# Biogas Asia Pacific Forum 2018

**FORUM FOR THE DEVELOPMENT OF INTER-REGIONAL BIOGAS COOPERATION AND CAPACITY BUILDING**

**16 - 19 April 2018 ● Sunway Putra Hotel, Kuala Lumpur, Malaysia**

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WHAT'S DIFFERENT?

What’s different about BGAP 2018 compared to last year?

COMMERCIAL & TECHNICAL STREAMS

Splitting the forum into Commercial and Technical streams, to cater to the needs of different stakeholders in the biogas value chain.

- The commercial stream, talking about the various opportunities opening in various countries around Asia, policies and new markets will reveal business development opportunities for business leaders, and let plantation and site owners understand more about the value of installing and operating biogas plants.

- The technical stream, with papers specifically catered for scientists, operators, researchers, engineers that are in the biogas sector, will expand knowledge on the technical know-how of biogas, and give operators, designers more knowledge about.

BUYER PROGRAMME

Introducing Buyer Programme to provide complimentary conference passes to all Palm oil mill owners, dumpsite owners, food processing plant owners, farm and plantation owners.

- Gives all buyers COMPLIMENTARY (FREE! You save USD 1,000) admission to the conference, which will have both COMMERCIAL and TECHNICAL sessions, giving access to insights and data needed to make informed decisions about the make and management of your plant.

- Travel and accommodation subsidy of USD 500 to the first 40 buyer companies from Thailand, Indonesia & Philippines.

BIOGAS ONLINE PORTAL

Launching of Biogas Online Portal to provide 365/24/7 information access for biogas players in the region.

- For Biogas Buyers and New Project Developers, read more about the commercial impacts of biogas and learn more about how you can commercialize and make money from biogas plants.

- For Engineers and Technologists, the latest articles and research will become available, and for business development people, be sure to check out our country reports and buyer’s network!
TRAINING DAY ONE – 16 APRIL 2018

08:30 Registration

09:00 Part 1: Welcome to the Seminar
• Introduction of the seminar participants and experts
• Expectations from the seminar
• Collection of the first questions

09:30 Part 2: Development of the biogas technology in Germany and Europe
• Potentials and prospects
• Status of waste legislation
• Economic framework conditions
• Data for waste arising and composition

10:30 Networking Coffee Break

11:00 Part 3: Operation and maintenance is the stumbling block in the biogas industry in SEA. How to make it better?
• Market challenges - legal, administrative and technical obstacles
• Experiences with technology and operation
• Operation of POME fed biogas plants

12:30 Networking Lunch

13:30 Part 4: General introduction into biogas technology
• Definitions & biogas composition
• Technology overview and its main applications
• Wet and dry fermentation plants

15:00 Networking Coffee Break

15:30 Part 5: Introduction into process parameters and digester biology
• Basic principles of process technology
• Temperature, retention time, organic loading rate
• Operating experiences from 8000 agro-industrial biogas plants
• Conditions for the generation of biogas,
• Operating parameters, process monitoring and task management
• Process disturbances and failures

16:15 Part 6: Operating experiences with agro-industrial and municipal biogas plants
• Wet and dry fermentation plants
• Bio-waste digestion
• Agricultural biogas plants
• Treatment of industrial effluents
• Experiences with investment and operation

17:00 End of Training Day One
Part 1: Choosing the best components for a biogas plant for smooth operation
- Digester types and installation technology
- Process and feed in technology
- Developments and adaptations of the technology to suit the local circumstances in South-East Asia

Part 2: Most suitable substrates which can be used in biogas plants and their advantages & disadvantages
- Input substrates: POME, agricultural slurries, industrial and communal organic residues
- Gas yields from POME, residue material and industrial wastes
- Solid wastes (empty fruit bunches) as a feedstock for biogas plants
- Pollutants and contraries in solid bio-waste

10:30 Networking Coffee Break

11:00 Part 3: Interactive operators session for wet and dry fermentation technology
- Retention time
- Organic loading rate
- Sizes of containers and tanks
- Nutrient composition
- Electricity and heat production
- Efficiency factors of gas utilization
- Discussion of the results

12:30 Networking Lunch

Part 4: Models of biodigesters
LAGOON AND TANK-BASED DIGESTERS ARE NOT DIFFERENT MODELS BUT DIFFERENT VESSELS

Part 5: Energy crops in tropical countries
ENERGY CROPS FOR DECENTRALIZED BIOGAS AND ELECTRICITY PRODUCTION: THE NEXT BIOFUEL AFTER BIOETHANOL AND BIODIESEL WITH A HIGH IMPACT ON RURAL DEVELOPMENT

15:00 Networking Coffee Break

Part 6: Proper usage of digestate as organic fertilizer in agriculture
- Environmental aspects
- Application of digestate
- Digestate processing
- Treatment costs-profitability
- Experiences with digested POME sludge as fertilizer

17:00 End of Training Day Two
CONFERENCE DAY ONE - 18 APRIL 2018

08:30 Registration and Morning Coffee

09:00 Opening Address: President, ASIA PACIFIC BIOGAS ALLIANCE

09:30 OPPORTUNITIES AND PROGRESS IN MALAYSIA’S BIOGAS MARKET

Invited
BIOECONOMY CORPORATION OF MALAYSIA

10:00 THE FUTURE OF BIOGAS IN THE PALM OIL INDUSTRY: WHY WE NEED METHANE CAPTURE

Invited:
Dr. Loh Soh Kheang
Head of Energy & Environment Unit
MPOB

10:30 Networking Coffee Break

Simultaneous Commercial & Technical Session

<table>
<thead>
<tr>
<th>COMMERCIAL</th>
<th>TECHNICAL</th>
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<tbody>
<tr>
<td>11:00 OPPORTUNITIES &amp; LIMITATIONS OF BIOGAS TECHNOLOGY APPLICATION IN INDONESIA</td>
<td>EVONIK SEPURAN ® MEMBRANES FOR BIOGAS UPGRAVING FROM PALM OIL MILL EFFLUENTS-FIELD EXPERIENCES FROM MORE THAN 150 REFERENCES WITH CASE STUDIES OF CONTAMINATION AND REGENERATION</td>
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</tbody>
</table>
| Invited:
Dr.-Ing. Muhammad Abdul Kholiq, MSc. Engineer/Researcher
AGENCY FOR THE ASSESSMENT AND APPLICATION OF TECHNOLOGY (BPPT) | Micheal Yeong Chooi Hoe
Senior Business Manager-Sepuran
EVONIK |
| 11:30 MORE THAN DOUBLE THE REVENUE & PROFITS WITH INTEGRATED PURIFIED BIOGAS BOTTLING SOLUTION OF KIS GROUP, THE BEST USE OF BIOGAS FOR HIGHEST PROFITS COMPARED TO OTHER OPTIONS | REDEFINING THE WORLD’S WASTE FOR AGRICULTURAL, AGRO-INSUDTRIAL, AND INDUSTRIAL SYSTEMS |
| K. R. Raghunath
Founder & CEO
KNOWLEDGE INTEGRATION SERVICES (KIS) GROUP | Alphonse Regin Magmanlac
Platform Manager
ALTERNA VERDE |
| 12:00 THE CHALLENGES FOR DEVELOPMENT OF LIVESTOCK BASED BIOGAS PLANTS IN MALAYSIA | IS BIO-LNG A FEASIBLE OPTION FOR BIOGAS IN SOUTHEAST ASIA? |
| Dato’ Dr Quaza Nizamuddin Bin Hassan Nizam
Director General of Veterinary Services Malaysia
MINISTRY OF AGRICULTURE & AGRO-BASED INDUSTRY, MALAYSIA | Martin Campbell-Board
Managing Director
KPSR CONSTRUCTION |
| 12:30 Networking Lunch | |
| 14:00 DEVELOPING AN ECO-SYSTEM FOR WASTE TO ENERGY AND BIOGAS FINANCING | BIOGAS ENHANCEMENT BY MORINGA OLEIFERA CO-DIGESTION |
| Steve Peters
Senior Waste to Energy Specialist, ENE, Sustainable Development and Climate Change Department
ASIAN DEVELOPMENT BANK (ADB) | Yap Cheau Chin
Research Assistant, The Department of Chemical and Environmental Engineering
UNIVERSITY OF NOTTINGHAM, MALAYSIA CAMPUS |
### COMMERCIAL

**14:30**

**DISINTEGRATION IN BIOGAS PLANTS-HOW AND WHY?**
Jan Talkenberger  
*Head of Sales*  
*WEBER ENTEC*

**15:00**

**AIR LIQUIDE’S BIOGAS UPGRADE SYSTEM SOLUTIONS**
Dr. Yong Ding  
*Scientific Director*  
*AIR LIQUIDE*

**16:00**

**OFFGRID UTILIZATION OF BIOMETHANE: USING CBG FOR YOUR FLEET TO SAVE COSTS AND DRIVE EFFICIENCY**
Robbi Sukardi  
*Chairman*  
*APCNGI*  
*CEO*  
*PT RAJA RAFA SAMUDRA*

**16:30**

**CENTRALIZED BIOGAS SUPPLY IN COMMUNITIES**
Dr. Luo Tao  
*Senior Engineer*  
*BIOGAS INSTITUTE OF MINISTRY OF AGRICULTURE (BIOMA)*

**17:00**

**THE UN SUSTAINABLE DEVELOPMENT GOALS: THE IMPACT OF BIOGAS IN ASIA**
Conor McCoole  
*Chairman*  
*ASIA BIOGAS GROUP*

### TECHNICAL

**14:30**

**DEVELOPMENT OF ADAPTIVE NEURAL FUZZY INFERENCE SYSTEM (ANFIS) FOR OUTPUT PREDICTION FROM ANAEROBIC DIGESTION OF PALM OIL MILL EFFLUENT (POME) UNDER THERMOPHILIC CONDITION**
Dr. Poh Phaik Eong  
*Associate Head of School (Graduate Research) in School of Engineering*  
*MONASH UNIVERSITY MALAYSIA*

**15:00**

**BIOMETHANE PRODUCTION AND MICROBIAL COMMUNITY SUCCESSION DURING ANAEROBIC DIGESTION OF WASTE COOKING OIL UNDER DIFFERENT ORGANIC LOADING RATES**
Jing He, Ph. D.  
*Associate Researcher*  
*BIOGAS INSTITUTE OF MINISTRY OF AGRICULTURE (BIOMA)*

**16:00**

**IDENTIFYING OPPORTUNITIES TO MANAGE PALM OIL MILL EFFLUENT (POME): THE CASE OF INDONESIA**
Muhammad Kismurtono  
*Researcher & Engineer, Research Unit for Natural Product Technology*  
*THE INDONESIAN INSTITUTE OF SCIENCES*

**16:30**

**TACKLING THE CHALLENGES FOR MSW FOR BIOGAS**
Heinrich Seul  
*Managing Director*  
*CBE THAI*

**17:00**

**HIGH PERFORMANCE ANAEROBIC BIOFILM DIGESTER (ADB): A PILOT PLANT SYSTEM TREATING LEACHATE FROM MUNICIPAL SOLID WASTE TRANSFER STATION**
Ir. Dr. Fatihah Suja  
*Professor*  
*CENTER FOR SMART AND SUSTAINABLE TOWNSHIP (SUTRA) OF UNIVERSITI KEBANGSAAN MALAYSIA*
08:30  Registration

09:00  Opening Panel Discussion:

**ACCELERATING THE PACE OF BIOGAS DEVELOPMENT IN ASIA THROUGH POLICY**

Panelists:
- Malaysia Representative: Mohd Reza Dzulkiflee
  Head of Biomass Department
  **FELDA GLOBAL**
- China Representative: Prof. Shi Guozhong
  Deputy Director
  **BIOGAS INSTITUTE OF MINISTRY OF AGRICULTURE (BIOMA)**
- Philippines Representative: Nervy Santiago
  DVM Managing Director
  **ALTERNA VERDE**
- Vietnam Representative: Ho Thi Lan Huong
  Secretary General
  **VIETNAM BIOGAS ASSOCIATION DEPUTY**

Moderated by:
Desmond Godson
CEO
**ASIA BIOGAS GROUP**

10:30  Networking Coffee Break

### Simultaneous Commercial & Technical Session

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
<td><strong>11:00</strong> BIOGAS DEVELOPMENT IN CHINA</td>
<td>CMU SMART CITY CLEAN ENERGY; THE FIRST GARBAGE TO BIO-METHANE PLANT IN THAILAND</td>
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<tr>
<td>Prof. Shi Guozhong</td>
<td>Dr. Pruk Aggarangsi</td>
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<tr>
<td>Deputy Director</td>
<td>Director, Energy Research and Development Institute-Nakomping</td>
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<tr>
<td><strong>BIOGAS INSTITUTE OF MINISTRY OF AGRICULTURE (BIOMA)</strong></td>
<td>CHIANG MAI UNIVERSITY, THAILAND</td>
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| **11:30** METHANE CAPTURE AND MITIGATION STRATEGIES FOR FEED, FOOD AND FARM BUSINESSES - THE SEA EXPERIENCE  | BRIEF INTRODUCTION TO INTEGRATED BIOGAS BOTTLING SOLUTION. - ANOTHER PIONEERING SOLUTION FROM MARKET LEADER IN BIOGAS FOR HIGHER SUSTAINABLE OPERATIONS & BENEFITS |
| Nervy Santiago  | K. R. Raghunath  |
| DVM Managing Director  | Founder & CEO  |
| **ALTERNA VERDE**  | KNOWLEDGE INTEGRATION SERVICES (KIS) GROUP |
CONFERENCE DAY TWO - 19 APRIL 2018

<table>
<thead>
<tr>
<th>COMMERCIAL</th>
<th>TECHNICAL</th>
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<tbody>
<tr>
<td>12:00 FELDA's EXPERIENCE IN BIOGAS OPERATIONS: CHALLENGES AND WAY FORWARD IN MAXIMISING BIOGAS UTILIZATION</td>
<td>COMPREHENSIVE UTILIZATION TECHNOLOGY AND MODEL OF BIO-SLURRY</td>
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<tr>
<td>Mohamed Fazil Bin Mohamad Saad</td>
<td>Prof. Wang Wenguo</td>
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<tr>
<td>Head of Biogas Utilization Unit, Biomass Department</td>
<td>Associate Professor</td>
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<td>FELDA PALM INDUSTRIES SDN BHD</td>
<td>BIOGAS INSTITUTE OF MINISTRY OF AGRICULTURE (BIOMA)</td>
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<td>12:30 Networking Lunch</td>
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<td>14:00 INNOVATIVE FEEDSTOCK STRATEGIES TO DEVELOP SCALE FOR THE AGRICULTURE INDUSTRY</td>
<td>BIOGAS APPLICATION: SAFETY ASPECTS AND STANDARDS WITH AGRICULTURAL BIOGAS PLANTS</td>
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<tr>
<td>Ho Thi Lan Huong</td>
<td>Dipl.-Ing. Erwin Köberle</td>
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<tr>
<td>Secretary General</td>
<td>Director</td>
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<tr>
<td>VIETNAM BIOGAS ASSOCIATION DEPUTY</td>
<td>BIOGASKONTOR KÖBERLE GMBH</td>
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<td>14:30 DOLLARS AND SENSE OF BIOGAS FINANCING</td>
<td>BIOGAS &amp; NUTRIENT RECYCLE = AN OPPORTUNITY</td>
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<tr>
<td>Steve Szymanski</td>
<td>Dr. Ilkka Virkajarvi</td>
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<td>Independent Advisor</td>
<td>Technical Director</td>
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<td>DUCTOR</td>
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<td>15:00 ESTABLISHING A WASTE CENTRE OF EXCELLENCE</td>
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<td>Sivapalan Kathiravale</td>
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<td>Head, EPIC</td>
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<td>ENVIRONMENT PRESERVATION AND INNOVATION CENTRE SDN BHD</td>
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<td>Chartered Waste Manager</td>
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<td>MCIWM, UK</td>
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<td>15:30 REVIEW: THE FUTURE OF BIOGAS IN ASIA</td>
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<td>Vincent Choy</td>
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<td>Secretary General</td>
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<td>ASIA PACIFIC BIOGAS ALLIANCE</td>
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<td>16:00 End of Conference</td>
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International Contact :
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Business Development Manager
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  - Access to resources (country reports, case studies, articles, post show reports, and database)
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