

PLENARY SESSION

Thursday, November 16, 9:00 - 11:30

Theme : *Energy Outlook in Asian Countries from the Standpoint of Small Engine Field*

We have focused on a number of themes and many intriguing ideas have been presented in the past SETCs.

Recently, small engine technologies have been applied for various industrial fields and adapted to many kinds of fuel resources.

There are a wide range of fuels used in small engine such as gasoline, light oil, bioethanol, biodiesel fuel, and CNG. It is an important element to understand the fuels' supply and demand structures, in order to explain the future development of small engine technologies in Asian countries and extend to worldwide.

In this SETC2017 plenary session, we invite experts in energy outlook in Asian countries.

Discussions will provide useful information for considering usage of fuels.

We hope to have an active exchange of opinions between the speakers and audience.

Moderator



Prof. Takeo KIKKAWA

*Professor of Management,
Graduate School of Innovation
Studies, Tokyo University of Science*

EDUCATION:

- 1975 Graduated from University of Tokyo
(Department of Economics, Economics Course)
- 1977 Graduated from University of Tokyo
(Department of Economics, Business Administration Course)
- 1983 Finished Doctoral Course of
Graduate School of University of Tokyo on Economics

DEGREE:

- 1996 Doctor of Economics (University of Tokyo)

CAREER

- 1983 - 1987 Full-time Lecturer of Department of
Business Administration, Aoyama Gakuin University
- 1987 - 1993 Associate Professor of Department of
Business Administration, Aoyama Gakuin University
- 1987 - 1988 Visiting Scholar of Harvard Business School
- 1993 - 1995 Associate Professor of Institute of Social Science,
University of Tokyo
- 1996 - 2007 Professor, Institute of Social Science,
University of Tokyo
- 1996 Guest Professor of St. Gallen University
- 1998 - 2004 Guest Professor of Yonsei University
- 1998 - 1999 Guest Professor of Berlin Free University
- 2007 - 2015 Professor, Graduate School of Commerce and
Management, Hitotsubashi University
- 2015 - Present Professor of Management, Graduate School of
Innovation Studies, Tokyo University of Science
- 2013 - Present President, the Business History Society of Japan

Subject : *The Prospect of Energy Supply and Small Engine in Asia Pacific Rural Area*

Speaker



CHEW, Chong Siang Ph.D.

*Senior Researcher
Research Department, ASIAM
Research Institute, Inc. (ARI)*

CAREER :

2006 - 2009 Indonesia Biofuels Program Evaluation
2009 Prospect of Renewable Energy on Policies and International Corporation Projects in Vietnam
2010 Energy Modeling Practice Program in Laos and Cambodia
2005 - 2015 Dispatch instructor for energy modeling on energy demand/supply outlook of APEC region developing country
2011 - 2014 Study on Asian Potential of Biofuel Market

KEY PUBLICATIONS :

Chew Chong Siang and Toyoda Takashi (2006), "The Used od System on Biomass Resource Development in China: Current Issues and Problems", Renewable Energy 2006, International Conference
Chew Chong Siang (2006), "Current Status of New and Renewable Energies in China: Introduction of Fuel Ethanol", IEEJ Energy Journal Vol.3 Summer 2006, The Institute of Energy Economics
Chew Chong Siang, "Sustainable Biomass System Development in Rural Indonesia", 2010.9
KAN Sichao, Chew Chong Siang, "Biofuels in Selected Southeast Asian Countries", Presented at the 29th Conference on Energy, Economy, and Environment (Japan), 2013
Chew Chong Siang, Kan Sichao, "Biofuel Demand and Supply in the Asian Region", China International Bio-Energy Conference & Expo 2014.6

ABSTRACT :

Asia-Pacific region, due to its rapid economic development has changed energy supply structure in rural areas. As the most prominent results in rural mechanization. This paper presents the status quo of the rural energy supply through the case of the countries in the region. To reveal the challenges rural mechanization for now based on the current situation and thinking about an upcoming challenge.

- Current situation of economic development and its energy supply in rural areas of the Asia-Pacific region
- Specific case studies of mechanization by small engine and its characteristics in the region
- Government's policy and promotion system by country
- Rural mechanization by small engine and its issues
- Future challenges

Subject : *Potentials for Biofuel Use in Asia: A Supply, Demand and Policy Analysis*

Speaker



**ANBUMOZHI,
Venkatchalam PhD**

Senior Energy Economist,

*Economic Research Institute
for ASEAN and East Asia,
Jakarta Indonesia*

EDUCATION:

1995 PhD The University of Tokyo, Tokyo, Japan
1991 MEng, Asian Institute of Technology, Bangkok, Thailand
1989 BE, Tamilnadu Agricultural University, Coimbatore, India

CAREER :

2014 Senior Energy Economist, Economic Research Institute for ASEAN and East Asia
2008-2013 Senior Fellow and Capacity Building Specialist – Asian Development bank Institute, Tokyo, Japan
2004-2008 Senior Policy Researcher, Institute for Global Environmental Strategies, Kobe, Japan
1999-2004 Assistant Professor, The University of Tokyo, Tokyo, Japan
1999 Assistant Manager and Senior Engineer, Pacific Consultant International, Tokyo, Japan

KEY PUBLICATIONS :

2017 Globalization of Low-Carbon Technologies: Impact of Paris Agreement, Springer Australia
2016 Towards Circular Economy: Corporate Management and Policy pathways, ERIA
2016 Investing in Low-Carbon Energy Systems: Implications for Regional Cooperation, Springer Australia. Springer Australia
2015 Managing the Transition to Low-Carbon Economy: Perspectives, Policies and Practices from Asia, Asian Development Bank and Asian Development Bank Institute

ABSTRACT :

Successful meeting transport energy needs with products that reflect our priorities for development and environmental protection is critical to ensure Asia's long term prosperity. Biofuels – whether ethanol, bio-diesel or advanced bio-fuels like FAME –satisfy these demands and must become an even more established and integral part of energy mix. In 2000s, many of the governments in ASEAN and East Asia announced their biofuel strategy, which introduced mandated requirement for the use of ethanol and bio-diesel guaranteeing a market for renewable biofuels, which burn cleaner than petroleum based alternatives. It included a billion dollar commitment to provide operating and capital support for new biofuel facilities.

This created a new demand for biofuels, which is estimated to be nearly 36 million tons of oil equivalent (toe) of bioethanol and 37 million toe of biodiesel by 2035. Though, the demand outlook differs widely across the region bioethanol demand will be led by Indonesia from the early 2020s, followed by China, India, Thailand, and the Philippines. Similarly, biodiesel demand will be led by Indonesia after the early 2020s followed by China, Thailand, India, and Malaysia.

The supply potential of biofuels depends on several factors, including the increased agricultural productivity and waste management systems. Assuming the current product and market conditions, the total feedstock supply of the ASEAN and East Asian countries will reach nearly 10.1 million toe of bioethanol and 35.6 million toe of biodiesel by 2035. Although agricultural feedstock production for biodiesel (mainly palm oil) could be supported until around the 2030s, the bioethanol requirement or demand will reach the limit of supply by 2020.

This dynamics in regional supply and demand as well as requirements for sustainable energy policy calls for a comprehensive bio-fuel policy reforms that supports innovation and capitalize on the full scope of Asia's economic growth potential. A Biofuel strategy for the region shall include provision to

- Develop a globally competitive investment environment through improve regulatory process, streamline standards, trade and tax policy reforms, and venture capital action plans tailored to supply and demand potentials at regional level.
- Accelerate successful commercialization of breakthrough biofuel technologies to facilitate the transition from the laboratory to market place
- Establish a strong and coordinated biomass supply chain at national and sub-regional levels
- Support investment in research and development to build foundations of a strong bio-based economy in the region.

Subject : **Renewable Energy Updates on Automotive in Indonesia**

Speaker



Dr. Dadan Kusdiana

Ministry of Energy and Mineral Resources, Indonesia

Head for Communication and Cooperation Bureau

EDUCATION:

PHD from Graduate School of Energy Science, Kyoto University majoring in socio environmental energy science

CAREER :

2013 Director for Bioenergy

2015 Head for Public Communication Center of Ministry of Energy and Mineral Resource

2016 Secretary for Directorate General of New Renewable Energy and Energy Conservation

AWARDS :

2014 Japan Energy Society as The Best Young Researcher

MAJOR RESEARCH TOPICS:

Biofuel production and uses technology

KEY PUBLICATIONS:

Publications on biodiesel production technology on Elsevier Journal, Journal of American Oil Chemist Society, Industrial Chemical Engineering of Japan

ABSTRACT :

Biofuel as part of the renewable energy has huge potential in offering greater energy security, reduced emissions of greenhouse gases and particulates, rural development, better vehicle performance, and reduced demand for petroleum. The development of biofuel is in line with the commitment of the President of the Republic of Indonesia during the COP 21 in Paris to combat against climate change by reducing 29% emissions through Business-as-usual (BAU) scenario or 41% emissions reduction through international support by 2030.

Indonesia started to develop the biofuel industry in 2006 as a response to a progressive price increase of fossil based oil worldwide and progressive increase in domestic oil consumption. Since then, various initiatives both from the government, private sectors, as well as related stakeholders underline efforts to develop biofuel industry in Indonesia. Among others is the implementation of Mandatory of Biofuel that regulated in the Ministerial of Energy and Mineral Resources Regulation No. 12 of 2015 on Supply, Utilization, and Trading of Biofuel as Alternative Fuel. In result, biodiesel production has shown an increasing trend, both for export and domestic use. Currently, the installed capacity of Biodiesel has reached 11.3 Million kL/year.

Indonesia has become a worldwide pioneer in the implementation of Biodiesel. Historically, the mandatory program started with the blending of 2,5% (B2,5) biodiesel in diesel in 2009 and increased over the years. In April 2015, the Government set the utilization of Biodiesel 15% (B15) as mandatory to be implemented nationwide. The utilization of B15 was a starting point to implement Biodiesel 20% (B20) in January 2016. A series of road test and performance test were conducted to ensure there will be no significant problem with the vehicles and ensure its sustainability during the mandatory period. The Government is now preparing the implementation of Biodiesel 30% (B30) which will apply in 2020.

Subject : *Managing Logistics and Distribution of Fuels to All Areas of Indonesia*

Speaker



Werry Prayogi, SE, MM

Responsible for the development of Channel Management in the Marketing Directorate of PT Pertamina Persero

EDUCATION :

Graduate of Master of Management from Gajah Mada University majoring in Marketing

CAREER :

- 1992 - 2004 General Sales executive for Gorontalo, Tegal, Cilacap, Yogyakarta, Denpasar in the Marketing Directorate of PT Pertamina Persero
- 2004 – 2006 Asistant of Manager Commercial, Retail Fuel Management, Fuel Marketing Division of Directorate Marketing and Trading
- 2006 – 2009 Director of Marketing and Operation PT Pertamina Retail (Subsidiary Company of PT Pertamina)
- 2009 – 2012 Holding of Business Development, Product and Business Development Department, Lubricants Division of Directorate Marketing and Trading
- 2012 – 2013 Sales Region IV Manager, Lubricants Division of Directorate Marketing and Trading (Jateng-DIY area)
- 2013 – 2016 Sales Region I Manager, Lubricants Division of Directorate Marketing and Trading (NAD, Sumut, Sumbar, Riau, Kepri area)
- 2016 – 2017 Marketing & Technical Support Manager, Retail Fuel Marketing Div, M & T Directorate PT Pertamina (Persero)
- 2017 – now Placement in Retail Fuel Marketing in developing gas station

ABSTRACT :

Indonesia, with a geographical region of an archipelagic & maritime country, with more than 1000 islands both large and small, has its own challenges in the distribution of energy (fuel). The mode of transportation used for this activity is a combination of land, sea and air transportation modes. This condition makes the distribution of fuel in Indonesia is one of the most complex patterns in the world.

The fuel supply chain in PERTAMINA is started from Refinery and Import, then gathered at the terminal transit/distribution and distributed to Gas Station. PERTAMINA currently operates 6 units of Refinery and 119 units of Fuel Terminal. While for the transportation, PERTAMINA operates 141 large to small sized tankers, 641 fuel trucks, and other alternative transportation such airplanes, barge and Rail Transport Wagon.

PERTAMINA operates several types of gas stations, depends on the geographical condition; Regular, Mini/Modular, and Compact. The Gas Station serves consumer's vehicle on land and sea located in urban, suburban, out-of-town, rural, mountainous areas, and also consumers in coastal areas (sea and river). The fuel consumption for retail sector both Gasoil and Gasoline in Indonesia continues to grow as the economic growth, the consumption for this last 3 years is; 2014 of 45.4 Million Kiloliters, 2015 of 44.2 Million Kiloliters, and 2016 of 45 Million Kiloliters.

PERTAMINA provides some fuel products, both Gasoline and Gasoil; Pertamina Turbo, Pertamina and Peralite for Gasoline, Dex and Dexlite for Gasoil/Diesel. These products are selectively sold in Gas Station network, owned by PERTAMINA throughout Indonesia. The number of Gas Stations currently in the PERTAMINA network is 6.523 Gas Stations.

In addition providing fuels, PERTAMINA's gas stations also provides other related products such as; gas for vehicles (VIGAS) and households (BRIGHT GAS), lubricants for vehicles, and also other products and services for consumers (Mini Market, Café, Toilet, ATM, Car Wash, Workshop etc.)

The trend of Biofuel and its utilization as motor vehicle-fuel is increasing in the world, including in Indonesia. As a country that produces plants that can be used as Biofuel (Palm oil and Ethanol), PERTAMINA, as the government-owned company supports the marketing and distribution of this Biofuel product. Before marketed, the Biofuel is mixed and injected in the refinery and in the Terminal/Distribution.

The responsibility of PT Pertamina Persero are:

1. Development of Retail Outlet Gas Station throughout Indonesia with the form of gas station COCO, CODO and DODO. While the type of gas station nomenclature in the form of SPBU Regular, SPBU Mini, SPBU Modular, SPBU Kompak and Fisherman Service Station.
2. Establish the same service standard in all Pertamina gas stations, which works in collaboration with the independent Audit Team, so as to develop the existence of gas stations Pas Pasti and Pasti Prima.
3. Develop Non Fuel business at gas stations to provide services to end consumers for the purpose of increasing profits in the gas station business.