

**Integrative Strategic Research Programme of IGES
for the Sixth Phase**

February, 2013

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1. Introduction

This document sets out IGES's Integrative Strategic Research Programme for the Sixth Phase (ISRP6), a three-year programme which started in April 2013. In April 2012, IGES became a public interest incorporated foundation, and essential matters will now be defined and managed under a newly structured Board of Trustees and Board of Directors. Under this new structure, through a series of discussions, the Integrative Strategic Research Programme for the Sixth Phase was ultimately approved by the Board of Trustees on 12 February 2013, after obtaining agreement from the Board of Directors on 29 January 2013.

IGES must now work towards a more efficient and effective management under its new structure to attain the mission set out in its charter. This document has been drawn up to clarify these points.

The Integrative Strategic Research Programme at IGES has up to now been operated in a three-year term. However, looking from the perspective of complete governance by the Board of Trustees, each phase should be aligned with the term of office of Trustees, and additionally, there should be consideration of the opportunity for Trustees to be involved in the formulation of the strategic research plan for the term in which they have been asked to govern. Therefore the Sixth Phase should be four years and three months, from April 2013 to the end of June 2017, and thereafter, each phase will keep a four-year term.

2. Awareness of global situation

There needs to be full awareness of further deterioration of environmental problems; globally, the planetary boundary for the environment is reaching its limit. According to a report prepared by a group of scientists led by the Stockholm Resilience Centre¹, nine boundaries have been identified and of those, (i) climate change, (ii) biological diversity, and (iii) nitrogen input to the biosphere may already have been transgressed. With increasing populations, economic development and urbanisation continuing unabated in developing countries, as well as a rapid upward swing in resource extraction, consumption and waste, human activity can further push these boundaries past their tipping points, which could trigger a collapse of the balance between supply and demand for resources and send prices soaring, leading to an increasing decline in sustainability in which access to resources is restricted. Within this global trend, the ratio occupied by Asia, in terms of anthropogenic activity, is alarmingly high and appropriate responses are becoming keys to ensuring global sustainability.

Developed countries must make sizable reductions in resource consumption and greenhouse gas (GHG) emissions. In order to achieve this, the green economy—through which economic and social systems are transformed and unsustainable consumption styles are modified—is becoming a major area of interest. In response to concerns over the economic costs (costs of action) required for this transformation, it is important to shape social agreements to achieve a green economy by realising that these costs are an important investment for the achievement of a sustainable society and demonstrating that these costs are actually less than the costs humanity is going to pay if no action is

¹ Further details are available at www.stockholmresilience.org.

taken (costs of inaction). Furthermore, with changes to economic structures in developed countries, such as a transformation into a service economy, and an increase in local environmental impacts from the shift of brown industries to developing/newly emerging economies in line with economic globalisation, it is important to strengthen measures towards the achievement of a global green economy, and not only focus on the greening of the economies of individual countries.

Although one may see a reduction in the number of those living in poverty in newly emerging and developing countries in accordance with economic development, the gaps between cities and rural areas, and between classes in which one can enjoy the conveniences of economic development and classes that are alienated from these conveniences have become magnified. Sustainable low-carbon development or the concept of a green economy has become a major topic in developing countries in particular, in which these gaps are corrected, access to basic services is guaranteed, and socio-economic development is promoted all the while avoiding a lock-in to the kind of unsustainable consumption patterns of developed countries. In least developed countries, the first priority continues to be identifying responses to poverty. Countering the issue of poverty has become an important focus to ensure that the use of environmental resources in particular, on which the poor are so strongly dependent, is sustainable.

3. Recognising the situation surrounding the environment in Asia

Politically: In order to effectively address global environmental issues, including climate change, the most important policy coordination would take place at the global level with the G20, with recognition of the need to coordinate with newly developing countries, including China, the Republic of Korea, Indonesia and India, all of them Asian countries. In this way, the relative importance of Asia in political discussions at the global level has increased dramatically, with competition and collaboration between Asian countries moving forward simultaneously.

Economically: The integration of the regional economy in line with economic globalisation is moving further towards free trade and investment, as seen with the continued promotion of the Association of South East Asian Nations (ASEAN) community, the Trans-Pacific Partnership (TPP), and the Free Trade Agreement (FTP) between Japan, China and the Republic of Korea. In this process, the promotion of policy integration for the environment, energy and resources is also a major topic of focus, and the ASEAN Socio-Cultural Community, which includes a perspective on the environment, is being promoted within the process of forming the ASEAN community. The middle class has swelled in line with continued economic development in Asia, including newly emerging/developed countries, which has resulted in sustainable production and consumption becoming prerequisites in the achievement of sustainable economic growth.

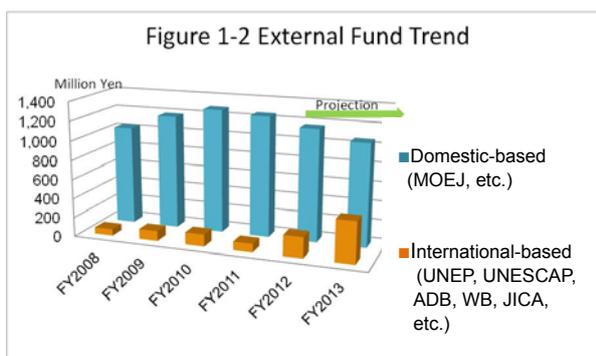
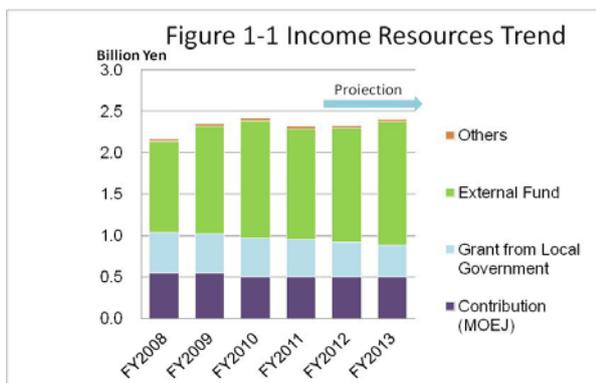
Socially: The pace of urbanisation continues its endless march forward, and urban populations now exceed those of rural populations, even in Asia. In connection with this, poverty and environmental problems in urban areas have intensified. As well, Japan and the Republic of Korea now face an unprecedented ageing population and intergenerational equity with younger generations is becoming unbalanced. Traditional social infrastructures, such as communities, have gradually weakened, resulting in the need for various social policies to compensate for this.

In light of the above situation, it is expected that FY2015, the mid-point of the Sixth Phase, will be an important year as a milestone for social transition being the target year for ASEAN integration on

a regional level, for the adoption of the future climate regime, and for the formulation of SDGs (sustainable development goals) as agreed upon at Rio+20.

4. Status of IGES

From FY2012, IGES has started operations as a public-interest incorporated foundation. There are several unclear elements surrounding IGES, in both the domestic political and economic situation. While the basic funding from the Ministry of the Environment of Japan has remained stable at a certain level, the financial assistance that IGES receives from related local governments has been on a gradually decreasing trend. Under these circumstances, in order to maintain the overall operation level of the Institute, the acquisition of external funds will become an even more important issue (Figure 1-1). Figure 1-2 shows a breakdown of external funds, and with the increase in the opportunities for international joint research, it also shows an accompanying gradual increase in external funding from internationally-based organisations.. Aiming to further expand external funding and diversify funding sources, it is vital to set a clear strategy for fundraising.



The number of IGES research staff remains unchanged and continues along its rising trend (Figure 2). This is because the number of staff employed as a result of the acquisition of external funds, such as associate researchers, for a short period of time has increased in number. High-quality research undoubtedly requires a certain number of staff in each group to facilitate intensive discussions between staff members. However, even if the increase of staff is recognised as a privilege that goes hand-in-hand with the acquisition of external funding, this increase is not acceptable if it is not connected to an improvement in the quality and quantity of research outputs.

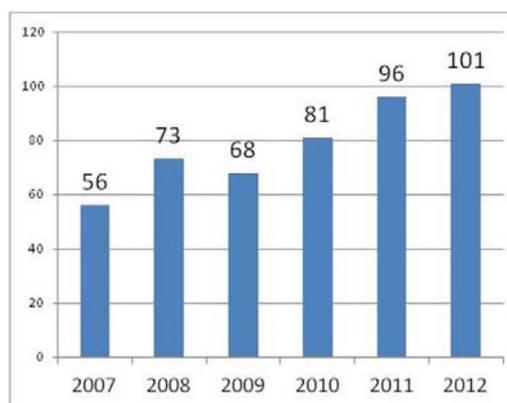


Figure 2. Number of Researchers

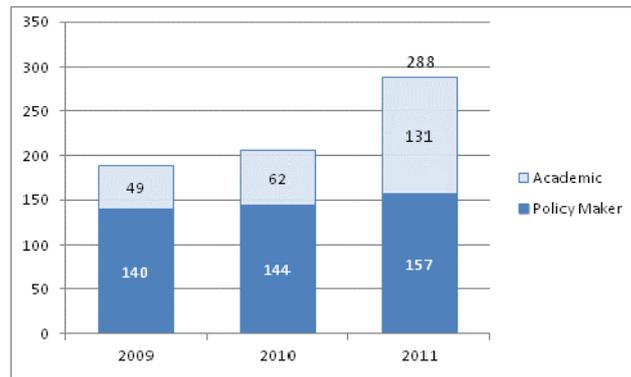


Figure 3. No. of publications (outputs)

Figure 3 shows the trends in the quantity of overall research output by IGES. While a variety of publications are available, the figure shows the division between those publications targeted towards policymakers and those that are academic in nature. Looking at this figure, one can see a continuous rising trend for the overall quantity of publications until FY 2011, which also correlates to increases in the number of staff. Of this number, the total number of policy briefs, policy papers and articles submitted to academic journals, which were subjected to peer reviews and thus considered to have good quality, is generally flat. In FY2011, the number of such quality papers targeted towards policymakers was 41, and there were a total of 30 papers for academic societies.

Along with the shift in its status to a public-interest incorporated foundation, IGES must be more thoroughly accountable to the various groups and important stakeholders that support the Institute. The focus of research must be more strategically set and linked with related international processes to allow for more effective and efficient use of both the human and financial resources available at IGES.

Korea's Global Green Growth Institute (GGGI) was officially established as a formal international organisation in October 2012 after obtaining the signatures of several countries. Along the same lines, a strategic institute for climate change was inaugurated in China, and the establishment of organisations to research and provide training on global environmental strategies and policies is being considered in Southeast Asia, such as in Thailand and India. Establishment of these strategic institutes in a few countries in Asia will certainly make IGES more relative than it is now in Asia. It is important for IGES to promote collaboration rather than competition with such organisations. For example, IGES should expand its prospects as an international research organisation by strengthening its international presence and credibility, when developing research networks in Asia to mitigate and adapt to climate change, or through active contributions to the establishment of strategic organisations on climate change such as the ones mentioned above in several developing countries.

5. IGES Vision

(1) IGES Vision

As declared in the IGES Charter, IGES mission is to conduct strategic research "(towards the realisation of a sustainable Asia Pacific) to redefine the values and value systems of our present

societies that have resulted in the global environmental crisis, in order to create new ways of conducting activities and a new paradigm for civilization, and to build new social and economic systems based on the principles of the new paradigm”. To this end, IGES aims to act as a change agent, promoting the global transition towards a sustainable society, which is our vision.

IGES considers it important, in particular, to ensure a sustainable Asia and to improve the well-being of the people who make their lives in the region, in order to achieve such global transition. Therefore, it will work on a series of research agenda looking at what kind of future a diverse Asia should be aiming for, what kind of changes should be made to realise this future, what type of policies would encourage these changes, and how effective established policies had been.

As will be explained in detail in the next section, it is clear that sustainable development in Asia will not be achievable using existing development models that promote mass consumption of energy and resources on the premise of mass production and mass consumption. IGES aims to prevent countries in the ever-developing Asia from becoming locked in to a socio-economic system which has high-carbon use and is wasteful with its resources, by timely transmission of necessary information to achieve leapfrogging to a low-carbon, resource efficient and less-resource-use type society, embodied in stakeholders’ decision making. While progress is being made on regional integration among ASEAN and East Asia, what is now required is the promotion of green growth in each country, while maintaining and respecting the diversity of countries in the region. A wide range of contents is included in the information and proposals to be disseminated, such as growth index to supplement GDP, policy measures necessary for each country, and the role of regional cooperation. IGES also finds it important to transmit the knowledge gained from challenges in Asia to the global community, and contribute to the transition to a sustainable society on a global scale.

(2) IGES Perception of Asia

In conducting the above vision, IGES has a perception of Asia as outlined below.

- (i) Asia has led the global economy as a centre of growth and production. However, we must take into account the current situation, where some of the planetary boundaries such as biophysical thresholds relating to climate change have been already crossed. In light of this, it is clear that Asia will not realise a sustainable development with limiting factors of basic resources such as energy, water and food, and with development models which are lock-in to a mass production, mass consumption type. Any economic development in Asia, should therefore, be based upon the concept of “leapfrogging” in which an innovative low-carbon, resource efficient and less-resource-use development model has to be mainstreamed with a substantial decoupling between economic growth and environmental degradation. In fact, the national governments of the moment may not place priority on this kind of development model. However, as will be mentioned below, initiatives for such a pattern of development have already been taken by various countries in Asia and looking at it mid to long term, it can be said that this trend will continue.
- (ii) Rio +20 put broad discussions on the green economy in the spotlight. Although a number of issues, such as concerns about green protectionism, have mainly been expressed by developing countries in discussions on this concept, the green

economy is clearly positioned as a complementary strategy in the relationship between the economy and environment, which have long been seen as competing with each other. In addition, it shows great promise as a pillar for new growth in drawing out investment and creating green jobs required for low-carbon and resource-saving growth. The principles that underlie this concept are ensuring “sustainability” and improving the “quality of life and/or well-being.” It is obvious that the most important pillar in Asia with its huge population and economic scale is sustainability. It is already clear that when Asia reaches the current average production and consumption levels of Europe and the U.S., an entire new planet Earth will be necessary to sustain these levels of growth. In addition, “growth for the sake of growth,” which does not contribute to finding solutions to the most important problems, such as poverty, does not improve well-being and is, therefore, considered short-lasting. It is necessary to promote participatory or inclusive development and improve well-being on the basis of “social bonds,” which continue to exist in Asia in many forms.

- (iii) Asia is expansive and diverse. As such, the green economy will not advance in the same manner in every country, but will take on various forms in line with the economic development level and socio-cultural, historical, and international relations features of each country. In developed countries such as Japan and the Republic of Korea, technological innovation and investment to promote the green economy continues to grow, allowing the green economy to become a mainstay for new growth. In China, India and a number of newly developing countries in Southeast Asia, urbanisation has progressed rapidly in connection with bullish economic growth. In line with this, improvements to a variety of social infrastructure, such as energy and transportation, have become a topic of the utmost priority. Countries should not “lock-in” to former models of infrastructure development which promote wasteful use of energy and resources. In addition, for least developed countries, which have yet to address adequately essential issues such as poverty, access to the basic services for daily life, such as energy, water and food, are critical areas that must be secured in a form that does not destroy sustainability.
- (iv) In Asia, mainstreaming sustainable development, including climate change adaptation and mitigation, has started to hit its stride. Climate change policies such as the Feed-in Tariff scheme for renewable energy, emission trading systems and carbon taxes, are being increasingly introduced in Japan, Korea, and China, in a way that fits well into their national circumstances. Of those, Korea has positioned “green growth” as a national priority, and in January 2010, introduced the “Basic Law on Low-Carbon and Green Growth,” followed by the enactment of a law on “emissions trading” in 2012. The Korean government led the phenomenal investments into green growth and established the Global Green Growth Institute (GGGI) to demonstrate its leadership in this area to the world. China aims to rapidly expand renewable energy, such as wind and solar power, and carry out large-scale afforestation as a way to reduce its CO₂ emissions per GDP by 17% in its 12th Five-Year Plan, which started in 2011. The country has already become the world’s leader in the total amount of wind power generation. As well, similar proactive

policies on low-carbon and sustainable development have already started to be introduced in Southeast and East Asian countries.

- (v) Even with the emergence of these types of new actions, they differ from the “flying geese theory of industrial development,” which is widely known in developmental economics. Eco-friendly economies may take on a leadership role as demonstrated by countries like the Republic of Korea which have economies that may be relatively small but which are well defined in terms of selections and concentration. Newly emerging economies/developing countries with relatively fewer vested interests (rent) may follow along this eco-friendly pattern. If this is the case, the type of policy coordination necessary to ensure sustainability must have already become an important policy concern in order to allow green growth to get on track in economic integration process in ASEAN and East Asia. Only by effectively targeting this policy issue straight on will make sustainable economic growth in Asia possible over years to come, and then Asia will be able to play an increasingly important political role, as one of the world’s leaders.
- (vi) Other than the relationship between economic integration and environmental policies mentioned above, several important issues exist that have drawn global attention with regard to sustainability in Asia. For example, the progress made in cleaning up the contamination from the nuclear power plant accident in Fukushima, as well as challenges faced in establishing resilient and sustainable energy demand, have major implications on global low-carbon strategies. As well, resilience is significant to the pursuit of sustainability in Asia, since it is globally most vulnerable to natural disasters such as tsunamis and earthquakes. Responses to new social problems such as ageing societies from the perspective of sustainability are also major issues for not only Japan, but several Asian countries in the medium-term as well. Likewise, ensuring the sustainability of resource consumption by a middle class gradually gaining power in newly developing countries is a significantly important issue in keeping human activities within planetary boundaries.

6. Research Strategy in the Sixth Phase

(1) Three Modes of Operation for Strategic Research

Strategic research carried out in pursuit of the IGES vision should be relevant to new policy needs, fundamentally helpful to policy formation, and accordingly should intend to bring about effective impact formation. Generally, formation of new policy in the transition to sustainable societies requires multi-faceted analysis from environmental, economic and social angles. Hence, IGES strategic research should aim to be policy research for problem-solving targeted at specific issues. Likewise, synthesis-type research is essential to clarify relationships among relevant sectors and to command an overarching view of policy issues in their entirety. Further, research and networking and strategic operation influence each other in a two-way process, and effective impacts are first formed when these are linked.

Based on recognition of the above points, IGES will carry out strategic research in the Sixth Phase based on the following three modes of operation. Further, priority issues will be determined

according to the three pillars outlined below, and plans for detailed research activities will be made and executed. (See section: 7. Main Research Focuses (6) Core Research Areas and Priority Issues.)

1) **Synthesis Research**

Synthesis research will be carried out to understand the complex systems and points for potential measures involved in the transition to sustainable societies. Here it is important to maintain the perspective that perceives target research areas comprehensively in order to clarify the relationships between individual sectors and issues, as well as the perspective that quickly apprehends emerging issues and develops separate policy research for problem-solving. Both qualitative analysis² on socio-economic implications substantiated by extensive knowledge, as well as quantitative analysis³ that deals systematically with connections among issues, are important.

Through this synthesis-type research, IGES will aim to contribute to determining the framework for international agenda-setting and debate in the areas of climate change and sustainable consumption and production.

2) **Policy Research for Problem-solving**

Research will be carried out on concrete measures for problem-solving. It is essential to clarify the issues to be resolved and propose tangible problem-solving options to be implemented by countries and local governments. First, the ideal forms of societies, business models and lifestyles should be clarified, followed by indication of more specific policy instruments to bring about realisation of these ideals. Examples include institutional frameworks that should be set up in each country to promote low-carbon development and specific inducement policies to improve resource productivity and recycling rates. In order to ensure persuasiveness, systems analysis instruments such as modeling should be employed as necessary to objectively and quantitatively assess the policy effects of recommendations. Also, in light of the socio-cultural, historical and economic context of each country and region, it is important to have an approach regarding the effectiveness of specific policies and solutions, whereby lessons can be learned from the experience of past successes and failures,

Through this type of research, IGES will aim to contribute to tangible knowledge and wisdom for the transition to sustainable societies to be shared among even more stakeholders, and to the actual reform of socioeconomic systems.

² Governance and capacity analysis is commonly important for all IGES research areas. It should be well taken into account in such research as: institutional arrangements for dealing with climate change issues being enhanced in some countries in Asia at national and municipal levels; and institutionalisation of community-based forest management.

³ Systems analysis approach to quantitatively deal with issues and their inter-linkage will be enhanced in each research area. Based on their experiences in the triple disaster research in the Fifth Phase, it is aimed to develop appropriate quantitative models always in close linkage to specific problems to be addressed. It is also aimed to expand cooperation with the International Institute for Applied Systems Analysis (IIASA) and the National Institute for Environmental Studies (NIES). In addition to the CGE (computable general equilibrium) based models, capacity in other types of models should be developed immediately for estimating the effects of both employment and investment. Capacity in IO (Input-Output) models for handling international energy and material flows will also be enhanced. Furthermore, modelling capacity in dealing with water, food and energy nexus issues will be newly developed.

3) Networking and Strategic Operation

Strategic operation will be carried out to create policy processes via formation of networks with diverse stakeholders, or alternatively to create opportunities for input into existing relevant processes with the goal of realising sustainable societies. Asia is currently attracting attention from the rest of the world as a growth centre, and there are growing advances in aid from the US and Europe for environment issues in the region, in particular for low-carbon development. In light of this, IGES aims to improve the impact factors of research outputs, by establishing a niche and participating in global networks, based on continuing efforts to enhancing its strength and added-values. For instance, knowledge on concrete problem-solving measures will be accumulated through collaboration with relevant persons in the Low Carbon Asia Research Network (LoCARNet) and be input in the form of issue briefs and policy briefs into the East Asia Knowledge Platform for Low Carbon Growth, where they will contribute to the formation of policy processes. Through networking, or working bilaterally, IGES carries out capacity development for relevant stakeholders⁴ to spread and make use of these knowledge products, and contribute to making a regional base to realise sustainable society

Through this type of research, IGES will undertake the challenge to create even greater impacts.

As can be seen in Future Earth⁵ by the International Council for Science (ISCU), there is a growing social demand for linkage between science and politics. Therefore, in all of the strategic research activities described above, a trans-science approach based on collaboration among stakeholders is essential. Moreover, feedback on the acceptance or non-acceptance by society of the content of recommendations, as well as on the extent of effects generated by their implementation, must be the base for a research cycle that then reconsiders the ideal for societies, business models and lifestyles and engages in new research issues.

Strategic research and impact formation through networking and strategic operations are closely linked, rather than viewed as two separate things. The major impact of important strategic research output, such as IPCC reports, on international negotiation processes is well known. The discussions in international processes provide the seeds for new research, such as is illustrated in the needs of MRV (Measurement, Reporting, and Verification) in climate change. Therefore, strategic research and operations is necessary to clearly recognise the two-way process of mutual influence towards impact formation (Figure 4). On the basis of this complementary relationship, strategic research and the creation of impacts intentionally interlock with one another.

⁴ For capacity development targeting IGES staff members and relevant stakeholders outside of IGES, in the Sixth Phase the senior coordinator will consolidate and enhance capacity development strategy as one of the functions of PMO strategic operations (refer to 9. IGES Management 2)PMO)

⁵ Future Earth is a comprehensive global change research programme promoted by International Council for Science (ISCU), in conjunction with UN Environment Programme (UNEP), UN University, International Social Science Council (ISSC) as well as the Belmont Forum, a group of agencies for funding on global change research projects in influential countries.

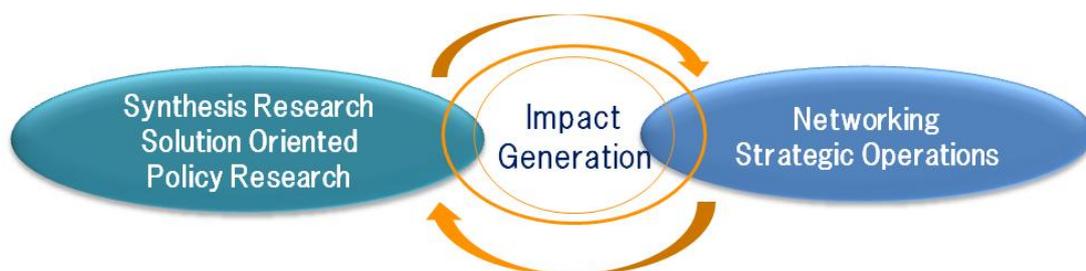


Figure 4 Strategic Research and Operations for Impact Generation

By the same token, when IGES develops specific recommendations based on policy briefs to create impacts, for example, information exchange with other organisations is set into motion, which in many cases enables IGES to better understand emerging international trends.

(2) Criterion for Strategic Research

The three points below are vital for the strategic research undertaken by IGES.

1) Comprehensive, all-embracing vision

For IGES to propose various plans towards the realisation of sustainable development based on needs in Asia, it is crucial to conduct research from a comprehensive, all-embracing perspective, including looking at mid to long-term development.

(i) Integration of Economic /Social Polices and Environmental Policies

Strategic research within the overall framework of sustainable development is important for further promotion of policies that truly complement the relationship between the economy and environment (such as the green economy), overcoming poverty and providing access to basic services, as well as looking at the relationship between sustainable consumption/production and planetary boundaries in both developed and developing countries. Research on SDGs discussed at Rio +20—that is to say, policy targets related to sustainable development, research on resilience which is used as the central theme of IGES’s triple disaster research, and nexus research that targets analysis based on the mutually-dependent linkage between water, food and energy security, as well as policy consistency among these sectors. These studies tend to imply fundamental changes of present socio-economic systems; therefore, it is important to study policy implications, utilising scenario analysis in short-, mid- and long-term perspectives, for example.

(ii) Importance of integrated research and methodology development for the transition to sustainable society.

As IGES aims to function as an agent of change towards the realisation of sustainable development in Asia, one very important issue is the development of an effective research approach and methodology. For transition research, there are many cases implying an essential

change in the current economic and social system. Accordingly, there needs to be an approach that analyses the problem comprehensively, draws a social image to aim for, formulates and implements solutions through stakeholder dialogue and cooperation, and deals with any ensuing issues in line with feedback on outcomes⁶⁷. In addition, it is important to establish research questions from a realistic point of view, leading to actual transition and problem-solving. Thus we see the emergence of challenges such as selection or development of appropriate methodologies to respond to the questions. There is a real need develop these kinds of research approaches and methodologies, through the implementation of strategic research⁸.

2) Added Values

In order for IGES to improve its performance further, there are several important challenges, such as how to add value to strategic research, how best to transmit outcomes in a timely and effective way, and how to continually upgrade the research as a successive process. In order to add value to strategic research at IGES, in light of the experiences of IGES in previous years, the institute has agreed upon the following important issues, namely:

- (i) Does the research have a new perspective/concept? For example, nexus-type research, an integrative analysis of water, energy and food, and research on implementing MRV.
- (ii) Does the research address a new topic? For example, research on sustainable development goals (SDG), which was a focus at Rio+20; research on clean-up from the disaster in Fukushima; verification of the effects of newly introduced policies.
- (iii) Does the research adopt new methodologies or approaches? For example, analysis that applies improved economic models.
- (iv) Does the research have new facts upon which analysis is made? For example, research based upon an original database, as carried out by the Market Mechanism (MM) Group.

Bearing the above in mind, it will be necessary to further concentrate on carrying out value-added

⁶ The Wuppertal Institute in Germany is now developing a transition approach, giving the transition cycles (problem analysis, vision development, experiments and collective learning) a place as a shared framework for the institute as a whole. E.g. for problem-driven research such as energy transition for city building and housing sections, they are planning collaboration with stakeholders through integrated planning, as well as formulating and implementing solutions and measuring the effectiveness

⁷ To produce an impact in policies for Transition, it is inevitable to have clear linkage between policy research and impact generation strategy in mind at the designing stage of any strategic research . (refer to (1) Three Modes of Operation for Strategic Research 3) Networking and Strategic Operations)

⁸ To share main research approaches and method within IGES, implementation of cross cutting, all-IGES research projects are being considered effective. Such an issue as “Proposal for sustainable lifestyles in Asia to minimise consumption of energy and resources and maximise well-being” should be dealt with as an ambitious and cross-cutting mindset, for development of a shared research approach and methodology, as well as for shaping an IGES vision which would work as a basis for a range of strategic research and policy recommendations taken by IGES, as a foundation for launching messages that have strong impact on a sustainable Asia.

research from this phase onward.

3) Quickness and Timeliness

Quick and timely responses in particular are essential elements in creating impacts. In order to develop effective responses, first, it is important to create issue papers in which problems are scoped and clarified before other organisations. In addition, it is also effective to hold expert meetings and quickly develop synthesis papers that compile the latest knowledge about a particular subject. This information should then be published via the internet and other forms of media, and input into appropriate international processes. Therefore, there has to be clear linkage between the process, stakeholders and subject being targeted.

(3) Targets

Looking towards the realisation of its vision, for the Sixth Phase, IGES further raises international recognition of its position as a strategic research institute and also aims to meet the challenge of creating, harnessing and disseminating knowledge for a sustainable future in Asia. Based on this sense of purpose, IGES carries out strategic research using a bilateral knowledge formation process, with participation from various stakeholders, and aims to widely disseminate its research outcomes to the people of Asia and the world.

In order to effectively promote these actions as an organisation, it is imperative for IGES as a whole to set targets for its main research output, to make sure that the actions taken by IGES as an institute are consistent. This can be achieved by using milestone management and setting targets both individually and for each task, and working as a team to get results⁹. The overall targets of IGES shall provisionally be as follows.

- (i) IGES will maintain the quality and quantity of policy products contributing to policy formation according to the needs and relevance of society and government¹⁰. The current level of 40 policy products for the first year will be maintained and this will be expanded to, in total, 160 policy products during the Sixth Phase.
- (ii) IGES will diversify the sources of external funding in both Japan and overseas to maintain the level of the Fifth Phase.
- (iii) IGES will maintain the current level of networking and cooperation with international organisations to create impacts, and from the second year, will generate new developments in its networking activities for a few key areas.

⁹ Refer to IGES management (2) Focused challenges for Management

¹⁰ With regards to the quality of research output, in the Sixth Phase, in the Sixth Phase the senior coordinator will continue work from the Fifth Phase to enhance quality assurance as one of the functions of PMO strategic operations (refer to 9. IGES Management 2)PMO)

7. Major Research Focus

IGES's research has changed from its own independent studies drawing upon financial contributions at the time of its inauguration to partnership-type studies, mainly due to the need to secure external funds. This partnership-type research with other research institutes and international organisations is determined only through a dynamic process, in which details of cooperation with partners can be worked out based on IGES's specific expertise compared to other institutes in relation to the research topics emerging. The point, therefore, is to what extent IGES can proactively propose and include its interests into the agreed research plan among participating partners. This point has become very clear in IGES's proactive planning and coordination in the decontamination project in Fukushima and in carrying out IGES's triple disaster research, for example. In these research projects, fully recognising its advantage in the respective contexts, IGES has identified its own niche within international relationships and networks. Therefore, only the basic directions and potential topics, not details, for studies IGES may engage in during the Sixth Phase are outlined below.

As shown in the figure below, the research fields of IGES in the Sixth Phase will be further consolidated to fall under three pillars of sustainable development, "Environment", "Economic" and "Social" aspects¹¹¹². The three research areas related to the environment aspect, namely "Climate and Energy", "Sustainable Consumption and Production" and "Natural Resources and Ecosystem Services", will focus on issues related to the sustainable use and management of environmental elements that make up the foundation upon which humans conduct stable socio-economic activities, such as climate, atmosphere, water, soil and forests, and the institutional frameworks for their use and management. The research area of "Green Growth and Green Economy", vital to developing Asia and the world, is placed under the economic aspect. The research area of "Integrated Policies for Sustainable Development" is placed under the third social aspect and deals mainly with social issues such as participation, social inclusion and empowerment, without which the shift to sustainable societies is impossible.

¹¹The methodological approach research implemented in the Fifth Phase (Economy and the Environment, Governance and Capacity) has further developed those methods cultivated thus far so as to deal with more practical issues. In the Sixth Phase, major analytical methods for policy research such as economic analysis, modelling exercises and governance analysis are actively adopted for research on individual issues in each research area.

¹²This means that IGES does not only specialise in environmental issues, but conducts comprehensive research including economics and society.

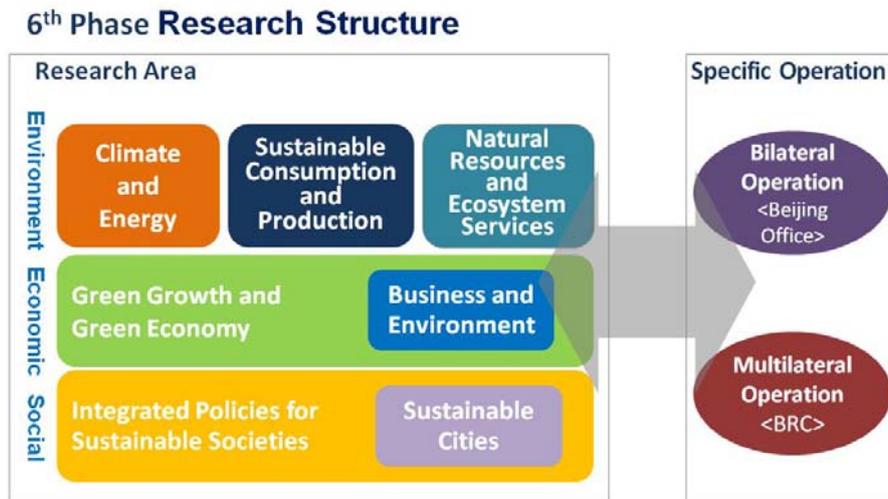


Figure 5 Research in the Sixth Phase

Needless to say, these three factors are strongly related to each other in the context of sustainable development, and it would be impossible to discuss any single factor separate from the others. As such, in actuality, efforts to engage in cross-cutting research topics must be significant and frequent. In particular, the three areas of “Sustainable Consumption and Production”, “Business and Environment” and “Sustainable Cities” are of a strong interdisciplinary nature.

As is indicated below, the research topics that IGES plans to implement are diverse, and there may be some concerns that insufficient process has been conducted for appropriate choice and sufficient concentration of issues. However, to achieve IGES mission, it is vital to understand a variety of issues on sustainability with a comprehensive perspective based on synthesis research etc. To do this, it should be further promoted for IGES to create linkage and work jointly with international organisations as well as other research institutes both in Japan and overseas.

On the other hand, for policy research for problem-solving, IGES will use its Strategic Fund and strive to formulate policy proposals that are unique and innovative. This IGES Strategic Fund was introduced in 2009 as a scheme to incubate promising research projects on innovative policy proposals selected within IGES, providing a fixed amount of internal funding. Several research projects that have benefited from this funding have already shown results to a certain extent.¹³

¹³ For example, research conducted with the Strategic Fund in FY2009 on microfinance and adaptation in Asia, has heightened interest in Bangladesh, and in August 2012 an MOU for mutual research collaboration was signed with Bangladesh Institute of Microfinance (InM). Following that, a workshop was held in January 2013 (attended by the Minister of the Environment of Bangladesh) with further collaborative research planned. A proposal on Green Gifting that is the result of research also started with FY2009 Strategic Fund, is currently attracting attention from Japanese policymakers, as an effective policy to promote low-carbon economy in Japan, and has already been under consideration for its introduction as part of policy.

(1) Research Areas for Environmental Issues

In the Sixth Phase, research will be further expanded for the three environmental issue areas in which IGES has consolidated its competitiveness to date, namely “Climate”, “Sustainable Consumption and Production”, and “Natural Resource Management”. Strategic research activities will be carried out for each area toward realisation of low-carbon, resource-recycling and nature symbiotic-type development patterns in Asia.

1) Climate and Energy area

Strategic research activities will be carried out to propel the design and implementation of international, regional, national and local institutions for the outstretching low-carbon development of the Asian region. Research on energy policies in each country will be intensified, as these policies wield considerable influence on the realisation of low-carbon development in Asian countries.

2) Sustainable Consumption and Production area

Strategic research activities will be carried out concerning institutional design and policy measures that promote primarily business practices and people’s lifestyle changes, with the aim of making sustainable consumption and production a reality in developing Asia.

3) Natural Resources and Ecosystem Services area

Strategic research activities will be carried out concerning institutional design and policy measures that enable participatory community-based resource management, aiming to maintain and enhance the resilience of the natural resources and ecosystem services that support local livelihoods in Asian countries.

(2) Research Areas for Economic Issues

1) Green Growth and Green Economy

This area will be designated as an important issue related to sustainable development. Growth strategy scenarios for Asian countries will be deliberated—those that focus not on growth for the sake of growth, but for the sake of improved quality of life and well-being. As such, strategic research will be carried out concerning the necessary institutional design and policy measures for the greening of economy and business for human well-being, including the creation of green employment.

2) Business and Environment

In view of the importance of the roles taken by business and technologies to realise green growth and green economy, this area will be designated as one of the core research areas in a similar context. In this research area, empirical strategic research will be conducted to promote sustainable business and the innovation, popularisation and transfer of low-carbon technologies, particularly in Asia.

(3) Research Areas for Social Issues

1) Integrated Policies for Sustainable Societies

This will be designated as one of the core research areas in the Sixth Phase. In the process of transitioning to sustainable societies, it is fitting not only to consider environmental concerns, but also to explore ways of making substantial revisions and changes in existing socio-economic systems. As such, this area will deal mainly with issues faced globally, regionally, nationally and locally in the pursuit of sustainable societies, primarily social issues related to improved participation, social inclusion and empowerment, with the aim of empowering people for the transition to sustainability.

2) Sustainable Cities

In view of the importance of the roles taken by local governments to make transition to a sustainable society, this area will be designated as one of the core research areas in a similar context. In the Sustainable Cities area, research will take place concerning concrete measures to realise the necessary policy integration for sustainable development at the city level. In setting the boundary of policy execution at the city region, the challenge will be to engage in pragmatic policy integration research to respond to varied issues surrounding the shift to sustainable societies, with the aim of providing practical knowledge and measures for cities facing sustainability, including infrastructure policy, energy, resource utilisation and waste, “servicising”, and lifestyle changes.

8. Priority Issues in Each Research Area

For each research area, priority issues will be determined and strategic research activities planned and implemented with the aforementioned “6. Research in the Sixth Phase” sections “(1) Three Modes of Operation for Strategic Research” and “(2) Criterion for Strategic Research” in mind. Establishing priority issues requires full use of achievement and knowledge created in the past phase research, while not being held back by this, boldly taking up the challenge towards change. In particular, in the selection of priority issues, it is vital to keep in mind the relevance to current and future development assistance strategies taken by international organisations and other donor agencies, as well as development strategies taken by regional communities and each country in Asia. In addition, even more collaboration is needed in each area, with businesses and cities becoming important partners as the main drivers for future change.

Moreover, the priority issues given herein are those determined at the point of drafting this document. These may change during the Sixth Phase due to the nature of strategic research or based on progress in synthesis research and involvement in various policy processes.

(1) Climate and Energy

In the Climate and Energy research area, strategic research activities will be unfolded toward the realisation of low-carbon development in the Asian region with its striking economic growth, in the

linkage with the international climate regime. Extra effort will be made to transmit and disseminate research outcomes aiming at the realisation of low-carbon growth, both globally and in the region. This will be achieved through active participation in regional knowledge platforms for sharing of knowledge and information on low-carbon growth strategies developed in each country to date, and through collaboration, cooperation and dialogue with policy-makers, as well as domestic officials in Asian countries and international and donor organisations. Already climate change is a common issue for all research areas within IGES, and we should at all times seek to conduct research that transcends internal research areas.

Keeping in perspective international consensus on the global climate change framework that is to be agreed by 2015 and which will commence from 2020, as well as the working rules and guidelines for a strengthened post-2013 framework, analysis and assessment will be carried out on the appropriate form of an international framework and the developing country support to underlay it. Recommendations will be released on institutional design conducive to sustainable growth. Increasing importance is being placed on low-carbon development policy in the processes of both the Cancun Accord and Durban Platform, and the flow of funds of bilateral and multilateral donors will also surely increase. Laws and structures are being consolidated toward full-scale deployment of low-carbon policies in many Asian countries, including the adoption of a global warming mitigation tax and enactment of the FIT law in Japan, the introduction of an emissions-trading law in the ROK, and other examples in China and Indonesia. Under the framework of research on low-carbon societies, expansion of full-fledged research that transcends sectors is required on measures for energy conservation in housing and construction and SMEs, promotion of renewable energies and “smart-community”, and the shift to low-carbon alternatives in various spheres, such as in cities, transportation and waste. Further, one of IGES’ strengths in the climate change sphere is market mechanisms. This database should be strengthened and substantiated, as well as international policy recommendations based on this asset should be made more substantial.

In the advancement of this research, analytical methods, such as utilisation of economic models, should be further improved. Taking advantage of IGES’ strength, research should be expanded on focused issues related to economic instruments, including command and controls and market mechanisms, and promotional means such as MRV, NAMA (Nationally Appropriate Mitigation Actions) and registries. The primary issues in this strategic research area are as follows.

Future climate regime (post 2020) (Synthesis Research / Networking and Strategic Operation)

This strategic operation aims to provide the UNFCCC process with relevant recommendations on the designing of post-2020 comprehensive climate change regime, as well as operational rules and guidelines for post-2012 enhanced actions. Analysis will include legal form, equity/differentiation of commitments, and levels of mitigation ambition under the post-2020 regime, as well as the operationalisation of NAMAs (Nationally Appropriate Mitigation Actions), MRV (Measurable, Reportable, and Verifiable) and climate finance under the post-2012 regime. These issues comprise the major components of the future regime, and studies are being carried out to understand their implications on climate change policies in developing countries in Asia and the Pacific. Considering possible low-carbon measures to be taken by developing countries and also taking into account that GHG emissions in Asia would have a significant effect on global emissions, IGES aims to facilitate dialogues and disseminate relevant recommendations for designing such a regime, as well as rules and guidelines which

effectively integrate low-carbon development policies into sustainable development policies. At the same time, attention is also being focused on movements to create a new climate order led by the US and China, which has the potential of exerting a huge impact on future international negotiations.

Model Analysis on Energy and Climate Change Policy Options (Synthesis Research)

In order to achieve low-carbon societies in a rapidly growing Asia, this study analyses and evaluates the current status of national energy policies (both supply and demand sides) and energy consumption trends. To estimate the effects (potential of GHG emissions reduction) of such climate policy options such as introduction of renewable energy and energy-saving technologies, in-house research capacity, including modelling exercises, will be further strengthened. In addition, IGES aims at contributing to the discussions on Japan's medium-to-long term climate and energy policies beyond 2013 from a view point of a resilient and sustainable energy demand and supply systems, based on its experience with the research entitled "Balancing Japan's Energy and Climate Goals: Exploring Post-Fukushima Energy Supply Options – Report of the Disaster Study Project" .

Low-carbon development policies in Asia: NAMA, MRV, and other approaches (Policy Research for Problem-solving)

This study aims to analyse/assess from a practical point of view those opportunities and challenges Asian developing countries will face when they address low-carbon development. Analysis will be made from various perspectives such as identification of mitigation potential in each country, prioritisation of target sectors and measures, linkage to budgetary allocation, climate change and energy measures, institutional framework (including GHG inventory and compliance system), utilisation of low-carbon measures, and the status of mainstreaming low-carbon development policies. Based on these analyses, policy proposals will be developed for each country's initiative facilitating low-carbon development. Under this study, IGES intends to provide support for designing an MRV system which appropriately reflects the concerns and benefits of Asian countries, and thereby assist them implementing MRV using the funds and technologies from developed countries. Furthermore, IGES strives to provide opportunities of policy dialogues among various stakeholders including policy makers in order to share knowledge and experience from each country.

Climate finance and investment (Policy Research for Problem-solving)

Developing countries face various resource constraints when trying to effectively promote climate change policies. To overcome those constraints, this study conducts comparative analysis on roles and functions of international funding schemes existing around the UNFCCC framework. At the same time, IGES is developing policy proposals through active involvement in the design process of the newly-established green climate fund. As well as sorting out diverse climate finance measures, IGES intends to contribute to the promotion of Asian national climate policies.

Market mechanisms (Policy Research for Problem-solving)

Targeting stakeholders in countries in Asia as well as those working with the UNFCCC process,

this strategic research provides them with practical tools such as a climate policy-related database and training materials for effective utilisation of market mechanisms. Furthermore, based on the analysis and assessment of CDM and/or other market mechanism-based projects to date, basic elements which contribute to the design of new market mechanisms for the future climate regime beyond 2020 will be explored. In consideration of a wide variety of mitigation measures being conducted in developing countries, research on MRV methodologies will also be conducted through which IGES intends to respond to some emerging policy needs in the region.

(2) Sustainable Consumption and Production

In the Sustainable Consumption and Production research area, strategic research activities will be carried out toward sustainable consumption and production in Asian countries, and further to realise the corresponding changes in business practices and lifestyles of the people. In the Sixth Phase, research will be advanced utilising knowledge and channels accumulated to date. Emphasis will be placed on appropriate waste treatment in cities, including composting, formation of effective recycling systems with a view of Asia as a whole, policy analysis from the perspective of sustainable production and consumption centred on improvement of resource productivity, and policy recommendations focused on lifestyle changes. Furthermore, based on the groundwork of knowledge related to material flow, resource productivity, waste management and 3R policies cultivated by IGES to date, integrated research on sustainable consumption and production, including natural resources, water, food, and energy, will be initiated. Meanwhile, key policies and initiatives in the context of Asia will be analysed and assessed, and results communicated to relevant policy processes.

The primary issues in this strategic research area are as follows.

Policies and institutions for transitioning to SCP (Synthesis Research)

To develop sustainable patterns of consumption and production, it is vital to grasp the trends of different flows (material, natural resources, water, food and energy) under the current consumption and production patterns as well as to identify possible policy intervention points. Based on the experience of IGES past research experiences on material flow analysis, 3R policies and resources productivity, this component conducts a policy study aiming to establish a framework for systems analysis on sustainable consumption covering selected natural resources, water, food and energy. This synthesis research will be conducted in close linkage with the following policy researches for problem-solving.

Changes in business practices and lifestyles (Policy Research for Problem-solving)

Bearing in mind the diversity of Asia, this component pursues various patterns of “sustainable living” and “sustainable consumption”. Attention is put on consumption patterns of materials and energy, and studies are being done on sustainable lifestyles in the region. For developing Asia shifting to a mass-consumption society, it is vital to explore the possibilities for sustainable living and consumption that fits each country’s situation respectively and introduce incentives and other SCP measures so that the transition can be made to a sustainable society. This policy research systematically reviews consumption trends and practices of consumer and

business (production/ distribution/ retail) on usage of products, services and energy (e.g. *shou-ene/setsuden* as energy-saving, *shou-ene* as household energy generation) from the view point of SCP, and also reviews the relevant policies and activities to evaluate and analyse successful and unsuccessful factors¹⁴.

Based on this analysis and evaluation, the component disseminates information on policies and efforts to give rise to lifestyle changes and transformations in models of sustainable living and consumption as well as actual business practices. This study is placed as a vital part of transition research to a sustainable society that is carried out in IGES Sixth Phase, in conjunction with aiming for methodology development.

Resource circulation and integrated waste management in Asia (Policy Research for Problem-solving)

This component analyses policy frameworks targeting supply-chains from upstream to downstream of material flow, DfE, improvement in resource efficiency, design of resource circulation and recycling systems, and integrated waste management. This component also looks at ways to introduce and implement such policy systems in the context of Asia. In addition, it actively participates in and disseminates its research findings at global and regional knowledge platforms, such as those mentioned in below.

Fukushima action research on decontamination operation (FAIRDO) (Policy Research for Problem-solving)

On the ground in Fukushima at radioactive material management and decontamination sites, unceasing efforts are being made, encouraging the intermingling of stakeholders at various levels such as national, prefectural, local authority as well as community groups so that decontamination can be achieved and people can return to their homes. The aim is to achieve a stable life and rehabilitate the community as soon as possible. Despite all the good will, the role of these various groups and links between them is still mired in confusion, and in order to formulate and implement an effective decontamination plan, it has been pointed out that there needs to be thorough information-sharing and more local participation. This project analyses and assesses policies and activities related to the management of radioactive materials and decontamination currently taking place in Fukushima in collaboration with research institutes in Japan including Fukushima University, as well as with national and prefectural governments, local authorities such as cities, towns and villages, and also with related organisations overseas such as IASS (Institute for Advanced Sustainability Studies) and the Bundesamt für Strahlenschutz (BfS – Federal Office for Radiation Protection) in Germany. The results will be used to develop proposals on appropriate governance systems, risk communication methods, and decision-making support tools to improve effective radiation protection, which will be

¹⁴ For example, it is important to understand if it is possible for economic tools like eco points to encourage the use of sustainable goods in the true sense. It is also vital to understand the mechanisms of lifestyle changes caused by something other than this type of incentive (e.g. provision of information including smart use of ICT technology and capacity development), then analyse and assess its application potential. An example is the strain on the energy supply in the wake of the Great East Japan Earthquake and the sense of crisis felt nationwide which encouraged a voluntary energy saving drive in the civic sector.

proposed to those involved with the rehabilitation and decontamination activities¹⁵.

The accident at the Fukushima No. 1 nuclear power plant focused the attention of the global community on issues such as radiation protection, preparedness for various levels of accidents, formulation of emergency evaluation plans, and decontamination methods. IGES publicises timely information about the progress in Fukushima, and makes proposals on possible networking activities for international cooperation for protection against radiation to international processes led by NERIS (European Nuclear and radiological Emergency management and Rehabilitation strategies Information web Site) and IAEA (International Atomic Energy Agency), as well as to relevant organisations in Asia.

Policy processes in relation to SCP (Networking and Strategic Operation)

This strategic operation aims at impact generation through active involvement in major policy processes in relation to SCP, including for example the UNEP Resource Panel, the 10 Year Framework of Programmes on SCP, the ASEAN SCP Forum, the Asia-Pacific SCP Roundtable, and the Regional 3R Forum in Asia by synthesising and providing information and knowledge of SCP both inside and outside of IGES.

(3) Natural Resources and Ecosystem Services

In the research area of Natural Resources and Ecosystem Services, strategic research activities will be carried out to maintain and enhance the resilience of the natural resources and ecosystem services that support the livelihoods of people in Asian countries. From a basic common viewpoint on appropriate payment for ecosystem services and community-based participatory governance, integration of the four sectors which made up the natural resource management group in the Fifth strategic research phase, namely forest, biodiversity, water and climate change adaptation, will be actively undertaken. IGES will make every effort to transmit and disseminate its research outcomes through proactive involvement in knowledge platforms for exchange of knowledge and experience related to climate change adaptation, REDD+ and appropriate payment for ecosystem services, and through collaboration with practicing communities. In addition, relevant international frameworks and financial mechanisms will be analysed and assessed, and recommendations on appropriate institutional design will be communicated.

Full-scale integration of the forest, biodiversity, water and adaptation teams is essential. Common viewpoints are payments for ecosystem services, as well as community-based participatory governance. With these viewpoints as a base, research on appropriate promotion policy for REDD+ and research related to *Satoyama* (socio-ecological production landscape) will be advanced. Likewise, activities will be vitalised to enable substantial input into designated international processes and networks related to global warming and biodiversity.

¹⁵ It is important to develop this action research experience into one area of IGES's core competence through linking its problem-solving challenges with key research themes such as governance, risk communication, participation, social inclusion and resilience.

Interest in REDD+ is high in Norway and other bilateral donor nations (Australia, UK, Japan), as well as in the World Bank, and the flow of funds is on the increase. In the future, multi-faceted approaches will be required, such as forest and peatland development/preservation, the carbon market, and ecosystem services/biodiversity preservation. Strong interest has been exhibited by NGOs like CI (Conservation International) and private companies, including those of Japan. A joint crediting mechanism was begun by Japan in Indonesia. With the support of Norway, institutionalisation of REDD+, including MRV, is being advanced in Indonesia, and a JICA (Japan International Cooperation Agency) supported project on establishment of an MRV Agency is under deliberation. Trends in stakeholder activities surrounding REDD+ must be accurately ascertained and development promoted utilising the accumulated strengths of IGES to the fullest. The database on REDD that is nearly ready should be enhanced, with emphasis placed on further advancement of research currently underway, including that on MRV of forest preservation policies and measures and community-based carbon accounting.

Furthermore, possession of the most significant network in Asia on adaptation is an asset to IGES. This asset should be utilised to the fullest to enhance the presence of IGES and impact formation. In the sphere of adaptation, research on resilience in particular should be further focused. Essential research areas include financial mechanisms, such as micro-finance and disaster risk insurance, as well as enhancement of community-based resilience capacity.

Lastly, in relation to water, cooperation with ADB (Asian Development Bank) as the knowledge hub on groundwater in Asia should be further strengthened. Likewise, promotion of correlation with adaptation and nexus research will be carried out in cooperation with other groups and external IGES partners.

The primary issues in this strategic research area are as follows.

Resilience of livelihood: land, water, food and energy (synthesis Research)

Recognising community-based participatory governance as a common perspective shared among IGES's research on forest, biodiversity, water and climate change adaptation, integrated research will be promoted, seeking suitable policy packages to better maintain and strengthen resilience of people's lives through sustainable management of renewable natural resources.

More precisely, systematic analysis/assessment is carried out to examine effective policy measures and necessary activities contributing to sustainable management of forest/land and water resources as well as to conservation of biodiversity and sustainable use of ecosystem services. Governance and financial mechanisms for adaptation are also studied for increased resilience of communities and ecosystems. Based on the above, IGES intends to propose policy measures to enhance the resilience of those living in the respective areas. Quantitative approaches will be strengthened for policy analysis and evaluation, in addition to the existing qualitative analysis skills, through which IGES aims to enhance its impact generation capacities.

REDD+ and other forest-related issues (Policy Research for Problem-solving)

Analysis is made regarding the on-going international trend from various viewpoints such as forest and peatland development/conservation, carbon market, and ecosystem services/biodiversity conservation, so as to provide practical proposals for prompting REDD+

in Asian countries. So far, studies have been made on REDD+ database on national readiness and demonstration activities, community-based carbon accounting, measures to combat illegal logging, forest conservation policies and MRV of measures taken. Based on the accumulation of these research activities, IGES will enhance its efforts on impact generation, such as making practical proposals on governance and financial mechanisms related to REDD+, targeting at the UNFCCC REDD+ negotiation and other related international policy processes including APAN.

Climate change adaptation (Policy Research for Problem-solving)

Research focusses on mainstreaming climate change adaptation considerations into institutional and policy processes in line with promotion of synergies for coordinated planning of poverty eradication, climate change adaptation and disaster risk reduction. Specific areas include climate-smart development in rural (e.g. climate-smart agriculture) and urban areas, community-based approaches for addressing issues relating to social justice such as fairness and equity in adaptation, and relevant financial mechanisms such as micro-finance and risk insurance. Impact generation will be ensured by inputting research results to capacity building and policy processes at various scales using networks such as APAN.

Water resource management (Policy Research for Problem-solving)

The component further enhances contribution to the accumulation and dissemination of knowledge for water resources management by participating in the World Water Forum, in regional knowledge platforms such as the Water Environment Partnership in Asia, as well as through active involvement in the Water KnowledgeHubs Network of the Asia Pacific Water Forum. Research results in the past few years on groundwater management and water quality management policies make up the basis for new challenges toward such cross-cutting research as adaptation policies and a nexus research on water-energy-food securities.

Biodiversity (Policy Research for Problem-solving)

Through active participation in the promotion of the International SATOYAMA Partnership, IGES collects cases of sustainable use of human-influenced natural environments in Asian countries to analyse and assess them. Various practical approaches and policy measures for sustainable use of biodiversity and ecosystem services are studied and research findings will be disseminated through such international policy processes as CBD and IPBES.

Knowledge platform related to climate change adaptation and natural resource management, biodiversity (Networking and Strategic Operation)

IGES continues serving as the Secretariat for the Asia Pacific Adaptation Network (APAN) hosted by its Bangkok Regional Centre (BRC), and collects and shares the knowledge generated from the adaptation research conducted by IGES in-house and by external communities. Through active networking exercises carried out by APAN, IGES intends to promote its practical proposals to enhance the resilience of those who are vulnerable to climate change in the Asia Pacific region.

(4) Green Growth and Green Economy

In the research area of Green Growth and Green Economy, strategic research will be carried out concerning sustainable growth in Asia, on its way to becoming the factory of the world and a huge consumer market, and the appropriate nature of economies to realise sustainable, low-carbon, resource-efficient and less-resource-use growth. In the process of the Rio +20 held in June of 2012, the complementarity between economy and environment was widely recognised. The investment necessary for such type of development, as well as the resulting creation of green jobs, was strongly affirmed as a required pillar of new growth.

For this reason, Green Growth and Green Economy will be designated as an important issue related to sustainable development, and will be operated as one of the core research areas in the Sixth Phase. Growth strategy scenarios for Asian countries will be deliberated. Fundamentally, there needs to be clarity about the vision of a development path for Asia, as an economic growth route within the bounds of natural resource limitations. By studying growth strategy scenarios not just for growth for the sake of growth, but for improvements in the quality of life and well-being, research must be carried out on an evaluation standard to supplement GDP. Environmental costs will be computed and internalised in economies. Moreover, a new strategy is called for—one that has investment in environmental spheres as its mainstay. As such, strategic research will be carried out related to the necessary institutional design and policy measures for the greening of economy and business and the creation of green employment. Furthermore, it is essential to tackle the issues of decoupling and leakage. In the Sixth Phase, research activities related to green economies, previously dealt with individually in each research group within IGES, will be integrated. Research will be carried out on growth strategies in Asian countries, the necessary investment and changes in employment for the shift to a green economy, as well as the policy tools to accelerate this shift. In addition, by promoting links with the main economic drivers including private sector, strategic research in the area aims to propose practical policies that contribute to real impact generation to promote green economy.

In collaboration with NIES and JICA, newly developed low-carbon networks in Asia, such as the East Asia Knowledge Platform for Low Carbon Growth and LoCARNet, will be made operational. Likewise, internal research cooperation within IGES will be enhanced.

The primary issues in this strategic research area are as follows.

Transition to green growth/economy (Synthesis Research)

The core concept of the green growth and green economy aims to confine human economic and social activities within the planetary boundary. To direct current development patterns and economic activities in such a direction, there are plenty of issues to be dealt with, such as environmental resource accounting, new development indices replacing GDP, decoupling of economic development from resource consumption, and curbing resource consumption in developed countries, de-growth, etc. Carbon leakages linked to trading, as well as virtual water issues would be other important matters to be addressed. This research takes a systems analysis approach relating to linkage between environment and economies to examine the potentials of various measures for greening current and future economy. For Asia especially, there is focus on developments to create sustainable visions of growth in an integrated ASEAN, while maintaining and respecting the diversity of each country in the region. Attention is also being paid to practical cooperative mechanisms that form the core for trade structures. In this context, carbon emissions embedded in trade in a carbon constrained world are also being investigated.

Green investment and green jobs (Policy Research for Problem-solving)

IGES conducts research on investment necessary in countries in Asia for realising low-carbon and resource-saving development, as well as analysis and assessment on the current status and future trends of green jobs. The International Labour Organisation (ILO) has already started studies on the potential to generate green jobs in selected Asian countries, and IGES is participating in studies conducted in the Philippines and Malaysia. Building on these experiences and the resulting products, IGES will collate, analyse and assess the knowledge on green investment and green jobs so as to promote its research findings.

Collaboration with stakeholders for promotion of green business (Policy Research for Problem-solving)

This component takes practical approaches to conduct studies on leading-edge green businesses, in collaboration with relevant stakeholders. Focusing on several examples of leading organisations/activities in Japan such as Japan Climate Leaders Partnership and Green Gift, and working in close cooperation with the Kansai Research Centre, policy measures to further promote such activities as well as to enable replications of advanced activities are reviewed and analysed, and the findings will then be disseminated.

Knowledge platform for facilitating sustainable and low-carbon societies (Networking and Strategic Operation)

This strategic operation coordinates IGES-wide activities regarding key international knowledge platforms such as East Asia Knowledge Platform for Low Carbon Growth, Low Carbon Asia Research Network (LoCARNet), and Low Carbon Society Research Network (LCS-RNet). For example, in areas such as NAMAs and MRV, low-carbon cities, business operations, national inventory development support, IGES carries out comprehensive coordination of in-house and external research and dissemination of outputs, and thus attempts to create a bigger impact. IGES also takes on the role of secretariat for LoCARNet and LCS-RNet. Other emerging partnerships such as the Low Emissions Strategies (LEDS) Global Partnership and the Mitigation Action Implementation Network (MAIN) ASIA are also being looked at. IGES intends to best utilise these opportunities, to compile and disseminate internal and external knowledge on low-carbon societies to respond to the needs in climate change in Asia and the Pacific.

Green growth and green economy: policy process and policy dialogue (Networking and Strategic Operation)

IGES has actively engaged itself in international policy processes regarding green growth and green economy led by OECD, UNEP and UNESCAP as well as those related to Rio+20. While continuing to make contributions to those processes, IGES aims to make further efforts to contribute to some leading activities led by business societies such as WBCSD, UN Global Compact and Coalition of the Willing, and strengthen its active dissemination of policy recommendations based on policy analysis and assessment by both IGES internal and external research communities.

(5) Business and Environment (Kansai Research Centre)

Empirical and strategic research will be carried out in the Business and Environment area to promote the expansion of sustainable business, and the innovation, diffusion and transfer of low-carbon technologies in Asia. Strategic research activities will aim to generate impacts that promote sustainable business in Asia through close collaboration with industrial groups and other stakeholders in making practical policy recommendations.

Aiming to further develop research in this area, focus will be put on business and environment, and also technology transfer. The research currently underway on low-carbon technology transfer from Japan to India will form the base of research. In the sphere of technology transfer in particular, the Climate Technology Centre and Network (CTCN) can assist. Thus, efforts will be made to devise strategic cooperation with this international network. Toward this purpose, cooperation with the Bangkok Regional Centre and UNEP-IETC (International Environmental Technology Centre) will be strengthened. Efforts are being made at present toward securing external funding for this cooperation.

The primary issues in this strategic research area are as follows.

International transfer and application of low carbon technologies (Policy Research for Problem-solving)

This research aims to develop the effective mechanisms for promoting low-carbon technology transfer. Based on the experience gained with the study of “Research Partnership for the Application of Low Carbon Technology for Sustainable Development in India” conducted under the existing JICA-JST research framework, this component will coordinate issues related to technology transfer. Follow-up activities (such as onsite capacity building for technologies implemented as pilot projects) as well as other practical research activities (such as feasibility studies of new technologies, etc.) will be conducted in India and/or other Asia countries.

Policies and business initiatives toward the innovation and diffusion of low carbon technologies (Policy Research for Problem-solving)

Building on current research on ‘Market-based Instruments for Improving Company’s Carbon Performance in Northeast Asia’, IGES aims to study policy packages and business initiatives to promote corporate efforts for innovation and diffusion of low-carbon technologies, including economic measures such as subsidies and taxation. In addition to the three major economies in Northeast Asia, target countries may be expanded to cover some other emerging countries in Asia, and enhance the information dissemination and impacts to related national and local governments and businesses.

International trends and input to relevant processes on technology transfer (Networking and Strategic Operation)

IGES actively engages in important international processes for transferring and disseminating low-carbon technologies, so as to provide policy proposals aiming to solve actual problems in transferring technologies. More precisely, IGES intends to provide inputs to such international and regional policy processes as CTCN (Climate Change Technology Centre Networks) to be established under UNFCCC, Knowledge Management Initiative led by ADB and East Asia Knowledge Platform for Low Carbon Growth.

(6) Integrated Policies for Sustainable Societies

The area of Integrated Policies for Sustainable Societies will take an integrated approach to address multifaceted issues facing countries in the Asian region in the pursuit of a sustainable society, based on a long-term view. In the process of transitioning to sustainable societies, it is fitting not only to consider environmental concerns, but also to explore ways of making substantial revisions and changes in existing socio-economic systems. Various factors make up the background, such as the constantly changing state of societies, economies and the environment, as well as technological progress and improved access to information. In many cases these changes are manifested as revisions in governance related to decision-making and implementation.

In the Rio+20 processes, a broad consensus was made on the importance of social inclusion in the pursuit of global transition towards sustainable societies. Such a consensus was based on the common recognition on the social exclusion that exists, such as the disparity between the rich and the poor, even within a country, despite the fact of global and national economic growth. As such, this area will deal mainly with social issues faced globally, regionally, nationally and locally in the pursuit of sustainable societies, on governance and empowerment of people for enhancing participation and social inclusion. As shown below, priority issues in this area will be broadly divided into pragmatic research on “mechanisms to realise meaningful participation of stakeholders” and the “education and capacity building for sustainable development” that make this participation possible.

One key issue is research on the development of environmental governance that is participatory and inclusive for diverse stakeholders at multiple levels, from regional to local and municipal levels. In particular, close examination will be made of the environmental policy integration likely to occur in the context of economic integration directed at the start of an ASEAN Community (2015), as well as of trends in the TPP and additionally the economic integration that has begun between Japan, China and the ROK. For instance, implications for environmental governance in Asia will be clarified, bearing in mind the environmental institute and network for Asia proposed in a recent white paper. Furthermore, more pragmatic research will be conducted on participation in the drafting process of post-2015 development goals and sustainable development goals (SDGs).

Meanwhile, the empowerment of people is indispensable, with meaningful participation by diverse stakeholders as a prerequisite for a shift towards sustainable societies. Issues surrounding this, such as improved access to education and information, and the realisation of gender equity must be addressed carefully in detail. As such, strategic research activities on education and capacity development for sustainable development must be intensified and focused on more specific issues.

In promoting the above strategic research, coordination and cooperation with ASEAN (e.g. Environment Ministers Meeting, Secretariat), including policy input into these processes, will be essential. Further, stronger responses to environmental problems that transcend national boundaries are clearly an important issue, and deliberations on improved regional governance on transboundary air pollution will be continued.

The primary issues in this strategic research area are as follows.

Governance and institutional framework for the transition towards sustainable societies (Synthesis Research)

IGES conducts studies on global and regional governance and institutional frameworks on sustainable development and environmental management, based on which IGES will propose recommendations for their possible improvement. Multistakeholder participation and inclusiveness in these frameworks will be one of the focuses, where current and future roles of stakeholders such as CSOs and businesses will be reviewed and discussed, by analysing and evaluating measures to enhance their roles in society, including improving access to key information and decision-making, as well as capacity building etc.. Studies on regional governance issues such as trans-boundary air pollution will be continued. Moreover, studies focus on governance and institutional frameworks in urban areas as well as in communities. The results of these studies will be published to coincide with the timeline of discussions in the relevant policy forums.

Education and Capacity Development for Sustainable Development (Policy Research for Problem-solving)

This component collaborates with SCP to deepen research on education and capacity development based on a certain level of results on education for sustainable consumption etc. In addition, analysis is carried out focusing on links with major groups in society such as women and climate change. In relation to the decade for sustainable education, IGES aims to strengthen links with other organisations such as UNU and UNESCO, through elaboration of indicators proposed by IGES for impact assessment. All research areas at IGES must operate from the perspective of governance and capacity and this component promotes collaborative analysis on strengthening structures at the national or municipal level to deal with climate change that is advancing in various Asian countries. It also encourages joint trend analysis for creating a system for community based forest management.

Lifestyle Change and Energy Consumption towards Low-Carbon Cities (Policy Research for Problem-solving)

IGES Headquarters is conducting related research on low-carbon cities with the aim of strengthening collaboration on sustainable city research and reinforcing practical studies with environmental-advanced cities in the Kanto region (Tokyo, Yokohama, Kawasaki etc.) carried out by Kitakyushu Urban Centre. Currently, Japanese cities have already been aiming for a major transformation from polluted cities to green cities, and based on the concept of environmental cities of the future and green innovation, there have been developments by local authorities on various levels. Through the coordination and dissemination of experiences in sustainable city planning that have been promoted recently in Japan, it is intended to contribute to the designing of low-carbon, resource-efficient type infrastructure and the development of leapfrogging, which will be highly significant in the near future in Asian cities.

Co-benefit approach in Asia (Policy Research for Problem-solving)

Aiming at developing appropriate methods for measuring and evaluating climate mitigation and development co-benefits especially in the areas of transportation, construction, waste

management and air pollution, IGES focuses on the technological, financial and institutional constraints in generating such co-benefits. It will also conduct a quantitative analysis/assessment on Short-Lived Climate Pollutants (SLCP) which are receiving growing attention, and promote studies into identifying and overcoming challenges to policy introduction. IGES also actively promotes joint research on a quantitative study of co-benefits with leading institutes such as the International Institute for Applied Systems Analysis (IIASA). In cooperation with the Kitakyushu Urban Centre, IGES also aims to contribute to the introduction and implementation of transportation, construction and waste disposal management so that environmentally advanced cities in Asia can make the transition to sustainable cities.

Sustainable development goals (SDGs) (Policy Research for Problem-solving)

In the same way as the MDGs (Millennium Development Goals), the Post-2015 Development Agenda and SDGs (Sustainable Development Goals) are expected to operate as a soft governance mechanism which many stakeholders pay attention to and are influenced by. These processes were proposed as a key international agenda during the Rio+20 preparation processes, and currently discussed in the UN-led intergovernmental negotiation processes. IGES actively follows the progress of relevant discussions in the UN processes and provides direct and indirect inputs to those processes. IGES cooperates with and makes inputs through a global group of research institutes called the Independent Research Forum (IRF). For instance, IGES analyses and evaluates social issues such as poverty alleviation, accessibility to basic social services, education, democracy, participation and social inclusion, and gender issues for global society to shift to a sustainable society, as well as making proposals on effective measures for goal/target setting and ensuring implementation of those goals and targets.

Key policy processes for sustainable development and international environmental governance (Networking and Strategic Operation)

IGES aims to promote its messages and recommendations developed through strategic research by participating in major international processes related to sustainable development. Major global processes include those related to the UN such as the UN General Assembly, UN Commission on Sustainable Development and UNEP Governing Council and related high-level consultation meetings, as well as non-UN related processes such as the G20 and World Economic Forum. Key regional processes in the Asia Pacific include APEC, the East Asian Summit, ESCAP, UNEP-ROAP, ASEAN, China-Japan-Korea Trilateral Summit, and Tripartite Environmental Ministers Meeting (TEMM) among China, Japan, and Korea. IGES analyses and assesses the latest trends of these important processes, and aims to contribute to their agenda setting as well as the substantial discussion. In relation to the promotion of co-benefits at the city level, cooperation is being encouraged with environmentally-advanced cities in Japan such as Tokyo, Yokohama and Kawasaki, through joint work with platforms like ICLEI Japan.

(7) Sustainable Cities (Kitakyushu Urban Centre)

In the Sustainable Cities area, strategic research activities will be carried out on concrete measures to achieve the necessary policy integration for sustainable development at the city level. Research will focus on effective initiatives at the local government, resident and citizen group level that aim to

promote reduced pollution, low-carbon and environmentally sustainable development in Asia, particularly in ASEAN cities. Research will be conducted on measures to further promote and expand these initiatives. Practical activities to promote and expand these initiatives will involve active participation in the networks and collaboration activities among environmental model cities, as well as the transmission and dissemination of concrete recommendations.

To this purpose, the focus on cities at the Kitakyushu Urban Centre will be further strengthened. Cooperation with cities in Asia, particularly ASEAN cities, will be continued and firmly advanced. Likewise, research on scenario analysis and the establishment of MRV systems for the concrete development of low-carbon measures in cities will be promoted jointly with NIES and universities. Strengthened cooperation will be essential under SATREPS (Science and Technology Research Partnership for Sustainable Development), such as on the Iskandar Project (Malaysia) promoted by NIES. Further, collaboration on low-carbon initiatives in other cities in Japan and with ICLEI (International Council for Local Environmental Initiatives) is important.

Strategic research activities in this area will be carried out based on close cooperation between IGES Headquarters and the Kitakyushu Urban Centre. Further, networking and collaboration activities will garner the participation of as many cities as possible of Japan and other Asian countries.

The primary issues in this strategic research area are as follows.

Integrative local governance to develop “Smart Cities” (Synthesis Research)

To optimise a balance in material circulation and energy demand/supply, the concept of smart cities is applied. Studies are made on integrative urban environmental policies to materialise and promote the idea of smart cities. Looking at ways to maintain and enhance resilience of people’s livelihood, IGES conducts quantitative analysis on how material and energy circulation is carried out between rural areas and bordering cities, including modelling exercises for systems analysis.

Initiatives led by eco model cities (Policy Research for Problem-solving)

Effective policies and policy measures (subsidies and taxation, or containing measures as ordinances and regulations, and awareness-building activities toward civil society and business sector) of local governments are identified in relation to energy, smart-grid, transportation, green building, waste management, water supply and sewage management, and local cap and trade schemes. The best practices are also analysed to assess the effect and impact created by those policy measures.

Networking eco model cities and good practice replication (Networking and Strategic Operation)

By networking with local governments and civil organisations promoting initiatives on reduced pollution, low-carbon and environmentally sustainable development, facilitating collaboration, and by supporting excellent practices, IGES seeks to replicate leading-edge practices implemented in Asian countries. IGES also actively participates in such international networks as the East Asia Knowledge Platform for Low Carbon Growth, ‘FutureCity’ Initiative, and LoCARNet. Specifically, as secretariat of such regional networks as ASEAN ESC Model Cities Programme and Asia Low Carbon Cities led by Kitakyushu City, IGES identifies cities of best practices and promotes south-south cooperation, as well as providing databases and training as

necessary.

(8) Strategic Research Activities at the Bangkok Regional Centre and Beijing Office

(i) IGES Regional Centre

The Bangkok Regional Centre will cooperate with Headquarters and other centres to further expand the international network. The Centre already plays a leading role in the Asia Pacific Adaptation Network (APAN). Based on experience and credibility gained in this network, the Centre will proactively work to become even more involved in useful networking activities. The Centre already successfully operates a network based on cooperation between ODA (official development aid) granting organisations from the United States and Europe, and will further consolidate this know how. Cooperation is materialising with the Kitakyushu Urban Centre. In the sphere of mitigation, the Bangkok Regional Centre will join forces with sections at Headquarters to engage in appropriate support for and participation in the operation of the newly established LoCARNet and low-carbon platforms.

(ii) Beijing Office

The Beijing Office will carry out necessary activities to contribute to bilateral cooperation between China and Japan on environmental issues. Specifically, it will continue to promote measures and activities closely related to the development of China's new environmental policies, including the set-up and diffusion of simple design waste water treatment facilities. Further, close and constant attention will be paid to the startup of a new structure for deliberation on a climate change strategy in China, and to the drafting of new policies. Steady operations will be carried out in an appropriate and timely manner based on the MOU (Memorandum of Understanding) between the environment ministers of Japan and China. Further, necessary contributions will be made while cooperating with other departments concerning policy development aside from China's bilateral relations, including the appropriate manner of cooperation with the China-ASEAN Environmental Cooperation Centre.

9. IGES Management

In April 2012, IGES shifted its status to that of a public-interest incorporated foundation. With this new status, to ensure accountability is the highest priority, while further improving effectiveness and efficiency of its governance. IGES has, in fact, already targeted the governance of international standard, since the Fifth Phase under the following three pillars: (i) appropriate resources allocation, (ii) accountability and transparency, and (iii) facilitation of a productive working environment.

Governance should not be understood in a narrow sense as the management of an organisation. It should be a much broader concept constituted of essential elements required to promote IGES's overall strategies. In this sense, the institutional structure of IGES, management of human resources and finances, as well as outreach need to be integrated with and mutually complementary to both research and network activities of IGES. It is, indeed, necessary to develop a renewed governance in

a more strategic manner not merely from the perspective of simple “management,” but also from that of “business operations.”

As already illustrated in Chapter 6, IGES has decided to set performance targets for the entire organisation from the Sixth Phase. Achieving this will be the core element of ensuring accountability in IGES. In this context, improving the internal management of the institute is an important issue.

Meanwhile, a look back at the Fifth Phase reveals that activities were not necessarily sufficient. These include timely responses to the emerging issues, proper framing and multi-faceted analysis of issues, integrative activities aimed at achieving targets as a whole of institution, as well as the timely dissemination of messages. In this regards, in the Sixth Phase, IGES will stress the following points¹⁶ regarding the internal structures and functions that require enhancement and improvement.

- A system to realise consistent operation of research activities and impact formation activities
- Further enhancement of strategic operation functions (including the function of timely dissemination of outcomes)
- Enhancement of synthesis-type research based on ascertainment of global trends in policy and research and mid- to long-term comprehensive perspectives
- Integrated strategic planning and concentration of research resources for IGES as a whole
- Shift to a flat and borderless organisation, optimisation of internal knowledge and utilisation of human resources based on unified personnel and accounting administration
- Streamlining of management tasks and improvement of processes

	5 th Phase	6 th Phase
Organisation	Hierarchy	Flat
Allocation of Financial and Human Resources	Separated	Integrated
Administrative Process	Lengthy Process	Short Process

Figure 6-1: Major points to be improved in the 6 Phase

Based on the above, IGES projects in the Sixth Phase will be implemented within the organisational system described below.

(1) Organisational System

The organisational structure and roles within IGES in the Sixth Phase is shown in Figure 6. This

¹⁶ Please see the attached table for further details about the points to be enhanced and improved, as well as relevant measures. The table is a supplementary document for discussion and will be detached from the final version.

broad view shows each division taking on its respective role, with the research division conducting research and related network activities, the PMO conducting strategic operation, and the Secretariat conducting the overall management duties of the research institute.

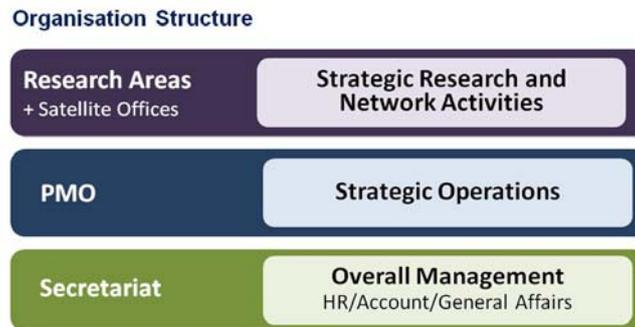


Figure 6-2: Organisational Structure of IGES

1) Research Division

In the research division, under a more flat and integrated organisational system, researchers will make maximum use of their expert knowledge to contribute to the improved overall performance of IGES. In this respect, IGES has devised the following three measures: (i) shift from group director to area leader, (ii) introduction of the Task Manager system, and (iii) securing flexible commitments from staff.



Figure 7: Research staff: categories and each role

(i) Shift from Group Director to Area Leader

In the Fifth Phase, the Research Division was divided into seven groups, with a Director appointed to each group. However, in the Sixth Phase, the group director system will be abolished, and in its place seven research areas will be established, with an area leader appointed to each area.

Until now, staffing and budget execution was carried out by each group. In the Sixth Phase, the Secretariat will conduct centralised staffing, and budget execution will be conducted for each task, overseen by the Secretariat. As such, the main role of the area leaders will be to act as senior researchers in their areas, supervising research in each respective area and overlooking

strategic operations as a whole. Leaders will ascertain global trends in policy and research, plan and execute synthesis-type research from a mid- to long-term comprehensive perspective, and contribute to impact formation based on timely and effective outputs into relevant key policy processes. When new topics emerge in their area, they will consult with the PMO and constructively look at how to incorporate the topic including how to secure funding. Further, in close cooperation with the PMO, area leaders will contribute to the IGES White Papers and other IGES flagship products. In addition, area leaders will provide necessary instruction on implementation of strategic research to task managers and will guide researchers.

Area leaders will be the primary evaluators for the performance evaluation of task managers and researchers.

(ii) Introduction of Task Manager System

For implementation of research projects, a Task Manager system will be introduced to enable the flexible organisation of research teams comprised of members from different research areas. This system is designed to eliminate the adverse effects of barriers between research areas, as well as to revitalise research activities by actively promoting young and highly capable team members to the position of task manager.

A “task” refers to research on an individual issue of a certain scale or greater and related networking activities (those made up of multiple research projects based on the Strategic Research Fund and/or external funding), that falls under any of the research areas. Task managers will take responsibility for the planning and execution of these tasks. They will be in charge of implementation, including creation of reports and other output for related projects, budget management utilising IT, securing of required staff members, as well as coordination with clients. Task managers will carry out work in close cooperation with relevant PMO staff in charge of strategic operation, under the instructions of area leaders as necessary. Task managers can be involved in other tasks as a researcher.

Task managers will give input into the primary evaluation of researchers by area leaders.

(iii) Ensuring the Flexible Commitment of Researchers

Securing the required researchers for implementation of tasks should be conducted with preference given to researchers within IGES. In so doing, a small but practical community of experts (community of practice) can be created within IGES itself for each even more specific issue. Each researcher will be affiliated with one of the research areas, but regardless of this affiliation, can participate in strategic operation, synthesis research, as well as the individual issue research and networking activities planned and carried out by task managers. Furthermore, it is expected that these researchers will acquire a variety of experience through participating in multiple research projects wherever possible, and learn the methods to apply to future task management.

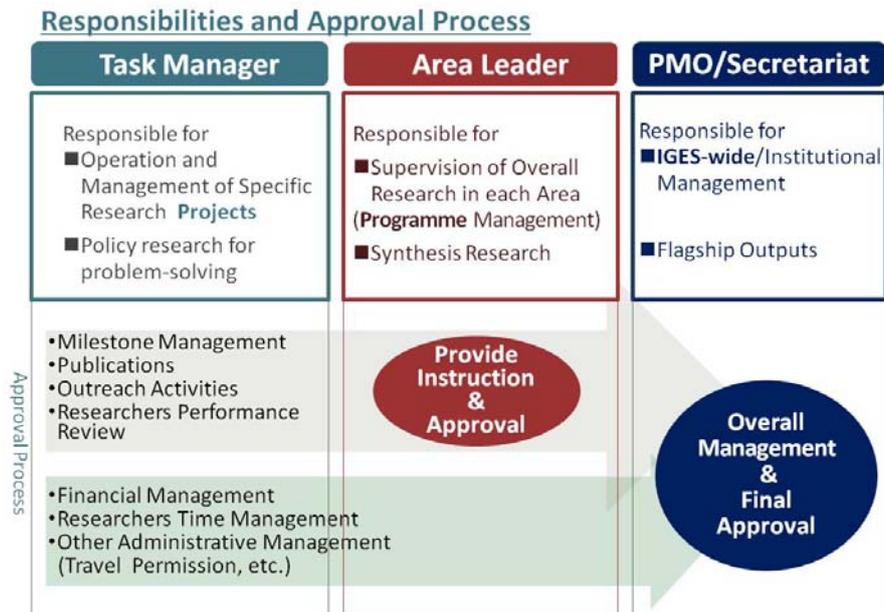


Figure 8: Responsibilities and approval structure

2) Programme Management Office (PMO)

Aiming to achieve the institution-wide targets, PMO will be united with the Research Support Section in the Sixth Phase in order to lead in promoting IGES strategic research and impact formation. PMO will carry out the following operations, striving to achieve consistent operation of research activities and impact formation activities, as well as prompt dissemination of outputs.

For improved strategic operations at PMO



Figure 9: Enhanced Strategic Functions at PMO

(i) Strategic Planning and Coordination of Overall Research Activities

The PMO will draft an integrated overall research strategy for IGES, from a comprehensive, mid- and long-term perspective. For implementation of the strategic plan, it will also hold a Planning and Coordination Committee (tentative name) made up of top management to

comprehensively coordinate and facilitate internal research activities.

Further, the PMO will cooperate with each area leader to produce key IGES flagship products, including White Papers. Several principal researchers will devote themselves to the implementation of this work.

(ii) Implementation of Strategic Operation

The PMO will devise ways to enhance operations in the public relations/outreach sphere, as well as the knowledge management sphere, in order to produce timely and effective outputs targeted at key policy processes. Specifically, it will set up the following strategic operational functions and several senior coordinators will be put in place.

Knowledge Management Strategy

A strategy will be drafted and implemented for the creation, accumulation, management and utilisation of knowledge for IGES as a whole. The gap between knowledge currently held by IGES and knowledge required over the short-, mid- and long-term will be identified, and the missing knowledge will be developed and enhanced. In addition, IGES internal knowledge sharing should be promoted through effective IT tools such as the IGES outputs database. For this, achievements and experiences gained from the CDM database and good practices database that have already been created at IGES will serve as a base.

Capacity Development Strategy

IGES has already accumulated a great many results in the field of capacity building such as the CDM related programme. With these as a foundation, the planning and implementation of capacity development activities (i.e. CDM/NAMA capacity development activities, distance learning, support for establishment of training and research institutes in various countries) will be carried out both domestically and overseas. Internally, the research methods (policy influence assessment, economic analysis, social surveys, etc.) and know how related to strategic research activities (information networking, etc.) that IGES should possess will be ascertained, and plans will be made and carried out for required dispatching of staff.

Quality Assurance of Research Outputs

IGES has already established the senior coordinator and peer review to manage the quality of IGES publications. In the Sixth Phase, these will be further enhanced and consolidated. Proactive facilitation and quality control, including application of appropriate research methodologies, will begin in the early stages of output preparation toward improvement of the quality of final products.

Networking Strategy

Planning and implementation of an integral networking strategy, including relationship-building with partner institutions and participation in key forums, will be carried out. Specifically, effective coordination and development of the multiple international and regional networking operations in which IGES research projects are involved will be carried out. In addition, the effective operation of periodic forums organised by IGES, such as the International Forum for Sustainable Asia and the Pacific (ISAP), will be devised.

Outreach Strategy

In order to raise the visibility of IGES research outputs and improve IGES' reliability as an international research institute, it is essential to carry out effective and timely dissemination targeting appropriate audiences. Planning, coordination and implementation of a strategy for this purpose will be carried out. Outreach activities across the board will be conducted, including PR, websites, publications, seminars and symposiums. For these, maximum utilisation of the latest IT technology will be practiced.

External Funding Strategy

A proactive strategy for the acquisition of external funding will be planned and executed. Specifically, in active cooperation with domestic and overseas universities and research institutions, as well as with international organisations, a series of tasks for submission of joint proposals will be conducted. In addition, appropriate internal coordination will be carried out to respond to new funding opportunities both domestically and abroad, and necessary support will be provided in the process of preparation toward successful procurement of funds.

3) Secretariat

The Secretariat will conduct administrative management tasks for the research institute as a whole, primarily in the areas of human resource management, accounting, as well as general affairs. Transparent and efficient management of these tasks by the Secretariat is indispensable to clearly fulfill IGES' accountability toward funding bodies. In the Sixth Phase, to centralise and enhance the functions of the Secretariat, the outreach functions of the Research Support Section will be placed under PMO, and a Human Resource Management Section will be newly established.



Figure 10: Enhanced Management Functions at Secretariat

Human Resource Management

A Human Resource Management Section will be newly established in an aim to maximise the capacity of individuals and the overall performance of the institution. Employment conditions that differ by category will be made more harmonious. Further, more effective operation of a time management system will result in the appropriate placement, treatment and management of human resources. Likewise, appropriate and effective operation of a performance-based salary system will be carried out. (See 9 (2) 2, section on human resource management.)

Accounting

Budget execution and management will be made flatter, more transparent and faster through introduction of the Task Manager system, along with utilisation of IT and expansion of credit card payments. Offering incentives for more efficient use of the budgets allocated to each research task, and the utmost limiting of expenditures for less necessary meetings and business trips, will lead to further improvements in efficiency. On the other hand, to secure the budget for research and activities deemed important to achieve the mission of IGES—for example, for creating innovative policy proposals—, decision of expenditures will be reviewed from a medium to long term perspective, and the IGES Strategic Fund will be enhanced as a scheme of future investment.

General Affairs

General Affairs deals with important matters for the appropriate overall governance of IGES. These include necessary arrangements on statutes such as the IGES Charter and the new status as a public-interest incorporated foundation, operations of meetings of the Board of Directors and Board of Trustees, and planning and coordination of the paperwork that accompanies legal obligations to other organisations and institutes such as contracts. Furthermore, one of other important functions is to provide a faster and more efficient business environment. Specifically, internal approval processes, such as the day-to-day management associated with research and networking activities, will be executed more efficiently through introduction of a new online system, together with adequate decentralization to ensure that satellite offices are also barrier-free when dealing with these processes. Full use of IT technologies, such as video conference systems, Skype and groupware software will allow seamless communication and coordination, as well as information sharing, between IGES Headquarters and the satellite offices under more stabilised conditions.

Further, as EA21 certification was obtained, efforts will be facilitated to further raise the awareness of staff towards even more improvements in the environmental performance of future IGES activities. In light of the IGES mission, even further efforts in research and outreach are essential to contribute to the improved environmental performance of society as a whole.

In conjunction with the changeover of IGES to a new incorporated status, the Secretariat will shift from conventional “administration” to a more “business management” viewpoint. In the future, the Secretariat will be required to join with the PMO in a shift from simple “management” to putting more emphasis on strategic “facilitation.”

(2) Focused Challenges for Management

Looking at management for the Sixth Phase, it was explained in the previous chapter what the respective roles and functions of the Research Department, PMO and the Secretariat will be from the angle of “Organisational structure”. Here we set out Sixth Phase management under a revised organisational structure, looking at challenges which should be tackled by the Research Department, PMO and the Secretariat in a collaborative manner, as explained in the following four focused management issues.



Figure 11: Focused Challenges for Management

1) Management System

The first focused issue is to strengthen the internal management system. For this purpose, a system is initially required that can break down the targets of the overall organisation to the level of individual groups and staff, and monitor progress successively.

IGES has already introduced a set of management tools such as the milestone management system for target setting, the quality management system for publications, the time management system for accountability and effective allocation of time, and the performance evaluation system. The PMO, in cooperation with the Secretariat, works to systematically combine these tools and build a working environment, in which individual staff members can work with clear targets and direction.



Figure 12: Integrative Operation of Internal Management System

(i) Management of research staff

Under the new system proposed, research staff members of IGES are asked which work and how much time they are committed to, what they should produce, and how they can make other contributions to IGES. There are both opportunities and responsibilities for research staff. Opportunities are created by more flexibility associated with the Task Manager system backed by milestone management that can allow staff to work utilising their strong points as much as possible by committing themselves to a few projects for which they are selected by task managers. On the other hand, there is an essential responsibility that has to be taken care of by

each of the staff members. That is the need for each staff to work on externally funded projects, on average, up to 60% of their time. The remaining 40% of their time should be used in the development of value-added products and creation of meaningful impacts under the name of IGES. It is, of course, quite important to fully consider the strengths and weaknesses of each staff member in deciding how much time is to be spent for which activities. It should be decided in a continuous process, starting with target setting in the milestone management and then adjusted by subsequent modifications.

Of course, if IGES only strengthens its progress management, targets will not necessarily be achieved automatically. It is important for individual staff members to take away lessons from their work to strengthen their capacity and commitment to the organisation. For this reason, it is necessary to improve the performance evaluation system of IGES and utilise it as a method of learning.

(ii) Periodic monitoring

The progress towards a particular target is monitored periodically, and monthly review meetings such as a Planning and Coordination Committee (tentative) are to be put in place scheduled by IGES management in order to enable the organisation to take necessary action without delay. The basic approach of the overall management of IGES is facilitation, rather than supervision, and incentives and other promotional mechanisms are introduced where necessary, in order to achieve the overall targets. There will be an incentive mechanism installed to reward staff members with significant achievement, for example an outstanding contribution to flagship products such as the White Paper.

Likewise, the external evaluations on IGES performance after each phase is completed should be conducted with more external reviewers. These reviews are opportunities for IGES to raise its reliability and learn lessons as an organisation as a whole.

2) Human Resource Management

The third focused issue is to secure and train human resources. In order to properly address emerging challenges concerning sustainable development in a rapidly changing Asia, IGES needs new staff members with relevant knowledge and expertise. At the same time, it is essential to improve the capacity of existing staff members who have worked at IGES for several years. In addition, with strategic research institutes being launched in other Asian countries, intensified competition with these research institutes is expected with regard to securing capable staff.

The substantial increase in the number of staff at IGES over the last few years is due mainly to the increase in external funds. The research staff number reached about 100 in FY2012¹⁷. As external funds are not likely to increase in the near future, we expect that the number of staff will remain at the current level.

¹⁷ This figure includes the research staff at two associated organisations under the broad umbrella of IGES, namely the Technical Support Unit (IPCC/TSU) of the Taskforce on National Greenhouse Gas Inventories, the Intergovernmental Panel on Climate Change (IPCC), and the Japanese Center for International Studies on Ecology (JISE).

Considering the above situation, PMO and Secretariat will jointly conduct the following activities to secure the human resources strategically.

(i) Unification of Human Resource Management

To strategically ensure human resources for the organisation as a whole, as explained above we will establish a Human Resource Management section within the Secretariat, and there will be unification of administration concerning the hiring and management of personnel affairs, which is currently congested by each staff category.

In order to draw out commitments from individual staff and achieve results satisfactory both in quality and quantity, it is important for IGES to have staff members who are not only capable, but also who share the values which IGES has expressed in its Charter. To ensure this, the hiring of all research staff members and the conducting performance reviews are subject to the approval of the IGES management. There will also be a review of employees positions every two years.

However, since satellite offices are managed under different conditions, more flexibility is given to them in the hiring of staff for various categories, including interns. Likewise, in order to strengthen the commitment of competent staff to IGES, the following measures are to be taken.

(ii) Improved conditions

For IGES, major financial contributions have been made on a phase-by-phase basis. This has resulted in a system in which regular research staff members are, in principle, employed for only one phase (three years), complemented by short-term researchers and fellows. At the moment, substantial differences exist in terms of conditions for staff members according to each category. In the Sixth Phase, a more fair system will be developed with fewer differences in conditions for each category. In practical terms, this will mean the abolition of an upper limit for performance salary for single-year contract employees, getting rid of the gap in number of days of paid leave, and introduction of an expanded discretionary labour system for all IGES research employees.

(iii) Provision of capacity building and career path opportunities

The Senior Coordinator in charge of Capacity Building and the Secretariat will arrange to provide capacity building opportunities for staff, combined with the establishment of much clearer career paths. In particular, it is important to clearly recognise and make use of opportunities for capacity development undertaken daily on the job. As one measure to achieve this, it is expected that researchers will produce one policy brief targeting policy makers or one high-quality peer-reviewed journal article each year. Based on this, researchers can check for themselves whether their own research fulfills the criteria for IGES strategic research; whether it is value added and timely, and as such is relevant to policy needs. Researchers will resolve to identify relevant research questions, develop appropriate research methodologies, work on new ideas and proposals and put them into practice.

With regard to capacity building, IGES should be activated by proactive discussions within the institute through the organisation of study meetings such as lunchtime sessions. These could improve the capacity of younger staff members with mentoring provided by Area Leaders and

other senior staff. In addition, IGES should expand its in-house seminars and workshops to which external experts are invited. Furthermore, IGES also provides assistance to young researchers by coaching and facilitation through the institute's quality management system.

In addition, IGES considers expanding its programme for human resources exchange and dispatch of experts as well as joint research, with governments, international organisations, universities, other strategic research institutes, and private sector organisations, whilst striving to nurture its employees and increase opportunities for their career development as much as possible. Temporary stints or research at IGES satellite offices have also been institutionalised. With regard to this, an agreement has been reached in two recent cases with IIASA in order to implement model-based research. With an increase in such opportunities, this system is to be applied to IGES staff members who have demonstrated good performance over several years.

(iv) Making use of diverse human resources

IGES introduced the Fellow system in 2008, creating a base for the knowledge held by external specialists who have a wide variety of expertise and experience which can be used for an appropriate period of time. In the Sixth Phase, this system will continue to be used, and with personnel exchanges and dispatches with other institutes such as those mentioned above, the relevant experts can be welcomed and can contribute to the spread of specific knowledge (such as development of models) throughout IGES.

3) Strengthening Strategic Operations

The third focused issue is to strengthen the operational functions to create impacts by effectively utilising diverse strategic operations which includes outreach, networking, knowledge management, fund raising, capacity building and quality assurance. Three actions are important in relation to this. The first is the promotion of strategic research of an overarching frame as well as the development of flagship products through synthesis-type research. The second pillar is the development of impacts through the effective management and operation of major networks, such as ISAP, an IGES event held once a year, the Asia-Pacific Adaptation Network (APAN), and the Low Carbon Asia Research Network (LoCARNet) on mitigation. The third pillar is strengthening outreach activities, including media relations and external funding strategies that will be discussed later. All these activities should be operated in full collaboration among PMO and research areas.

In particular, through promoting specified joint research projects as well as MOUs for comprehensive cooperation in partnership with international organisations and research institutes in Japan and overseas, IGES aims to disseminate its research results and policy recommendations more effectively and contribute to impact generation. Additionally, considering its strategic role as an interface between Japan and other countries, IGES should make use its knowledge of, for example, climate change and energy issues, to provide timely inputs about major initiatives and new policy development overseas into domestic discussions. It is also important to propose new approaches taken in Japan to other countries.

(i) Flagship Product

IGES's flagship product has been producing a series of IGES White Papers on major issues in Asia, published once every two years. IGES may develop this into strategic publication called "Sustainable Asia", for example, in the future, and disseminate the information quickly and precisely to stakeholders such as policymakers in Asia through a periodic review of overall

policy development in Asia for each major issue. In addition, taking advantage of the fact that IGES staff members are from a number of different countries with diverse backgrounds, a periodic review of the state of the environment in each country would also be effective. These new initiatives could result in a few databases, leading to the development of an IGES knowledge management system in the mid-term. The needs related to knowledge management in Asia are extensive, and the improvement of this system in IGES would be one step towards effectively responding to those needs.

(ii) Effective use of networks and impact creation

IGES has proactively taken part in various networks composed of diverse stakeholders, such as international organisations, national and local governments, experts, the private sector and non-profit organisations (NPOs) in order to create meaningful impacts. Various activities, such as planning, management, coordination with related stakeholders, raising funds and accounting, development of summaries and reports, translation and broad dissemination of knowledge, are all required, and to respond to these needs, the equivalent human resources are in place to effectively put these activities into practice. In this process, IGES has gathered together the know-how to perform these operations efficiently and effectively. The support capability for international conferences, including the management of networks and translation, is systematically combined with research findings, and has become an important asset of IGES, i.e. to provide a full-packaged service for international networking operations. However, in the handling of international conferences, there are a few points to be improved including insufficient preparation prior to the event, delays in publishing meeting proceedings, and inconsistent evaluations prior to and after the event by participants.

Under the broad umbrella of IGES, there are three associated organisations: Technical Support Unit (IPCC/TSU) of the Taskforce on National Greenhouse Gas Inventories, the Intergovernmental Panel on Climate Change (IPCC), the Japanese Center for International Studies on Ecology (JISE), and the Asia-Pacific Network for Global Change Research (APN). Since each organisation has its own respective independent governance system, mutual cooperation with IGES is not necessarily easy; possibilities should be explored to develop joint studies and activities in relevant areas such as climate change and biodiversity conservation. In this sense, cooperation between IGES and APN on the implementation of LoCARNet deserves particular attention.

(iii) Strengthening Outreach Activities

The third issue is the strengthening of IGES's outreach activities keeping in mind the Institute's media relations and external fund-raising strategies. As expressed earlier, most strategic research is now being conducted as partnership-type studies. This is considered reasonable firstly because it is more effective to submit similar recommendations jointly with a number of partner organisations in order to appeal to the media and have a more effective impact in international processes. Secondly, joint proposals are considered to be more effective in order to make a proposal attractive to acquire external funds. Therefore, IGES should promote partnership-type researches with universities in Japan and conduct more substantial collaborations with strategic research institutes in other countries, taking advantage of relative strengths of IGES as an international institute.

IGES has made efforts to promote joint research and researcher exchange with European and

U.S.-based research institutes including the International Institute for Environment and Development (IIED), World Resources Institute (WRI), Stockholm Environment Institute (SEI), IIASA, and the Wuppertal Institute. IGES is also strengthening similar cooperation with research institutes in Asia, such as the Global Green Growth Institute (GGGI), Asian Institute of Technology (AIT), and The Energy and Resources Institute (TERI). Furthermore, in order to increase the appeal of IGES's activities to the media, it would be effective for IGES to prepare issue papers and briefings prior to events such as COP (Conference of the Parties) and major international meetings, and to organise symposiums to sum up outcomes of important conferences and negotiations. Likewise, findings of strategic research and policy recommendations would be more effectively and quickly disseminated in more visible ways through IT technologies. The researchers for each task will communicate with the outreach staff from the earliest stages when planning outreach strategies, and implement them having incorporated them into milestone management and maintaining close contact with relevant senior coordinators for strategic operations.

4) Strategic Coordination of External Funding

The fourth focused issue is strategic coordination of external funding. The importance of the core fund for IGES has further increased in recent years. The shift to the Institute's new status as a public-interest incorporated foundation has further increased the level of uncertainty regarding core funds from the Ministry of the Environment of Japan (MOEJ), and financial assistance from related local governments. Under such conditions, IGES should work even harder to reduce costs and at the same time concentrate resources on essential activities to carry out value-added strategic research and produce meaningful impacts. Examples for such priority activities could include the costs to quickly synthesise research on a new agenda which has been identified as important in the international process concerned, or those necessary to establish an IGES database which is unique internationally.

Simultaneously, with regard to external funds other than core funds, uncertainties have increased about the continued acquisition of funding, including an increasingly competitive environment in the MOEJ that has conventionally been a main source of funds, making it necessary for IGES to systematically promote the expansion and diversification of funding sources. For this reason, at least, a senior coordinator who has expertise in acquiring external funding is to be hired in the next phase. The senior coordinator in charge of external funding will develop a fundraising strategy, through determining what kind of funding opportunities are ahead, what type of application is to be made for which funding opportunities, based in principle on IGES's integrative strategic research programme for the Sixth Phase. The senior fundraising coordinator will share such strategy and up-to-date information on funding opportunities with other IGES senior staff concerned, and take leadership in internal coordination. To this end, the fundraising coordinator will contact area leaders and other staff members concerned, to organise brainstorming meetings, if necessary, and come up with attractive ideas and a sound team members for the proposal. All staff including Task Managers and researchers must fully cooperate with the fundraising coordinator to help contribute to the development of proposals, and the senior coordinator in charge of external funding will provide the necessary know-how to produce attractive proposals.

In addition, the coordinator will make efforts to actively cooperate with universities and research organisations in Japan and overseas to develop attractive proposals, considering that, in most cases,

IGES's strategic research has come to be partnership-type research. Furthermore, IGES should promote strategic outreach activities for potential funding organisations. In addition, IGES should also actively examine its participation in projects that are proposed by other research institutes. In order to effectively address these issues, it is necessary to strategically utilise IGES-wide events, such as the International Forum for Sustainable Asia and the Pacific (ISAP).

As a practical strategy for fundraising in Japan, in addition to acquiring research funds such as Global Environment Research Fund and network-related budget as has been conducted up to now, the nature of funds should be diversified and include those from ministries other than the Ministry of Environment, such as the Special Accounts for Energy and the official development aid (ODA). In addition, more effort should be made to acquire research funds from the private sector.

IGES also tries to acquire increasing funds from non-Japanese sources through bolstering international credibility by strengthening linkages with international funding organisations, such as the World Bank and ADB, international organisations such as UNEP and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), as well as bilateral donor organisations based in Europe and the US. The IGES Regional Centre in Bangkok is expected to play a more strategic role in this respect.

10. The Way Forward

IGES has concluded the Fifth Phase of research and has seen 15 years pass since its establishment. During this time, IGES has received support from the Japanese government (the Ministry of the Environment, in particular), local governments in Japan in which IGES offices have been established, as well as a number of international organisations, including ADB, UNEP, UNESCAP and the United Nations University (UNU), in addition to IGES's signatories. With this support, strategic research at IGES has improved in quality and quantity, and the institute has become actively involved in a number of international networks, through which meaningful impacts have been increasingly generated. In this overall context, IGES has shifted its status to that of a new public-interest foundation in this fiscal year, which requires IGES to be more accountable in comparison to previous years. The efficient and effective operation of the organisation as a whole has become a pressing issue. Against this background, difficulties in acquiring external funds have resulted in annual budget reductions for the first in the IGES history, which may have implications for the sustainability of the institute itself.

The IGES's Integrative Strategic Research Programme for the Sixth Phase has been drafted in an attempt to clearly respond to these short-term challenges as elaborated above, through further improvement and substantiation of IGES's overall performance. Simultaneously, the Sixth Phase programme tries to strengthen a basis for the internationalisation of the Institute over several years to come, keeping in mind the recognition that IGES is an international strategic research institute in Asia based on the spirit of the IGES's Charter. In the future, IGES will extend cooperative relationships with its partners both in Japan and overseas, and work to achieve success steadily toward the achievement of its mission as set forth in its Charter.