Research collaboration to promote Regional/Local-CES concept
16	The Energy and Resources Institute (TERI)	Mutual agreement to host desk each other
17	United Cities and Local Governments Asia Pacific (UCLG) Asia Pacific Regional Section (ASPAC)	Promoting and advocating Voluntary Local Review (VLR) as a mechanism for local governments to monitor SDGs
Cities (6)		
1	City of Yokohama (Y-PORT)	City level collaboration for sustainable cities in Asia
2	Kanagawa Prefectural Government, Board of Education,	Collaboration for Kanagawa Prefectural High School Learning Consortium
3	Kawasaki City	City level collaboration for sustainable cities in Asia
4	Sado City	Toward the construction and development of a sustainable decarbonized society where the environment and the economy are harmonized

5	Shimokawa Town	Technical cooperation on promotion of SDGs
6	Toyama City	Technical cooperation for decarbonised urban development
Japanese Universities (5)		
1	Hiroshima University	Personnel exchange, research collaboration
2	Tokyo City University	Collaboration on research and education
3	Tokyo Institute of Technology	Personnel exchange, research collaboration
4	Yokohama City University	Personnel exchange, research collaboration
5	Yokohama National University	Personnel exchange, research collaboration

Other (membership, etc.) (8)

	Institute, network or initiative	Scope
1	International Science Council (ISC)	
2	Japan Consortium for Future Earth (2013-)	Collaboration on research and knowledge exchange
3	Rockefeller Foundation 100 Resilient Cities program (2016-)	Platform partner to support resilience strategy formulation
4	Sustainable Development Solutions Network (SDSN) Japan (2015-)	Collaboration on research and knowledge exchange on SDGs
5	UNEP (2020-)	Accredited Organization (under the category of the scientific and technological community)
6	UNEP Finance Initiative (UNEP FI) (2017-)	Joined as a Supporting Institution
7	United Nations Economic and Social Council (UN ECOSOC) (2003-)	Contribution to the work of UN
8	United Nations Global Compact (UNGC) / Global Compact Network Japan (GCNJ) (2015-)	Collaboration on knowledge exchange on SDGs