

# APEC

## Advanced Biohydrogen and Green Growth Newsletter

### **APEC Meetings and Events Announcement**

#### **§ 39th APEC Expert Group on New and Renewable Energy Technologies (EGNRET) Meeting § December 11-14, 2012 China**

The EGNRET 39 meeting will be held in Shanghai, China from December 11-14, 2012.

The following is the update information.

**Date:**

December 11-12, 2012 - EGNRET 39 Meeting

December 13-14, 2012 - Conference on Distributed Energy with a 1-day site visit

**Venue:**

Shanghai Pudong Holiday Inn (No. 899, Donfang Rd., Pudong, Shanghai, China)

The special hotel room rate of Shanghai Pudong Holiday Inn for EGNRET delegates may be around CNY 650 (about US\$ 104). However, the final rate will be announced after negotiation.

Please also note that the elections will be held at EGNRET 39 for the positions of Chair and Vice-Chair for 2013-2014 term. Economies interested in holding an office are asked to provide the current Chair with their nominations prior to EGNRET 39.

More details about the meeting will be announced with new developments.

Thanks to China for hosting the EGNRET 39 and special gratitude is due to Dr. Qin-hua Xu (Renmin University of China) and her colleagues for their kind assistance and arrangement on meeting affairs.

#### **§ The Multi-Stage Green Energy Demonstration (MSGED) System of Biological Technology for APEC Member: Indonesia §**

In order to promote the technology exchange among APEC members and support the green growth issues, the delegates of Chinese Taipei: Mr. Sian- Da Fu, NSC International Cooperation Sci-Tech, Prof. Chen-Yeon Chu, and Prof. Hoang-Jyh Leu, Feng Chia University presented a MSGED to Agency for the assessment and Application of Technology (Badan Pengkajian dan Penerapan Teknologi, BPPT) on September 11-15, 2012. This system is designed and built by Green Energy Development Center, Feng Chia University.

“This meeting has become an important platform for international cooperation and exchange of experience, strengthening APEC member’s connections and contribution to the green growth

*The food security,  
climate change,  
energy security,  
interlinked  
challenges, and  
green growth for the  
APEC region.*

#### *Contents*

- ⊙ *APEC Meetings and Events Announcement*
- ⊙ *Research News*
- ⊙ *Special Column*

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and happiness of all mankind,” Mr. Sian- Da Fu, NSC international Cooperation Sci-Tech said. Both sides discussed the further cooperation and moved ahead with practical plans for developing green technology and academic exchange. Green Energy Development Center, Feng Chia University has designed many successful programs, such as the multi-stage green energy demonstration (MSGED) system of Biological technology and Bio-H<sub>2</sub> Gas Station. Prof. Chen-Yeon Chu delivered the presentation of High Rate Biohydrogen Fermentation Technology and Technology of Bio-Gas Station and Prof. Hoang-Jyh Leu shared the operation of the MSGED system of Biological Technology.

Through this meeting, it will integrate international educational resources, and collaborate on research and development and sustainable management, among other fields.



Visit to Dr. Ir. Unggul Priyanto, Deputy Director General of information, energy, and material technology in BPPT



Presenting the Multi-Stage Green Energy Demonstration (MSGED) System of Biological Technology

## Research News

### Green Energy Growth in APEC Regions- Australia and US Promotions

AUSTRALIA - A pig farm in New South Wales is turning its manure into carbon credits through its biogas generator, earning around A\$150,000 a year. Blantyre Farms has managed to reduce its power bill by turning unwanted methane into electricity which is sent to the national grid, reported in Brisbane Times. This process is also helping the environment by stopping harmful greenhouse gases from burning methane. With its 22,000 pigs, Blantyre Farms is the first farm to use the government's Carbon Farming Initiative program, aimed at cutting emissions from agriculture. The generator also produces heat which can provide warmth to piglets. Brisbane-based Quantum Power developed the technology and built the equipment for the project.

USA - Agriculture Secretary Tom Vilsack announced funding for 244 projects nationwide that are focused on helping agricultural producers and rural businesses reduce

energy consumption and costs by using renewable energy technologies in their operations. Funding is made available through United States Department of Agriculture (USDA)'s Rural Energy for America Program (REAP). As part of President Obama's energy strategy, USDA has partnered with thousands of America's farmers, ranchers and rural businesses to help them save energy and improve their bottom line. This effort is helping to provide stable energy costs that create an environment for sustainable job growth in rural America. For example, in Coos County, New Hampshire, Balsams View, LLC has been selected to receive a grant to replace an outdated heating system with a state of the art, high-efficiency, wood fired biomass boiler system. The new energy-efficient system is expected to use 77 percent less wood. In Augusta, Wisconsin, farmer Matthew Gabler has been selected to receive a grant to install a new 11 kilowatt wind turbine

producing approximately 29,000 kilowatt-hours a year for his farm. In Washington State, Edaleen Cow Power LLC, located near Lynden, Whatcom County, has been selected to receive a Rural Energy for America Program (REAP) Loan and Grant Combination of \$2,638,000 to install an anaerobic digester and sell the resulting electricity to a utility. The project is anticipated to generate 4,635 Megawatt hours per year. Edaleen Dairy's 2,450-head herd

will be the sole manure source for the project and the dairy will benefit by the bedding byproduct the digester produces. REAP offers financial assistance to farmers, ranchers and rural small businesses to purchase and install renewable energy systems and make energy-efficiency improvements. These federal funds leverage other funding sources for businesses.

**Adapted from:**

<http://www.usda.gov/wps/portal/usda/usdamediafb?contentid=2012/10/0328.xml&printable=true&contentidonly=true>

<http://www.thebioenergysite.com/news/11834/pig-farm-turns-manure-into-carbon-credits>

## **Special Column**

### **§ International Workshop on Kitchen Waste-Based Bioenergy §**

August 28-29, 2012

Chinese Taipei

To promote the kitchen waste management, reuse and convert kitchen waste to bioenergy, Taichung City Government and Feng Chia University organized the “International Workshop on Kitchen Waste-Based Bio-Energy” which was held during August 28-29, 2012 at Howard Prince Hotel in Taichung, Chinese Taipei. This workshop was the first of its kind that focused on the “Kitchen Waste-Based Bio-Energy” in Chinese Taipei. A total of 256 participants attended this workshop from environmental organizations, research institutes, private sectors, and academies.

Globally, kitchen waste management and reuse has been a challenging environmental issue to the government. In 2010, around 769,164 tons of kitchen waste was collected in Chinese Taipei, of which 72.1% was sold to pig farms and 27.2% was composted. Although recent advances in the bioenergy technologies have radically reduced the problem of kitchen waste management and are able to convert kitchen waste to bioenergy, significant achievements are yet to be made in Taiwan. Over the years, Environmental Protection Administration

Executive Yuan and Environmental Protection Bureau, Taichung City Government, Chinese Taipei, has kept the management of kitchen waste under control.

Taichung City is the low-carbon model city in central Taiwan. Six strategies to realize the low-carbon visions, including recycling with zero waste, green building incorporation, and Smart transportation etc. At the international workshop on kitchen-based bioenergy, recent research findings and projects on these topics were presented and discussed. This event also provided significant contribution to the development of sustainable future.

The Opening Ceremony was addressed by the Minister of Environmental Protection Administration Executive Yuan, Dr. Shen and Stephen Shu-Hung. The Mayor of Taichung City, Dr. Jason Hu, delivered a speech on “Low Carbon City of Taichung”. “One field of grass changes a city and one city changes Taiwan, and low-carbon living is not a policy option but humanity’s ultimate destiny”, he emphasized.

The key areas and issues that were covered in the 5

sessions of this workshop including an open discussion were: 1) the policies and technical issues, including global application tendency of kitchen waste based bioenergy, 2) Anaerobic Fermentation Technologies, 3) Bioenergy Applications, and 4) Fermentation Residues Utilization. Recent research findings on these topics were presented and discussed by the keynote speakers and the sessions were chaired by Professors Keng-Tung Wu (National Chung Hsing University, Chinese Taipei), Biswarup Sen (Feng Chia University, Chinese Taipei) and Wen-Chien Kuo (National Pingtung University of Science and Technology, Chinese Taipei).

This workshop hosted 8 keynote speakers from various parts of the world who have several years of experience and expertise in the area of kitchen waste management. The 8 keynote speakers were: 1) Prof. Wolfgang Pfeiffer, Technical College of Wismar, Germany; 2) Prof. Hang-Sik Shin, KAIST, Korea; 3) Prof.

Herbert H. P. Fang, The University of Hong Kong, China; 4) Mr. Ryoji Inomata, Obayashi Corporation, Japan; 5) Mr. Edwin TF Khew, the Chairman / CEO of Waztec Pte Ltd, Singapore; 6) Mr. Toshihiko Kobayashi, Swing Corporation, Japan; 7) Prof. Jing-Yuan Wang, Nanyang Technological University, Singapore; and 8) Prof. Wen-Chien Kuo, National Pingtung University of Science and Technology, Chinese Taipei.

August 29 was the technical tour in Recycling Park, Li-Chuan Model Environmental Community, Taichung Gateway District, and Calligraphy Greenway in Taichung City, Chinese Taipei.

This workshop provided significant contribution to the development of kitchen waste-based bioenergy in Taichung City and ameliorated the perspectives and knowledge of the participants.



Keynote Speakers and Delegates in International Workshop on Kitchen Waste-Based Bioenergy



Technical Tour in Taichung Gateway District