

JGSEE

The Joint Graduate School of Energy and Environment



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Consortium involving five leading institutions

CENTER OF EXCELLENCE ON ENERGY TECHNOLOGY AND ENVIRONMENT



JGSEE Newsletter

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After 15 years of existence, the Joint Graduate School of Energy and Environment - Center of Excellence on Energy Technology and Environment (JGSEE-CEE) has entered into a new era of internationalization.

Last year, in 2012, several overseas collaborations were strengthened through academic activities. A Collaborative Research Laboratory involving the National Institute for Environmental Studies (NIES, Japan), the Faculty of Engineering at Kasetsart University and JGSEE-CEE at KMUTT – was launched. Collaborative research activities were initiated on landfill gas and waste management and various events organised including a Joint Workshop on “Electronic Waste” that was held in collaboration with the Center of Excellence on Hazardous Substance Management (HSM), Chulalongkorn University. Three advanced training events targeting relevant Master and PhD students as well as experienced researchers were also conducted, including, a Thai-German Advanced Training on “Renewable Energy” organized in collaboration with HTW Berlin and supported by DAAD, a Franco-Thai Summer School on “Bio-Energy Technology and Assessment” organized with support from the French Embassy, CIRAD and NSTDA, and a Thai-Japanese Summer School on “Energy Efficiency” conducted in collaboration with Kyoto University and the Center of Excellence on Petrochemical and Materials Technology (PETRO-MAT). In addition, MOUs between JGSEE-CEE and several Universities in the Asian region were secured, including with Hallym University in Korea, and Diponegoro University and Sriwijaya University in Indonesia.



Message from the director

JGSEE also played a key role in energy and climate research with high impact and relevance to national strategies. These include contributions to the “Research Master Plan on Energy Conservation”, which was reported to the Ministry of Energy, “Measurement, Reporting and Verification (MRV) in the Waste and Agricultural Sectors”, which was reported to TRF, and the “Thai-German Programme on the Energy Efficiency Development Plan (TGP-EEDP)” that was conducted as part of a GIZ project. Research focused activities at the Level of the ASEAN Region were also initiated including the “Biomass STI Policy for Thailand in the Context of AEC”, the “Preparation of Thailand’s Readiness Towards AEC on Energy Efficiency and Conservation” and more recently a project supported by the United Kingdom Research Council to work on “Effective Energy Efficiency Policy Implementation Targeting New Modern Energy CONsumers in the Greater Mekong Sub-region”.

With its long time work experience in the field of energy and environment, I am pleased to inform our readers that JGSEE’s achievements have been recognized and acknowledged beyond national boundaries. Thus, for instance, JGSEE-CEE was selected by the Thailand Toray Science Foundation to receive the 2012 Science and Technology Awards for “Outstanding Science and Technology Research Institute”. Also, the Environment Department of the school was awarded by the Thailand Research Fund (TRF) as the Top Performer of the “Environmental Technology and Forestry” Sub-cluster for the year 2011, with the rate of “Excellent”.

Fifteen years of experience in energy and environment is not such a long time when compared to the past decades of crisis and increasing challenges the world has been facing with regard to energy security and climate change. However, JGSEE-CEE shall continue to its best serving society and maintaining the high quality of both the collaborative research activities it is involved in and the competency of the human resources it is responsible to produce. This effort is to be sustained in line with international standards so as to cope with the establishment of the up-coming ASEAN Economic Community (AEC) and global development in the future.



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Outstanding Contribution

JGSEE-CEE receives the 2012 Science and Technology Award for Outstanding Science and Technology Research Institute



JGSEE-CEE is very proud to have received the 2012 Science and Technology Award for “Outstanding Science and Technology Research Institute” from the Thailand Toray Science Foundation. The award was remitted to Assoc Prof Dr Sirintornthep Towprayoon, Director of JGSEE, by His Excellency Gen. Surayud Chulanont on 18 February 2013 at the occasion of the 19th Presentation Ceremony of Thailand Toray Science Foundation’s Awards and Grants that was held at Park Nai Lert Hotel in Bangkok.

The Thailand Toray Science Foundation was established in 1993 via cooperation between the Toray Industries, Inc. (Japan) and Toray Group Company in Thailand. The aim of this foundation is to support the progression of science and technology in Thailand. Each year the foundation gives awards and grants to outstanding scientists, institutes and researchers in Thailand.

Contribution to International Organization

Contribution to Myanmar’s Second Green Economy and Green Growth Forum and Capacity Building Workshop

Assoc Prof Dr Sirintornthep Towprayoon and Dr Nattapong Chayawatto were invited as regional partners by the Stockholm Environment Institute – Asia (SEI-Asia) to the Myanmar’s Second Green Economy and Green Growth Forum and Capacity Building Workshop that was held during 13-15 November 2012 at the Myanmar International Convention Center in Nay Phi Taw.

The Second Green Economy Green Growth Forum entitled “Moving Forward” focused on how to promote and implement green economy, green growth and strengthen capacity building. These aspects were introduced and debated via presentations, group discussions and sharing of experiences.

Drs Sirintornthep and Nattapong contributed to the event with a presentation on “The Planning for Low-carbon Pathways: LEAP (Long-range Energy Alternative Planning system) Modeling” for the case of Thailand.



ASEAN Research Center on Integrated Energy & Environment

Assoc Prof Dr Sirintornthep Towprayoon and Assoc Prof Dr Navadol Laosiripojana were invited by Sriwijaya University in Indonesia, to provide their contribution to a final consultation meeting on the establishment of an ASEAN Research Center for Integrated Energy and Environment as well as an ASEAN Doctorate Program.

The event, which took place during 20-21 December 2012, gathered representatives from many ASEAN universities including, JGSEE-CEE (Thailand), the National University of Singapore (Singapore), the National University of Malaysia (Malaysia), the University of Santo Tomas (Philippines), and several universities in Indonesia, including, the University of Diponegoro, the Sepuluh Nopember Institute of Technology, the University of Indonesia, Gadjah Mada University, the University of Sumatera Utara and the University of Sriwijaya.

Contribution to Research Arena

Low Carbon Asia Research Network (LoCARNet) - First Annual Meeting



The Institute for Global Environmental Strategies (IGES) in collaboration with the National Institute for Environmental Studies (NIES), the Thailand Greenhouse Gas Management Organization (TGO) and the Joint Graduate School of Energy and Environment (JGSEE-CEE) successfully organized the first annual meeting on “Low Carbon Asia Research Network (LoCARNet): Mobilising Wisdom for a Low-carbon Asia”. The event was held during 16-17 October 2012 at Novotel in Bangkok.

The opening remarks were presided by Mr Supachai Watanangura (Board of Directors of TGO) and Mr Soichiro Seki (Director General, Global Environment Bureau, Ministry of Environment, Japan) while Dr Shuzo Nishioka (Executive Director, NIES, Japan) introduced the LoCARNet

LoCARNet is a knowledge-sharing network of researchers and relevant stakeholders who are deeply involved in domestic policy-making processes, being aware of the importance of facilitating the realisation of a low-carbon and sustainable society, as well as looking at the formulation and better enabling implementation of science-based policies for low-carbon development in the region. Seeking to contribute to sound science-based low-carbon policy in the region, the annual meeting aimed at stimulating the exchange of up-to-date scientific knowledge on common low-carbon growth research topics in the region. The meeting gathered over 120 participants from the academic sector, as well as representatives from the private and government sector.

Collaborative Research Laboratory on Waste Management in Asian Countries

The National Institute for Environment Studies (NIES, Japan), the Joint Graduate School of Energy and Environment (JGSEE-CEE/KMUTT) and Kasetsart University (KU) organized the “Commemorative Seminar for Establishment of Collaborative Research Laboratory in Thailand” on 18 December 2012 at Century Park Hotel in Bangkok. This collaborative research laboratory aims at implementing joint research activities as well as providing capacity building to relevant stakeholders through seminars and workshops on aspects related to waste management in Asian countries.



Welcome and Appreciation Remarks were given by Assoc Prof Dr Bundit Fungtammasan, Vice President for Research, KMUTT and Assoc Prof Dr Wiboon Chongrattanameeteekul, Deputy Director for Academic Affairs, International Studies Center, KU.

Opening remarks and introduction to the seminar program were delivered by Dr Masahiro Osako, Director of the Research Center for Material Cycles and Waste Management, NIES. The NIES-JGSEE/KMUTT-KU Collaboration Research Laboratory was introduced by Dr Masato Yamada, Senior Researcher at the Research Center for Material Cycles and Waste Management, NIES.

The seminar was a success gathering over 80 participants from the academic sector, as well as representatives from the private and government sector.

Contribution to ASEAN Community

MOU and MOA with Diponegoro University (Indonesia)



Prof Dr Ir Purwanto, Head of Graduate Program on Environmental Studies from Diponegoro University (Indonesia), visited JGSEE-CEE on 14 February 2013 to discuss the memorandum of understanding (MOU) and memorandum of agreement (MOA) to initiate a dual-degree master program between the two organizations. The event was very successful, with over 30 Indonesian academics and students visiting the school and interacting with JGSEE staff.

Potential Collaboration with Universities in Japan

During 22-26 October 2012, along with KMUTT International Affairs, Assoc Prof Dr Navadol Laosiripojana visited the University of Tsukuba, the Yamaguchi University, the Kyushu University and the Kagoshima University in Japan to discuss possible research and academic collaborations. A discussion on developing an exchange student program between JGSEE-CEE and Kyushu University as well as Kagoshima University was initiated at the time.

Experience on Landfill Gas Utilization Shared at the 2nd ASEAN-SCSER (SCNCER) Seminar and Workshop 2013



Assoc Prof Dr Sirintornthep Towprayoon, Dr Boonrod Sajjakulnukit and Dr Komsilp Wangyao from JGSEE-CEE were invited by the Research Center for Electrical Power and Mechatronics of the Indonesian Institute of Sciences (LIPI) to share their expertise on landfill gas utilization for energy purposes. They provided a series of lecture on this topic as part of the 2nd ASEAN-SCSER (SCNCER) Seminar and Workshop 2013 on "Capacity Building on Landfill Gas Utilization in ASEAN" that was held during 5 – 7 March 2013 at the Ciputra Hotel, Jakarta, Indonesia.

This event was supported by the Japan-ASEAN Integration Fund (JAIF) and organized by LIPI with the main objective of providing manpower training in the field of landfill development and management as well as landfill gas utilization. Participants of this training workshop consisted of 20 persons including experts from Indonesia, Malaysia, Singapore, Philippines, Myanmar, Lao PDR and Thailand.

MOU Signing Ceremony with Hallym University (Korea)



On 30 November 2012, Prof Dr Seung-Do Kim, Director of the Research Center for Climate Change, Division of Environmental Science and Biotechnology, College of Natural Sciences, Hallym University (Korea) and Assoc Prof Dr Sirintornthep Towprayoon, Director of JGSEE-CEE, signed a Memorandum of Understanding for research collaboration in the fields of climate change and energy with particular focus on Fluorinated gases, GHG emissions from waste management, and bio-coke. Via this MOU, the future collaboration between Hallym University and JGSEE is expected to enable stimulating exchange of scientists and students, joint organisations of workshops and conferences, and the implementation of joint research projects. At the occasion of this MOU signing ceremony, a special lecture was delivered by Prof Kim on "Regular Fugitive Emission Characteristics of HFC 134a from Mobile Air Conditioner (MAC) of Korea-Made Passenger Vehicles in Korea".

Contribution to Knowledge Platform

Energy Data Monitoring and Management Training



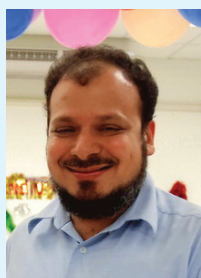
JGSEE-CEE in collaboration with GIZ organized a training event on "Energy Data Monitoring and Management" on 9 January 2013 at KMUTT in Bangkok. This training was organized as part of the activities of the GIZ Thai-German Programme on the Energy Efficiency Development Plan (TGP-EEDP), with focus on energy data management. The TGP-EEDP Energy Data Management project was presented by Dr Milou Beerepoot, a Visiting Professor at JGSEE. The ISO 50001 approach for energy data management at the company level was presented by Mr Thomas Frank from the German company Envidatec. The relations between energy data management at the company level and energy data management at the national level were then explored and discussed.

Train-the-trainers on Carbon and Water Footprint



In November 2012, Prof Shabbir H. Gheewala was the candidate from Thailand at a train-the-trainers workshop on environmental footprinting (particularly carbon and water footprint) organized by UNEP in Paris. Subsequently, he qualified via examinations to be certified as a trainer for the Product Life Cycle Greenhouse Gas Accounting Standard by the World Resources Institute (WRI) and a trainer for Water Footprinting by ETH Zurich (Swiss Federal Institute of Technology). Following this certification, Prof Shabbir will be conducting training courses on water footprint in Thailand to build the capacity of local experts in this field; the first such training being planned for mid-2013 in collaboration with NSTDA with about 30 participants.

Overview of LCA in Southeast Asia Presented at the LCA-Agri-food Symposium in France



Prof Shabbir H. Gheewala was invited as for a keynote presentation on "Challenges for LCA in the agri-food sector, perspectives from Thailand and Southeast Asia" at the International Symposium on Life Cycle Assessment in the Agri-Food Sector. The event, 8th in a series of biannual conferences, was organised by the French National Institute for Agricultural Research (INRA) and held at Saint Malo, France during 1-4 October 2012. The keynote showed the coming of age of life cycle assessment in Southeast Asia, particularly in Thailand with JGSEE playing a key role.

Capacity Building on Estimation of GHG Emissions from Rice Fields using DNDC

A training Workshop on “Capacity Building on Estimation of GHG Emissions from Rice Fields: The Application of DNDC Model” was organized by JGSEE-CEE on 11 February 2013 at KMUTT. This event is part of a 2 years APN-ARCP funded Project on “Strategic Rice Cultivation for Sustainable Low Carbon Society Development in South East Asia” led by JGSEE-CEE in collaboration with the National Institute for Agro-Environmental Sciences (Japan) and the Bogor Agricultural University (Indonesia).



The training workshop aimed at providing participants with an improved understanding of carbon and nitrogen biogeochemistry in agro-ecosystem and enhanced knowledge of spatio-temporal dynamics of GHGs from rice fields. Participants of this training workshop consisted of 30 persons: including DNDC experts from Japan, Thailand, and Indonesia, the APN project team, and lecturers/researchers from several universities in Thailand.

A closed training workshop followed up during 12-13 February at JGSEE involving only the APN project researchers and DNDC experts. During this 2 day-training, data on rice cultivation collected as part of the project activities for Thailand and Indonesia were used to run the DNDC model and discuss the results obtained from the simulations.



Elaboration of Efficient and Appropriate Procedures and Measures for Mercury Release Management in Thailand

JGSEE-CEE and the Pollution Control Department (PCD) co-organized a Public Hearing Seminar on the Outputs/Outcomes of a Project on “Elaboration of Efficient and Appropriate Procedures and Measures for Mercury Release Management in Thailand - Activity: Establishment of a National Inventory of Mercury Release Using UNEP 2010 Toolkit” on 4 March 2013 at Maruay

Garden Hotel, Bangkok, Thailand. This project led by Assoc Prof Dr Savitri Garivait was entrusted to JGSEE by PCD in order to support the elaboration of the upcoming UN Convention on “Reduction and Phase Out of Mercury Release”, which should be ratified by member countries, among which Thailand.

This Public Hearing Seminar aimed at presenting the outputs/outcomes of the project to stakeholders and general public, in order to receive their comments and suggestions for future improvements of the national inventory of mercury release. About 100 participants from government and industrial agencies either experts or directly involved in mercury release management joined the meeting.

Environment Division of JGSEE Receives TRF Award for Top Performance



On 12 March 2013, the Environment Division of JGSEE was awarded by the Thailand Research Fund (TRF) as the “Top Performer” of the “Environmental Technology and Forestry” Sub-cluster for the year 2011, with the rate of “Excellent”. This award is delivered every two years under the Thailand Higher Education Science and Technology Research Evaluation Project. The objectives of the project were to quantitatively and qualitatively assess the academic research outputs from the national higher education institute and universities at the departments/division level, classified in cluster, in order to support the TRF budget planning and management, as well as to set future targets and directions in

research for the country. Thirty four academic institutions, i.e. universities and institutes, participated to the evaluation process. The cluster classes are (1) Engineering with 7 sub-clusters; (2) Technology with 5 sub-clusters of which the Environmental Technology and Forestry; (3) Natural Science with 8 sub-clusters of which Earth System and Environmental Sciences; (4) S&T in Agriculture and Veterinary with 6 sub-clusters; (5) Medical and Dentistry Sciences with 6 sub-clusters; and (6) Public Health Sciences with 6 sub-clusters.

This is the second time that the Environment Division has been granted with this award. The first one was for the research performance during the period of 2008-2009, as the “Top Performer” of the “Environment and Earth System Science” Cluster, with also the rate of “Excellent”.



Contribution to National Policy

Public Hearing on Energy Efficiency R&D Master Plan for Thailand



The Energy Policy and Planning Office (EPPO), Ministry of Energy and JGSEE-CEE successfully organized the Public Hearing on “Energy Efficiency Research and Development Master Plan for Thailand” on 12 December 2012 at Century Park Hotel in Bangkok. The aim of the project was to identify research areas and potential topics that may serve to enhance the chances of achieving the energy saving targets set in the long-term Energy Efficiency Development Plan (EEDP).



The welcome and opening ceremony was presided by Mr Natie Tabmanie, Deputy Director-General of the Energy Policy and Planning Office (EPPO), Ministry of Energy and the results of the project presented by Assoc Prof Dr Bundit Fungtammasan, Vice-President for Research, KMUTT.

The public hearing was successful enabling to gather over 120 participants from the academic sector, as well as representatives from the private and government sector.

Contribution to Society

The 9th NIES Workshop on E-waste



The National Institute for Environment Studies (NIES), JGSEE-CEE and the Center of Excellence on Hazardous Substance Management (HSM), Chulalongkorn University joint efforts to organize the 9th NIES Workshop on “E-waste” that was held during 31 January - 1 February 2013 at Pullman Hotel King Power in Bangkok.

During the workshop, knowledge and experiences on environmentally sound management (ESM) of electronic waste (E-waste) were shared and research needs for promoting ESM in the Asian region were identified. Discussions were held on topical subjects of interest including 1) Knowledge sharing of current E-waste recycling in Asia and recent international activities on ESM, 2) identifying technical and environmental issues related to E-waste recycling from the viewpoint of ESM, 3) Process improvement and other possible solutions for ESM in the Asian region, 4) Related research needs.

The workshop was a great success gathering over 50 participants from the academic sector, as well as representatives from the private and government sector.

Event

Thai-Japanese Summer School on Energy Efficiency



JGSEE-CEE in collaboration with Kyoto University, Japan, and the Center of Excellence on Petrochemical and Materials Technology (PETRO-MAT) organized the Thai-Japanese Summer School on Energy Efficiency during 1-6 March 2013 at KMUTT, Bangkok. The courses of the summer school focused on: (1) Energy Efficiency in Buildings and Transportation including a site visit of the BTS Headquarter and Depot and the Siam Cement PLC (Headquarter); (2) Energy Conversion in Developing Country with a site visit of the Bioenergy Pilot Plant and the Siam Cement (Kaeng Khoi) co., Ltd; and (3) Socio-economics related to Energy Development. The summer school was a great success gathering over 25 participants including students from Kyoto University, JGSEE and PETRO-MAT.

Upcoming Event



The Joint Graduate School of Energy and Environment



Center of Excellence on Energy Technology & Environment

Renewable Energy Asia 2013: New Opportunities in the ASEAN Community – Focus on Renewable Energy and Energy Efficiency

JGSEE-CEE in collaboration with UBM Asia Thailand is pleased to announce the holding of the "Renewable Energy Asia 2013 Conference and Exhibition" which will be held at the BITEC Center in Bangkok during 5-8 June 2013. As an integral part of this event, there will be a conference on "Renewable Energy Asia 2013 - New Opportunities in the ASEAN Community - Focus on Renewable Energy and Energy Efficiency" that will be held on 5 June 2013.

The Conference and Exhibition Opening Ceremony will be presided over by the Minister of Energy, who will also deliver a keynote address. More than 200 participants representing industry, government and academia, from Thailand, neighboring countries and beyond, are expected to attend. The conference will feature both plenary and parallel sessions with local and international speakers presenting talks on topics ranging from renewable energy sources and technology, energy efficiency to markets and finance.

The objective of the conference is to provide a forum for local and international technology leaders, policy makers, and industrialists to share knowledge and experience in technology and market developments.

For more information about the event, please contact Ms. Kulakarn Soontornwat at: kulakarn@jgsee.kmutt.ac.th or visit: www.renewableenergy-asia.com

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