

Summary of e-ASIA Joint Research Program (e-ASIA JRP)

International workshop on “Renewable Energy”

31 July to 1 August 2013, Vientiane Capital,
Lao People’s Democratic Republic (Lao P.D.R.)

Japan Science and Technology Agency (JST)
e-ASIA JRP Secretariat

The e-ASIA Joint Research Program (e-ASIA JRP) International workshop on "Renewable Energy", co-organized by Ministry of Science and Technology, Lao P.D.R., and Japan Science and Technology Agency, Japan, and hosted by Renewable Energy and New Materials Institute, Lao P.D.R. was successfully held from Wednesday 31st July to Thursday 1st August 2013 at the Lane Xang Hotel in Vientiane, Lao P.D.R..

In the workshop, 23 stake holders from academia and government from 8 countries enthusiastically discussed possibility of international collaborations in the field of "Renewable Energy, namely 'Solar Energy and Photovoltaics' and 'Biomass Utilization' in the future.

The observations and recommendations from this workshop would be reported to the e-ASIA JRP Board by the e-ASIA JRP secretariat and shared with prospective e-ASIA JRP member organizations for their further consideration for the possible future research collaborations under the scheme of e-ASIA JRP. The observations and recommendations from this workshop are summarized as below.

“The Summary of the Observation and Recommendations”

Solar Energy and Photovoltaics

(1) Potential Collaborative Research Areas

- Development of efficient solar thermal energy systems (heating, cooling, thermoelectric)

Prospective Partners: all countries in ASEAN, Japan, China

- Installation of stand alone systems in rural areas and in agriculture, and investigation of its reliability, life time (which seem to depend on climate, knowledge level of people, etc.)

Prospective Partners: all countries in ASEAN, Japan, China (systems will be

supplied by countries with solar cell industry)

- Development of new materials and new fabrication techniques for inexpensive solar energy conversion devices

Prospective Partners: Japan, Malaysia, China, and Thailand

(2) What should be done to involve Lao P.D.R. in e-ASIA JRP collaboration in solar energy

- We must start exchange program for students and researchers.
 - a. To start researches, knowledge and experience are needed.
 - b. (To purchase and install some facilities (even to use them), specialists in that field should be there.)
- Each government needs to prepare budget for scholarship, fellowship to send /accept students and researchers to/from other countries

(3) What can be expected from e-ASIA JRP Collaboration and multilateral collaboration in Solar Energy

- Safety and Sustainability of the region
- Data collection in different climate, culture, customs, especially in the field of solar thermal, PV systems and applications
- Unique idea from each country, especially in the field of solar cell materials and devices

Biomass Utilization

(1) Potential Collaborative Research Areas

- On-site power and Heat

Power generation

Prospective Partners: Cambodia, Indonesia, Japan, Lao P.D.R, Myanmar, The Philippines, and Vietnam,

- Fertilizer and Feed

Agricultural production, Breeding, Reduction of chemical fertilizer, crops with high product yield

Prospective Partners: Cambodia, Japan, Lao P.D.R, Myanmar, and Vietnam.

- Biofuels (gas, liquid and solid)
 - CH₄, H₂, Syngas, Ethanol, BDF, Jet fuel, BTL, Wood pellet, Solid fuel
 - Low cost production technologies

Prospective Partners: Cambodia, Indonesia, Japan, Lao P.D.R., Malaysia, Myanmar, The Philippines, Thailand, and Vietnam
 - Biomass Refineries

Biofuels and Biomaterials, Social Infrastructure systems

Prospective Partners: Indonesia, Japan, Lao P.D.R., Malaysia, Thailand, and Vietnam.
- (2) Other possible cooperation
- Cooperation for Human Development

Prospective Partners: all prospective Member countries of the e-ASIA JRP and other countries or regions such as EU

e-ASIA JRP

- (1) Establish smaller amount funding for young researchers
- (2) Reduce sectionalism in each country which prevents active participation of prospective researchers in a call for proposal
- (3) Share Common Views on Importance of Human Development of researchers among e-ASIA JRP member states

Note: Reference Information of e-ASIA Joint Research Program (e-ASIA JRP)
International Workshop on “Renewable Energy”

- (1) Date:

Wednesday 31st July to Thursday 1st August 2013
- (2) Venue

the Lane Xang Hotel (Vientiane Capital, Lao P.D.R.)
- (3) Organizers

- Japan Science and Technology Agency, Japan
- Ministry of Science and Technology, Lao P.D.R.
- Renewable Energy and New Materials Institute, Lao P.D.R.

(4) Workshop Objectives

- To explore potential collaborative research areas and topics in the field of renewable energy with the intention to establish multilateral joint research projects among e-ASIA JRP member countries (including prospective members) in the near future.
- To build up a close network of researchers in the East Asian region and to create potential future international research teams through active discussion.
- To disseminate information about the e-ASIA JRP to researchers from Lao P.D.R. and the other member and prospective member countries.

(5) Agenda

Day 1

- Registration
- Inauguration ceremony
 - Organizer's remarks by Mr.Toshihiko OGURU, JST
 - Presentation on REMI by Mr. Phaychit SENGMAHY, REMI
 - Opening Remarks by H.E. Houmphanh INTHARATH, MOST
- Introduction of e-ASIA JRP Activities by Mr. Osamu KOBAYASHI, JST
- Networking Lunch
- Working Group Sessions (concurrent)
 - SESSION1
 - *Title: Solar Energy and Photovoltaics
 - *Chair & Moderator: Dr.Masaya ICHIMURA, Nagoya Institute of Technology, Japan)
 - SESSION2:
 - *Title: Biomass Utilization (Power Generation, Fuels, Materials)
 - *Chair: Dr. Akio NISHIJIMA, Waseda University, Japan
 - *Co-Chair: Dr. LE ANH Tuan, Hanoi University of Science and Technology (HUST), Vietnam

- Welcome and Networking Dinner hosted by MOST

Day2

- Panel Discussion (Joint Session):
 - Presentation of Working Group Observation and Recommendations by chairs of Working Groups and Free Discussion
 - *Chair of Solar Energy and Photovoltaics Session:
 - Dr. Masaya ICHIMURA, Japan
 - *Chairs of Biomass Utilization Session:
 - Dr. Akio NISHIJIMA, Japan, and Dr. LE ANH Tuan, Vietnam
- Closing Ceremony
 - Closing remarks
 - *Mr. Phaychit SENGMAHY, REMI
 - *Mr. Toshihiko OGURU, JST
 - *Mr. H.E. Houmphanh INTCHARATH, MOST
- Working Lunch
- Site Visit
- Farewell and Networking Dinner hosted by JST

(6) Presentation Titles and Speakers

Solar Energy and Photovoltaics Session

- PV activities at NECTEC, Thailand
 - Dr. Kobsak SRIPRAPHA, Thailand
- Solar Energy Utilization and Development in Yunnan, China and integrated with building in practice
 - Dr. LI Ming, China
- Simple Chemical Techniques of Thin Film Deposition for Solar Cell Application
 - Dr. Masaya ICHIMURA, Japan
- Dependent of Solar Cell Efficiency on the Characteristics of Nanostructured CuI Thin Films as a Hole Conductor
 - Dr. Mohamad Rusop MAHMOOD, Malaysia

- Renewable System Utilizing Photovoltaic Cell or Solar Thermal Energy and Thermoelectric Converter Combining Biomass Energy
Dr. Toshikazu YANO, Japan
- Utilization of carbon dioxide using solar light: photocatalytic reduction
Dr. Osamu ISHITANI, Japan
- Experimental Research of Solar Collector with Copper Tube over Steel Plate of U Shape and Solar Boosted Heat Pump
Mr. Sengratry KYTHAVON, Lao P.D.R.

Biomass Utilization Session

- Biomass Asia Prospect (a region wide collaborative framework)
Dr. Akio NISHIJIMA, Japan.
- Current Activities of Renewable Energy in Myanmar
Dr. May Myat KHINE, Myanmar
- Reuse Agriculture and Organic Waste from Agro-Processing in Vietnam
Dr. Luong Huu THANH, Vietnam
- Alcohol-tolerant bacteria isolated from Laos,
Ms. Toulaphone KEOKENE, Lao P.D.R.
- New fermentation technology: High-temperature fermentation with thermotolerant microbes
Dr. Mamoru YAMADA, Japan
- Geographical distribution of Thermotolerant acetic acid bacteria in Lao PDR
Mr. Chanhom LOINHEUANG, Lao P.D.R.
- Bio-Ethanol Production by Simultaneous Cassava Starch Hydrolysis and fermentation Using Screened Microorganisms
Mr. Boualy VONGVISITH, Lao P.D.R.

- Development of the Generation Technology by Mixed Combustion of Biomass Fuel
Dr. Sopheak REY, Cambodia
- Compatibility of Ethanol-Gasoline Blends with the In-used Engines
Dr. LE ANH Tuan, Vietnam
- The relationship between compositions, fuel properties, combustion and emission characteristics of biodiesel fuels
Dr. Deuansavanh PHOMMAVONGSA, Lao P.D.R.
- Quality Control and Standardization of Biodiesel
Mr. Syvang XAYYAVONG, Lao P.D.R.