

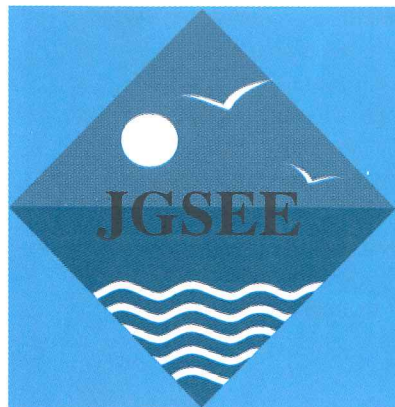
JGSEE NEWSLETTER

The Joint Graduate School of Energy and Environment

King Mongkut's University of Technology Thonburi

91 Pracha Uthit Rd., Bangmod, Tungkru, Bangkok 10140 THAILAND

Vol. 1 No. 1 January - February 2001



Why This Newsletter?



After two years of existence, we, at JGSEE, feel that we should have some kind of media to publicize our activities and progress. The idea is to bridge the gap of information between us and other people around us, including those who might be interested to know of our activities. In short, the objectives of the JGSEE Newsletter are two folds :

First, to give information on our current status and activities, including developments and achievements over the time.

Second, to present topics of current interest in the areas of energy and environment.

We do hope that the information and articles conveyed through this Newsletter would be of interest to many people, and serve to create a better understanding of our activities and issues.

Thanks go to a number of JGSEE and KMUTT staff who assisted in the production of this Newsletter. As we always search for continuous improvements in what we do, any comments and suggestion would be very much welcomed.

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**JGSEE Newsletter is edited and published by
The Joint Graduate School of Energy and
Environment**

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Vision and Mission of JGSEE

Background

Shortage of skilled personnels and local technological capabilities which hamper the development of the country industry is quite well known. Past attempts to remedy the problems through normal means were met with little success, the major obstacle being the slow, inefficient and ineffective government systems.

In 1992, the government through the Ministry of University Affairs, took a new initiative to strengthen graduate education and research, by setting up a project on the formation of centers of excellence. It was to be funded by the Asian Development Bank (ADB) with objective to uplift the quality and standards of graduate education and research. Further, in order to ensure that the project was not held up with the inefficient government procedures, direction was set for the centres to be autonomous in management and decoupled from the government system.

To implement the project, government universities were encouraged to form into several consortiums and submit their project proposals along the set guidelines to MUA for selection in 1994. After one and a half year of selection processes, seven consortiums were qualified. They consisted of Chulalongkorn University, Mahidol University, Kasetsart University, Chiang Mai University and King Mongkut's University of Technology Thonburi as leaders. However, due to financial crisis in 1997, implementation was delayed until late 1999 when the loan agreement was signed.

KMUTT Consortium

There are five members in the consortium, i.e. King Mongkut's University of Technology Thonburi (KMUTT), King Mongkut's Institute of Technology North Bangkok (KMUTNB), Prince of Songkhla University (PSU), Chiang Mai University (CMU) and Sirindhorn International Institute of Technology of Thammasat University. They have been working together since 1998 in drafting the proposal and subsequent management structures and regulations for the operation of the project. During the delay period, alternative source of funding was sought from the National Energy Policy Office (NEPO), and a grant of 145 million baht was obtained for 5 years operation. The grant, later on was integrated into the ADB project as the source of funding from other sources which is required by the project terms of references. In implementing the project, The Joint Graduate School of Energy and Environment was set up by KMUTT council late in 1998 to function as the project implementation unit.

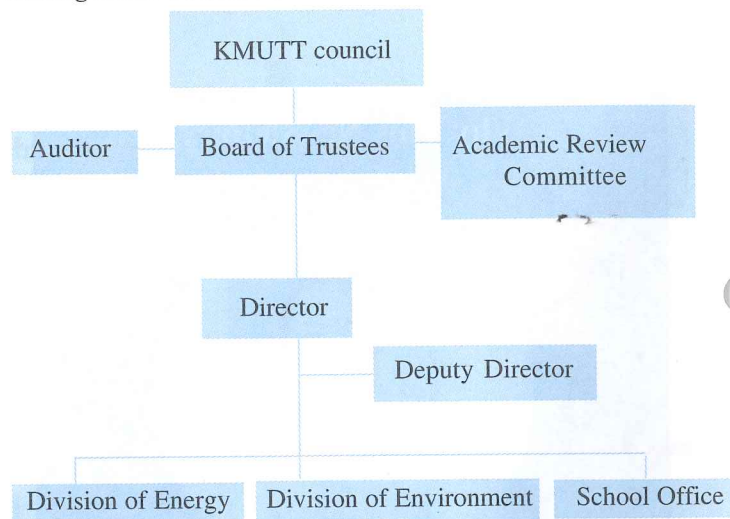
Vision and Mission

Under the framework of the project agreement, JGSEE aims to be one of the centers of excellence in postgraduation and research in the fields of energy and related environment technology. To advance towards achieving the goal, several controlling measures and guidelines are set up to ensure high standard activities and outputs. Careful selection of students, staff, and the

provision of good and adequate facilities, together with good management practices are some of the elements built into the operating system to assure that the implementation meets the standards and expectations. Research outputs are also important that they should be of international standard. In this regard, requirements are set for the students to have their research results published in accredited international journals.

During the project 5 years period, the school mission is to produce 360 M. Phil, and 45 Ph. D. graduates with expected publications of 200 articles each in international and local journals.

Management Structures



As shown in the above chart, the management of JGSEE is under the control of KMUTT council and The Board of Trustees which has an Academic Review Committee as its academic advisor. A director is appointed by the council to manage the school activities, which are virtually separated from KMUTT, including education, financial and personnel matters. The above set up which has been approved by various authorities, can be seen to be substantially different from existing government universities. The purpose is to strengthen the management which would hopefully lead to improvement in postgraduate education and research as planned.

Future Ahead

The grants from NEPO and ADB will terminate in 3-4 years time. To sustain the operation after that, we need to consolidate our position the soonest, so that we can make plans for the future. We understand very well that the money has to be spent wisely and productively, because it is the public's tax money. With strong and effective boards, and hard-working staff behind us, we are determined to take the challenge and make the money worth.



JGSEE from Start to Present

Since inception in September 1998, the Joint Graduate School of Energy and Environment has come a considerable

distance. To attain the position that we are now, we had to face many and many obstacles on the way. We started off practically with only one room, 8x8 m., and one clerical staff on loan from KMUTT. The money used for preparation activities, such as the drafting of various rules and regulations, etc., was also borrowed from KMUTT. Approximately one month before the first admission of 7 students, 4 administrative staff were recruited to assist in the management of the program. However, the time allowed then was so short that the first faculty was contracted several months afterwards. Teaching during the first semester was done by invited lecturers and professors from outside JGSEE. As time progressed, we slowly built up staff and facilities, and accepted increasing number of students. The pace of development had not been very fast due to limitation in the operating areas.

From the middle of 2000, development has been more rapid after we have been allocated more space from KMUTT. We now have a library, several laboratories, a seminar/meeting room, a student working room, computer network with internet connection to service 4 academic staff, and 71 students.

Yes, we have come a fair distance. The work ahead to achieve the target and objectives is a challenge to every one of us.

Facts and Figures about JGSEE

JGSEE is the implementation unit of the KMUTT's project on Postgraduate Education and Research in Energy and Environment. This arrangement had been approved by the consortium members and the KMUTT council before the project was submitted to the Ministry of Universities and the Asian Development Bank for funding. This fact was again reflected in the subsequent approval of the university council on the setting up and management of the Joint Graduate School of Energy and Environment at KMUTT. For over 2 years of operation, JGSEE has followed the management guidelines set by the council, including the requirement for JGSEE to send to KMUTT, 5% of the school and tuition fees to cover KMUTT's expenses. The amount is in addition to electricity, telephone and internet costs. In the current financial year, the payment will also include space-cleaning cost when JGSEE has received most of the floor areas allocated for her. Not only these direct payments, KMUTT also receives indirect benefits from JGSEE operation. Some of these are:-

1. For every student sent to KMUTT to carry out thesis work, he will be accompanied with 150,000 or 250,000 baht research grant depending on his level of study. Out of this amount, KMUTT will receive ten percents per student, the rest goes to research expenses, including supervisor honorarium.
2. For over 2 years of existence, JGSEE has made available its variety of resources for KMUTT use—mostly the School of Energy and Materials and the School of Bioresources, for example:-
 - The permission of a JGSEE information scientist to perform the duty of the librarian of the School of Energy and Materials for 1 year and 6 months. JGSEE also supported the cost of newspapers and made available some of her equipment and materials including some books purchased during this period.
 - The permission of SEM and other KMUTT students and staff to use JGSEE library.
 - The permission of a JGSEE staff to be a special lecturer for a certain subject at

SEM, including the duty of thesis supervision of some students.

- The permission of some students from SEM and the School of Bioresources to use JGSEE computers and internet facilities, including LCD projector.
- The organization of several short technical seminars for several SEM staff in the use of some specialized equipment.
- The consultancy service given to the School of Bioresources in the specification of air-conditioning and cold room systems.

We do hope that the information given would help everybody concerned to have a clearer picture of JGSEE, and if we could be of any service, please let us know.

The 6th International Conference "Acid rain 2000"

10-16 December 2000, Tsukuba,
Japan



Prof. Dr. Vladimir Bashkin

The alarming spread of acid rain through East Asia is considered by scientists to be one of the major environmental problems of the new millennium, so much so, that the 6th International Conference on Acid Deposition was recently held in Japan in December 2000. These conferences are major events bringing together scientists involved in acid rain research from around the world; the last attracts some 600 delegates, including most international experts in the field. This is the first time that the conference has been organized on Asian soil (the last conference was held in Sweden in 1995), in recognition of the growing problem

of acid rain in East Asia.

The main sessions were devoted to emissions and their control, wet and dry deposition, biogeochemical cycles and effects on terrestrial and aquatic ecosystem, on materials and cultural properties, application of models for evaluating ecological effects, analytical methods and monitoring of acid rains, scientific approaches to environmental education. The scientific reports from 38 countries were related to both global and regional studies. **The Thai scientists have presented 5 oral and poster papers and 3 papers have been presented from JGSEE.** The great interest from Asian and worldwide colleagues was connected with the estimating critical loads of acidity on Thai terrestrial ecosystems and comparison these national values with those calculated by international research team from International Institute of System Applied Analysis (IISAA), Austria, using RAINS-ASIA model. The report was presented from JGSEE and SEM KMUTT.

It is well known that RAINS-ASIA is the impact assessment module, which is widely applied for various Asian countries for estimating different scenarios of sulfur and nitrogen oxide emissions. These scenarios are based on usage of various fossil fuels by comparison of present and predicted deposition with critical loads of acid-forming compounds on ecosystems. This first version of this model included only international data on critical loads and the new revised version will include both national Thai critical load data and international ones. This is one of the first international recognition of scientific research carried out in JGSEE and this co-operation should be enlarged during mutual research exchange between IISAA and JGSEE in the future.

What's going on around JGSEE ?

New Academic Staff

Since December 2000, two persons have joined JGSEE to serve in academic divisions as follows.

1. Dr. Chumnong Sorapipatana, a former graduate of the Prince of Songkhla University and the Asian Institute of Technology, became a faculty of the Energy Division on December 1, 2000. He was also appointed acting chairman of the division. His past experience totals more than 15 years with universities and industries. Solar, wind and atmospheric science are some of his interested areas.

2. Dr. Suwannee Asavakulchai, who is a Ph.D. graduate of Mahidol University and D.Tech. Sc. graduate of AIT, joined JGSEE on January 3, 2001. Previously, she has been with a number of firms and organizations, including Mahidol University, and CIBA-GEIGY. She is attached to the Environment Division with research interests in geographical information systems and satellite image applications.



Dr. Chumnong Sorapipatana



Dr. Suwannee
Asavakulchai

They will surely add strength to the JGSEE work force in the academic departments.

JGSEE Conference has been a Success

We are happy to report on the outcome of the Regional Conference on Energy Technology towards a Clean Environment, by which JGSEE was the organizer.

The Conference was held at the Empress Hotel, Chiang Mai, during 1-2 December 2000.

112 participants attended the meeting. Out of the total, 72 came from Thailand and the remaining were from Japan, China, Hong Kong, Singapore, Brunei, France, Canada, etc. Altogether, there were 80 papers presented at the meeting, with 53 having energy related topics. The results of evaluation conducted by JGSEE staff indicated satisfactory outcome. Thanks are due to those committees and people involved in the organization of this conference. Gratitude is also offered to the National Energy Policy Office, Sirindhorn Institute of Technology and the National Scientific and Technological Development Agency for their financial support. Till we meet again in 2 years' time.

Official School Holidays for 2001

Under direction from the Board of Trustees, JGSEE official holidays will be slightly changed from the previous years. Being a non-government organization, the Board felt JGSEE should follow the private sector practice in this matter.

As a result, the official holidays for 2001 will be as follows:

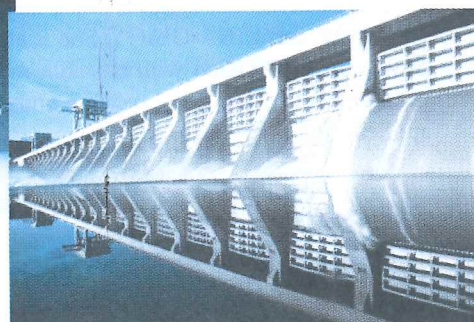
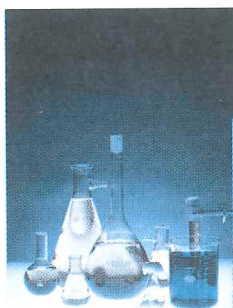
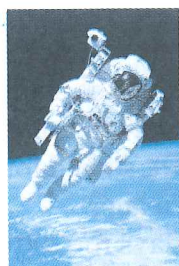
January	1, Monday	New Year's Day
	2, Tuesday	New Year's Day
February	8, Thursday	Makha Bucha Day
April	6, Friday	Chakri Day
	13, Friday	Songkran Day
	16, Monday	Songkran Day
May	1, Tuesday	Labour Day
	7, Monday	Visakha Bucha Day
	8, Tuesday	Coronation Day
July	6, Friday	Buddhist Lent Day
August	13, Monday	H.M. The Queen's Birthday
October	23, Tuesday	King Chulalongkorn Memorial Day
December	5, Wednesday	H.M. The King's Birthday
	10, Monday	Constitution Day
	31, Monday	New Year's Eve

Library Spending for 2000



In the financial year 2000, which has just passed, facility spending for JGSEE library reaches a record figure of 1.55 million baht. Out of this total figure, 0.99 million baht was spent on books alone. It can be said that JGSEE has now quite substantial collection of books in energy and environment areas. This is the reason why the library receives many users from neighboring faculties and schools, including visitors from outside KMUTT. In this connection, it should be mentioned that recently the library has subscribed one of the very sought-after journal in atmospheric pollution to support research activities on the areas in the school.

A New Master Degree Program



Following the recent JGSEE Board of Trustees' decision, a new master degree program is to be offered in the next 2001 academic year. If approved by the KMUTT's Council, the course will be an alternative to the current M.Phil course. The degree name will remain unchanged, but the new course structure will be substantially deviated from the existing one. The major differences are the number of course credits given to dissertation, compulsory and elective subjects. The new scheme, as compared with the current M. Phil program can be summarized as follows: -

	Existing Program	New Alternative Program
Degree	M. Phil	M. Phil
Total credits	40	40
Dissertation	27	21
Compulsory subjects	7	10
Electives	6	9
Admission requirements	1. Honoured first degree, <i>or</i> 2. GPA not less than 3.5 for applicants with post-graduate diploma qualifications. <i>or</i> 3. First degree graduate with top 10% placement or top 25% placement with technical publications.	1. GPA from 2.75 upwards <i>or</i> top 25% in his own class <i>or</i> 2. Others who qualify through the Executive Committee's decision.
Language requirements	English language competency.	No change
Publication requirements	One technical paper in international journal or 2 papers in national journal or international conference	One technical paper each in national journal and international conference proceedings.

If the new program is allowed to go ahead as planned, it is expected to attract a good number of applicants of above average standings, especially those from government related agencies and consultancy firms.

Deputy Permanent Secretary of MOU Visited JGSEE

On November 23, 2000, the deputy permanent secretary of the Ministry of University Affairs-- Professor

Songkram Loungtongkham, together with the ADB project director, Dr. Chaiwat Konching, and his team, visited JGSEE to monitor the progress of activities. The group was welcomed by the director and deputy director of JGSEE and briefed on the situation relating to programs, students, staff and budget spending.

Problems were also highlighted during the meeting, especially the space shortage, which the deputy permanent secretary and project director expressed some concerns over the issue, and intended to follow up the matter with the KMUTT president.

Computer Facilities Development

To cope with expansion of the number of users, the IT Section in the Technical Support Division of JGSEE has made a number of improvements and plans during the last few months.

Firstly, the students' computer room has been moved to a new location with more space. Secondly, connection of the networks has been extended to the third and eleventh floor to accommodate new users in the Energy and Environment Divisions. Thirdly, the JGSEE website is being studied for possible improvement. Finally, the overall system is under investigation for updating on the software and server to match with the increasing demand.



Co-operation between JGSEE and Consortium Universities.

Five universities in the consortium, namely KMUTT, KMITNB, CMU, PSU and SIIT manage JGSEE through memberships in the Board of Trustees. The Board determines the policy directions of JGSEE, and appoints a director to manage all the activities in JGSEE. In addition, each university also put forward a number of qualified staff to be affiliated with JGSEE. Their duties are mostly concerned with thesis supervision of JGSEE students. Presently, there are over 60 affiliated staff on JGSEE list. They supervise altogether 39 students as compared to 20 students who are supervised by JGSEE contracted staff. Research student distributions among the consortium members are as follows.

	M.Phil students	Ph.D. students
JGSEE	6	14
KMUTT	8	11
KMITNB	1	1
CMU	4	3
PSU	4	2
SIIT	2	3

Thesis expenditures for every student are catered for by JGSEE at the rate of 150,000 baht, and 250,000 baht for M.Phil and Ph.D. students respectively. Further to that, another 4% of the school and tuition fees is also sent to the host university to cover other expenses.

Last semester, a new arrangement has been formulated to enhance an even closer relationship. The scheme involves the permission of students in the consortium to enrol in any subject seen appropriate in anyone of the collaborating universities at an ordinary fee and earn credits for them.

The Joint Graduate School of Energy and Environment (JGSEE)

Operates under 5 universities collaboration :

KMUTT, KMITNB, CMU, PSU, SIIT-Thammasat

With financial assistance from NEPO and MOU under a loan program

Invites applications for admissions to
M. Phil and Ph. D programs in Energy and
Environment for 2001 intake

M.Phil program - 1½ year with 40 total course credits

Ph.D program - 2½ year with 55 total course credits

Tuition fee 2,500 baht/ credit and school fee 24,000 baht/ semester

Scholarships are available for potential candidates.

Commencement date for first intake, 4 June, 2001

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General Statistics (As of semester 1/2000)



Number of students	<u>61</u>	
Master level	25	
Doctor level	<u>36</u>	
Energy field		21
Environment field		<u>40</u>
Number of academic staff	<u>66</u>	
JGSEE staff	2	
Affiliated staff from consortium	<u>64</u>	
Number of non-academic staff	<u>19</u>	
Technical staff	8	
Non-technical staff	<u>11</u>	
Number of computers	<u>28</u>	
Ratio of students to non-technical staff	5.5 : 1	
Ratio of students to technical staff	7.6 : 1	
Ratio of students to JGSEE staff	30.5 : 1	
Ratio of students to computer PC	6.8 : 1	
Number of publications	<u>5</u>	
International journal	1	
Conference proceedings	<u>4</u>	
Budget spending	12.86	million baht



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