

### III. Cooperation

One of the most important philosophies employed in Green Asia is diligent strenuous collaboration, which spans not only inside – outside spheres of Kyushu University but also academic – industrial sectors as well as domestic – overseas relations. We have though that bolstered cooperative ties with those organizations play a crucially significant role in the educational process that we have designed in the Green Asia Program.

The following scheme shows the fundamental assets in terms of those collaborations.

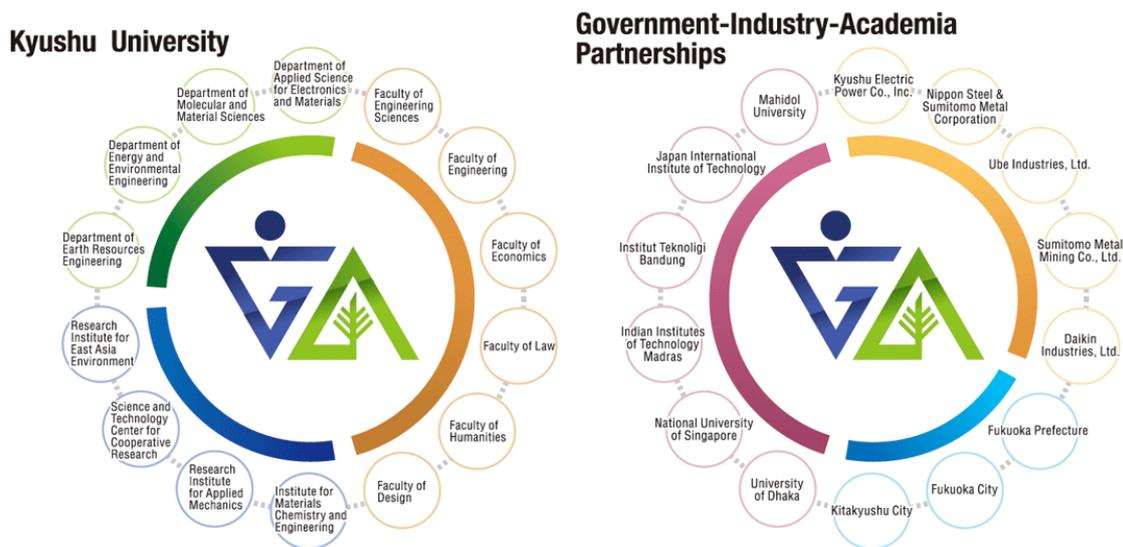


Figure 3-1. Various Collaborative Ties with the Green Asia Program

#### 1. International Cooperation

Although Kyushu University as well as each of the professors committed to this program have affluent world-wide networks, the Green Asia Program has focused on seeking strong, real and concrete partnerships with major universities and institutions in Asia. Thus, we executed MoUs with six partner universities, all of which are top-notch research universities in their respective countries; Mahidol University (Thailand), Malaysia–Japan International Institute of Technology (MJIIT), Universiti Teknologi Malaysia (UTM) (Malaysia), Institut Teknologi Bandung (ITB) (Indonesia), Indian Institute of Technology (IIT) Madras (India), National University of Singapore (NUS) (Singapore), and the University of Dhaka (Bangladesh). We call this our network of “six international core cooperating organizations”.

As tangible forms of cooperation with them, the Green Asia Program annually conducts the following two events:

- International Advisory Board Meeting (IAB Meeting), to which we humbly invite counterpart professors from each of the six alliance universities in order to enhance our collaboration, also obtain meaningful suggestions from them to make the field provided by the Green Asia Program a truly internationalized melting pot from educational point of

view.

- Short Visit; we take Green Asia students in a live spot to experience what is happening in Asia in terms of regional industry, research at local institutions, and real environments. The short visit takes place once a year. We ask one of our allied universities to serve as host for each visit. In FY2012, we visited NUS in Singapore, and additionally, Mahidol University in Thailand. In FY2013, we visited MJIT and UTM in Malaysia. We are thankful that the University of Dhaka has expressed to be willing to host the short visit in FY2014.

### **1.1. First International Advisory Board Meeting**

When the G-COE program “Novel Carbon Resource Science” held the 9th International Symposium on Novel Carbon Resource Sciences on November 1 and 2, 2012, program contributors and department representatives from six core overseas collaborating institutes on this program came to the university and the first International Advisory Board (IAB) Meeting was held at C-cube in Chikushi Campus on November 3 (**Figure 3-2**).

At this meeting, a slide presentation was used to give an overview of the program, forming the basis for an open discussion on the specific contributions that we would want to solicit from the members of collaborating institutes abroad. In particular, the recruitment of international students was discussed. While it is not possible to create fixed slots for collaborating institutes among the 10 international student places (out of the total student capacity of 20 slots) on the grounds of equality, fairness, and transparency of the entrance examinations, from the perspective of capacity a common awareness was reached, whereby it was surmised that it may be possible to accept one person from each institute on the assumption that only the very best students would be recommended.

In addition, a visiting lecturer division was established within the GA Education Center, with staff from collaborating institutes invited by the program to take charge of the practical aspects of this program. In addition, strong expectations were voiced for the development of a framework that would facilitate joint research with Kyushu University.

### **1.2. Kickoff Meeting and Second International Advisory Board Meeting**

On January 25, 2013, the program’s kickoff meeting was held in conjunction with the public forum “Creating a Green Asia.” Representatives from six core overseas collaborating institutes, who are mainly the program contributors, were invited to this meeting to give presentations on their institution’s expectations for the program.

The following day, on January 26, the second IAB Meeting was held at the administrative office of the Chikushi Campus with the participation of the professors invited from the aforementioned six core overseas collaborating institutes and those connected with the program (coordinator Prof. Harada, assistant coordinator Prof. Tanimoto, assistant coordinator Prof. Hayashi, assistant coordinator Prof. Sasaki, Interdisciplinary Graduate School of Engineering Sciences dean and program head Prof. Nakashima, and office staff) (**Photo 3-1**).

MEMORANDUM on  
**What we expect from the overseas cooperative educational institutions in  
 Advanced Graduate Program in Global Strategy for Green Asia (Green Asia)**

We humbly expect some of following things as long as a counterpart institution (or a program participant) recognizes feasible as well as somehow beneficial.

- (1) A program participant from overseas is welcomed to become a member of International Advisory Board (IAB), who is requested to give substantial suggestions to improve the program. The member is courteously invited to IAB that is held once a year.
- (2) We desire that a program participant from overseas helps us to recruit potential applicants to the program at his/ her universities. As the institution level, this may lead to found an inception for the so-called double degree program in the future. A student officially registered to the program averagely benefits 20,000 USD scholarship.
- (3) A program participant from overseas would be asked to become an Overseas Mentor if his/ her concern is close to the theme of a program student, or would be asked to introduce an appropriate expert as an Overseas Mentor among his/ her colleagues.
- (4) A program participant from overseas as well as his/her students are courteously invited to participate International Seminar; called Green Asia Seminar.
- (5) A program participant from overseas may be asked to arrange that the delegate of program students accompanied with professors staying his/ her lab/ department/ school for a couple of days. This is planed as a part of Practical School.
- (6) A program participant from overseas may be asked to accept a program student in his/ her lab for several weeks (or little bit longer) if the student's theme matches with his/ hers.
- (7) We are planning to invite a program participant from overseas as a visiting professor for several months (or much longer) of which expense is fully supported. Or we courteously invite a program participant from overseas as a temporary visiting professor ( perhaps for a several days) to give special lectures. Otherwise we hope to establish a sort of remote-lecture system by using satellite broadcast or broad-band internet with overseas cooperative institutions.

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Concerning the Kick-off Meeting held on Jan. 25<sup>th</sup> 2013

We are planning to invite all overseas program-participants.

- The detail program as well as schedule is under consideration. A program-participant will be informed it in soon. In the current planning, we will have a general lectures opened to the citizen, while, in the afternoon, the Kick-off Meeting officially starts. We will have several anniversary speeches from our president, a highly official of Ministry of Education, and even a Consul as well as Governor if possible. And following that, all program-participants will be decently asked to give a short note, perhaps around 10 minutes, about the issue somehow relevant to what the participants expecting from Green Asia Program as well as general introduction of his/ her own university.
- A program-participant is decently requested to accompany a student to the meeting. We are thinking about to have a connecting event to the meeting on either a prior day (24<sup>th</sup>, Thursday) or a following day (25<sup>th</sup>, Saturday), which would be a some sort of student workshop where the program students (who start the program from this Nov.) have some interactive discussions with students the overseas program participants bringing.

**Figure 3-2.** Handout for the First IAB Meeting



**Photo 3-1.** Participants at the Second IAB meeting

Continuing on from the previous meeting, the main points of discussion were as follows: (1) cooperation in recruiting international students; (2) cooperation in creating a template for short trips, including the visit made to the National University of Singapore at the end of January 2013, and plans to hold such events once or twice a year hereafter; (3) developing a framework for the visiting lecturer division. With respect to item (2), we have obtained promises of continuing support from the respective institutions. With respect to (3), although discussion on this point will continue at the next session, we have implemented a pilot case in which a postdoctoral researcher from Thailand currently at the Interdisciplinary Graduate School of Engineering Sciences has been invited as a visiting lecturer from Mahidol University, with efforts now underway to implement a framework for this relationship. With respect to item (1), the most important of the three, in some cases there are restrictions in sending graduates from collaborating institutes' undergraduate programs overseas due to the various conditions set by universities and countries, and there was a shared awareness that it would be difficult to make unified requests for cooperation. Following this meeting, the program organizers visited the respective collaborating institutes at the end of the 2012–2013 academic year. On this occasion, detailed meetings were held with MJIT director Megat and vice-director in charge of teaching affairs Dr. Sabariah regarding actual procedures. These resulted in the drawing up of a framework for Global 30 entrance examinations to be held at the Interdisciplinary Graduate School of Engineering Sciences and Faculty of Engineering and for selecting course students for this program. Application forms and guidelines have now been uploaded onto our website (**Appendixes 10 and 11**).

### **1.3. Third International Advisory Board Meeting**

In FY2013, we convened the third IAB Meeting on December 1 at Hotel Clio Court Hakata where totally nine professors and staffs from the Green Asia Program and eight professors from overseas partner universities participated. We presented the annual report of what happened in the last year to hear comments from them. Also we discussed what provisions to be taken to deeply cultivate our collaboration. On the way of discussion, the representative from the University of Dhaka expresses to be willing to host the short visit in FY2014. The agenda as well as a participant list and pictures are shown in **Table 3-1**, **Figure 3-2**, and **Photo 3-2**.

**Table 3-1.** Participants List for the Third IAB Meeting

	Name	University
1	Megat Johari Megat Mohd Noor	Universiti Teknologi Malaysia (MJIT)
2	Md. Sekul Islam	University of Dhaka
3	Pervin Suraiya	University of Dhaka
4	Muthuswamy Kamaraj	Indian Institute of Technology Madras
5	Rudy Sayoga Gautama Benggolo	Institut Teknologi Bandung
6	Zeng Huachun	National University of Singapore
7	Taweechai Amornsakchai	Mahidol University
8	Pranee Phinyocheep	Mahidol University
9	Akira Harata	Kyushu University
10	Jun Tanimoto	Kyushu University
11	Junichiro Hayashi	Kyushu University
12	Keiko Sasaki	Kyushu University
13	Yasuyuki Nakao	Kyushu University
14	Bidyut Baran Saha	Kyushu University
15	Aya Hagishima	Kyushu University
16	Hiroshi Furuno	Kyushu University
17	Andrew Mark Spring	Kyushu University

<p style="text-align: center;"><b>The 3rd International Advisory Board Meeting of Green Asia</b></p> <p>Date: Sunday, 1 December 2013, 13:00~ Venue: Hotel Clio Court Hakata, Fukuoka, Japan</p> <p>Agenda</p> <ol style="list-style-type: none"><li>1) Regarding Advanced Graduate Program in Global Strategy for Green Asia, Activities in 2013</li><li>2) Plan of Short Trip for the next year</li><li>3) Application Procedures for Admission to the Green Asia</li><li>4) Others</li></ol> <p>Supplementary Materials</p> <ul style="list-style-type: none"><li>- Green Asia Bulletin 2013 Vol.1 (Provisional copy)</li><li>- A World Away, Kyushu University Promoting Brochure</li></ul>
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**Figure 3-2.** Agenda of the Third IAB Meeting



**Photo 3-2.** Participants at the Third IBA meeting

## **2. Domestic Cooperation**

Yet more than hundreds and thousands collaborations with industry sectors are active in Kyushu University, the Green Asia Program asked six major organizations to participate as domestic partners from the non-academic sphere, which we define “six domestic core cooperating organizations”: Kyushu Electric Power Co. Inc.; Nippon Steel & Sumitomo Metal Cooperation; Ube Industries, Ltd.; Sumitomo Metal Mining Co., Ltd.; Daikin Industries, Ltd.; and several municipal governments under the joint project of Green Asia International Strategy by Fukuoka Prefecture, Fukuoka and Kitakyushu cities.

A wide range of cooperation has been realized, as concretely described in the next section, and is expected to keep our win-win relationships sustainable. One of the typical examples is that some of the firms are willing to offer comprehensive opportunities in which Green Asia students can observe domestic production lines at a factory of the firm, active mining spot; those are followed by connecting active overseas spots in a short visit. Another example is that some key engineers, industry researchers, and practitioners are invited to give special lectures to Green Asia students through the framework provided by the Green Asia Afternoon Colloquium.

### **2.1. Meeting with Cooperative Companies and Local Governments**

A lunch meeting was held as part of the kickoff event staged on January 25, 2013. Until then, all meetings and coordination with the six domestic core collaborating institutes had been conducted on an individual basis through the program contributors, and this was the first occasion on which the various parties came together under the same roof. Unfortunately, not all collaborating institutes could attend, but the following framework devised by the key program members and representatives will form the core of future collaboration.

- 1) Using the short visit to Singapore (including a site visit to Mitsui Phenol Singapore, which is not a domestic core collaborating institute) and the short visit to Thailand (including a site visit to UBE GROUP (THAILAND)) conducted during the 2012–2013 academic year, potential hosts for visits during the program’s overseas training sessions were considered.

- 2) With respect to strengthening collaboration between Fukuoka Prefecture, Fukuoka City and Kitakyushu City, possibilities for jointly planning and holding public forums and other events to generate wider awareness of the educational and research aspects of the “global strategy for Green Asia” were examined.
- 3) Possibilities for cooperation and collaboration relating to the implementation of educational programs were reviewed, such as having the program coordinators become involved in guiding students as mentors or in cooperating and giving advice on the implementation of the Practice School, and sharing the essence of employee training within companies as special part-time lecturers and special guests at other events.

## **2.2. Discussions on Cooperation with Individual Companies, the Prefecture, and Cities Mediated through the Program Coordinators**

As stated in the previous section, from the initial program application onward, all contact and coordination with domestic core collaborating institutes has been conducted between the program coordinators at the university and those at the domestic core collaborating institutes. With respect to future collaboration, a framework will be developed based on the articles set out in the previous section. With respect to collaboration with collaborating institutes, there has been a gap in the degree of collaboration between the institutes that have actually cooperated in short visits for overseas training and those that will launch collaborative activities in the future since this program has just been launched.

- Kyushu Electronic Power Co., Inc.
- Nippon Steel and Sumitomo Metal Corporation
- Ube Industries, Ltd.
- Sumitomo Metal Mining Co., Ltd.
- Daikin Industries, Ltd.
- Green Asia International Strategic Comprehensive Special Zone (Fukuoka Prefecture, Fukuoka City, and City of Kitakyushu)

## **3. Successful Working Practice with Partners**

### **3.1. Short Visit to Singapore**

This practice was conducted in cooperation with the Global COE (G-COE) program, as Mitsui Chemicals, Inc. has a partnership with the G-COE. Such an organic linkage between the Green Asia Program and the G-COE Program as a precursive education program can produce material results successfully.

Section 3.3.(b) in Chapter II has more information on this point.

### **3.2. Short Visit to Thailand (FY2012)**

We visited to Mahidol University and UBE GROUP (THAILAND), and they are core cooperating organizations in the Green Asia Program. From this point forward, we will use this practice as a template of cooperation with partners. It may be significant that we could achieve such

satisfactory results for corporation within tight time constraints.

Section 3.3.(c) in Chapter II has more detail on this point.

### **3.3. Short Visit to Malaysia**

When the short visit to Malaysia in FY2013, we visited a factory of Malaysian SH-Electronics Sdn. Bhd., which locates in outskirts area of Kuala Lumpur, where we could see a real backyard of live factory producing ICs, base-boards of ICs and various high-tech stuffs. The firm is one of the subsidiary companies of Sumitomo Metal Mining Co., Ltd. Prior to the short visit, Sumitomo Metal Mining Co., Ltd. organized for us to experience another live spot, connecting to the factory. That is an opportunity to visit Hishikari Mining in Kagoshima Prefecture, which is one of the biggest active gold mines in Japan.

Section 3.3.(d) in Chapter II has more on this point.

### **3.4. Short Visit to Thailand (FY2013)**

Because of political unrest in Bangkok, we had suspended to visit Mahidol University, Thailand in FY2013, and have suspended so far. In the plan of the short visit, it was scheduled to visit a local factory of Daikin Industries, Ltd. This is also coupled with visiting a domestic relevant factory as the case of the short visit to Malaysia. In fact, Daikin Industries, Ltd. provided us with a wonderful opportunity to visit one of its major factories, Shiga Factory, where we could see various live activities such as quality control, educational activity, international training, and others in an actual factory producing air-conditioners for industrial as well as home use.

Section 3.3.(e) in Chapter II has more information on this point.

## **4. Cooperation with the Global COE Project**

The G-COE Program “Novel Carbon Resource Science” has been run for five years since 2008 by the Interdisciplinary Graduate School of Engineering Sciences (IGSES), the Institute for Materials Chemistry and Engineering (IMCE), and the Graduate Schools of Engineering, with Prof. Nagashima acting as a representative for the IMCE. G-COE is a MEXT/JSPS project that provides support for education in doctoral programs and the global cutting-edge research associated with these programs. Whereas the Green Asia Program is an integrated master’s/doctoral degree program, the CAMPUS Asia Project “Collaborative Graduate School Program for Global Human Resources Development in Energy and Environmental Science and Technology,” which has been run as a separate five-year project since the 2011 academic year at the IGSES, is a double-degree program for master’s degrees. In this way, although it is a comparatively small educational organization, Kyushu University’s Chikushi Campus boasts pioneering master’s, integrated master’s and/or doctoral, and doctoral programs, all of which exist in parallel. In this sense, it functions as an experimental incubator for the creation of a center for graduate school education not seen at other universities.

Doctoral programs by their very nature require an underpinning of pioneering research. Ideally, the development of educational programs and curricula, as well as the establishment of effective

domestic and overseas collaborations require the proactive incorporation of knowhow from previous successful experience. This entails tailoring curricula in an organic fashion according to the circumstances by sharing curricula with other collaborating programs, for instance. In fact, the Green Asia Program is being conducted in collaboration with the aforementioned G-COE in a pragmatic and organic manner.

For example, within this program, as part of the requirements for completion of integrated master's and doctoral degree work, students need to obtain 77 credits over 5 years, a much larger number of credits than in traditional graduate schools (where the master's course may require 30 credits and the doctoral course 10). In addition, to obtain these credits, students have to undertake not only traditional classroom-based coursework in the form of lectures and seminars, but also a series of real-life activities that teach them practical skills and multifaceted perspectives, such as short-term visits, corporate internships, and planning and running international conferences. To ensure that such curricula prove to be fruitful, the program must be effectively designed in terms of the details of each lecture and seminar, and constant review and revision of content is necessary through ongoing plan-do-check-act (PDCA) cycles. Given these considerations, a monitor student system has been put in place as part of this program, mainly deploying the aforementioned G-COE course students. In fact, by having doctoral course students—who have been appointed as monitor students after passing a qualifying examination—take newly developed lectures and seminars under this program in advance, it becomes possible to gauge the efficacy of these programs. At present, we are focusing on humanities and social science courses, which are among the featured aspects of this program, as well as courses aimed at developing language skills and events related to international activities, and are striving to gain a quantitative understanding of the educational effects of each of these by having monitor students take them (either in advance of or at the same time as course students).