

A to Z of Ethanol

11 - 12 April 2007 - Park Hotel Orchard, SINGAPORE

organised by



Centre for
Management
Technology®
Into our 24th year



Technical, Economic & Blending Aspects of Ethanol Production from various feedstocks

- Sugar based - Cane, Sweet Sorghum
- Starchy materials
- Cellulosic Biomass - The Future

ie. - agricultural wastes - rice husks / straw, wheat straw, rice hulls, municipal solid waste, sewage sludge, manure (swine, poultry and cattle), switch grass, poplar woods, wood chips

supporting publications

BIO WORLD
THE MAGAZINE FOR THE LIFE SCIENCES INDUSTRY
EUROPE

the energy
info.com

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Ethanol Market
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Day 1

Wednesday, 11th April 2007

ETHANOL DEVELOPMENTS IN ASIA

- Production/demand/prices
 - Economic facts
- Shashank Inamdar, Managing Director
Praj

TYPES AND METHODS FOR PRODUCING BIOFUELS

- Biodiesel
- Hydrogen
- Fischer Tropsch fuels
- Methanol and higher alcohols
- Biogas (methane)
- Butanol

ETHANOL AS A BIOFUEL

- Use as liquid fuels in vehicles & modifications needed
 - As an oxygenate (fuel additive)
 - E10, E20
 - As the primary fuel
 - E85
 - Ethanol-only (Hydrated Ethanol)
 - Use of 130 - proof (65% ethanol in water) in diesel engines
 - Ethanol vs gasoline

ETHANOL PRODUCTION

Mature technologies

- Squeezed sugar (Sugarcane)
 - Process description
 - Fermentation, types of processes
 - Biochemical and biological background
 - Kinetics and stoichiometry

- Starch (Corn)
 - Process description
 - Wet milling
 - Dry milling
- Distillation
 - Alcoholic distillation, description, capacities
- Anhydrous ethanol production
 - Azeotropic, extractive distillation
 - Molecular Sieves
 - Energetics: Steam and cooling water usage
 - Safety: Health and environment
 - Economics
- Yields /Overall process energetics

SUGAR AND SWEET SORGHUM BASED ETHANOL PLANT - AN OPTION FOR ASIA

Yash Mankame, Country Vice President
- South East Asia, Far East and Australia
Praj

Day 2

Thursday, 12th April 2007

CELLULOSIC ETHANOL - THE FUTURE

- Potential feedstock & yields
 - sugarcane bagasse & trash, corn straw (stover), rice straw, wheat straw, rice husks, municipal solid waste, sewage sludge, manure (cattle, poultry, swine), wood chips, switch grass
- Characteristics of lignocellulose
- Some incentives for implementing cellulosic ethanol
 - Agricultural waste burning phase out
 - Lignocellulose yields
 - Environmental impact of using wastes
 - Potential ethanol yield from lignocellulosic sources

- High-productivity crops (energy cane, Miscanthus hybrids, sweet sorghum, water hyacinth)
- Harvesting, transportation and storage strategies (efficiency and economics)

ETHANOL PRODUCTION FROM LIGNOCELLULOSE

- Gasification followed by Catalysis
 - Economics/yields
 - Description of processes
 - Gasification followed by ethanol fermentation (Gaddy process)
 - Lignocellulose hydrolysis processes followed by ethanol fermentation
 - Acid hydrolysis
 - Lignocellulose hydrolysis followed by Acetic-acid fermentation with downstream Chemical transformation into ethanol (the Zechem process)
 - Rationale: Acetic-acid fermentation vs. ethanol fermentation
- Mixed-acid fermentation of lignocellulose followed by downstream chemical transformation into ethanol and higher-alcohols (the MixAlco process)

TRANSPORTATION & ETHANOL BLENDING IN THE GASOLINE POOL

- Storage tanks
- Pipelines and cleanliness
- Usage of additives
 - under what circumstances

SHIPS CLEANLINESS

- Impact on quality
- Types of ships

Richard Taylor
SGS Asia Pacific

Program topics, speakers and schedules listed herein are confirmed as at printing time. Please refer to the event's **Latest Schedule** at www.cmtevents.com for most up-to-date details.

WHO SHOULD ATTEND

- Supply/Operations Executives/Analysts of **Oil & Gas Majors**
- Oil Trader's Assistants for **Quality control and Blending**
- Business, Planning & New Managers of **Ethanol and Biodiesel Producers**
- Ethanol Investors, Traders & Financiers & Risk Managers
- Sales and Marketing Executives of **Food/ Agriculture and Industrial Biotechnology Corporations**
- Sales and Marketing Executives of **Additives and Enzymes Companies**
- Commercial Managers of **Shipping, Terminal, Logistics & Tanker Operations**
- Middle/New Executives in **Biofuels Technology and R&D**
- Feedstock and Biomass Suppliers of Sugarcane, Corn/Maize, Sorghum etc
- Managers & Technical Executives in charge of Biofuels STARTUPS

HOW YOU WILL BENEFIT

You will attain a comprehensive grounding in Ethanol Production & Blends including

- Ethanol Manufacture, Economics, Technical Aspects
- State of Ethanol Technologies Asia, Brazil, US and Worldwide.
- Lignocellulosic Biomass Conversion to Ethanol and its Potential Economic Impacts - Future of Cellulosic Ethanol
- Parameters influencing the Economics and Efficiency of Ethanol Production from Diverse Crop
- Transportation / Storage of Ethanol & Blending into the Gasoline Pool

Customised Sponsorship Packages Available

This event is an excellent platform to promote your organisation to influential players and investors in the industry. Sponsorship opportunities available include Corporate, Exclusive Luncheon, Cocktail & Documentation sponsor. Exhibition / catalogue display can be arranged upon request.
Contact cynthia@cmtsp.com.sg or (65) 6346 9132.

COURSE LEADER Cesar B. Granda, Ph.D.

Dr. Cesar Granda obtained his B.S. in chemical engineering and his Ph.D. in the same discipline from Texas A&M University. He has been working in the biotechnology and waste utilization area for many years now.

Dr. Granda has been involved with biomass conversion to chemicals and fuels since 1997 conducting research in almost all unit operations of the process. He has experience in the sugar industry as well. Many technical publications and patents in these areas have resulted.

In his research, he has been involved in preservation of sugarcane juice for processing into sugar and ethanol, the development of an efficient sugarcane juice extraction system to handle high-fiber cane varieties, pretreatment of sorghum and sugarcane fiber to increase their biological digestibility, enzymatic degradation of sugarcane fibers into simple sugars for the production of ethanol, mixed-acid fermentation of lignocellulosic residues, energy-efficient dewatering of fermentation broths, conversion of organic-acid salts into chemicals such as ketones (e.g., acetone), and acids (i.e., acetic acid) and conversion of organic acids and salts into alcohols (e.g., isopropanol and ethanol).

COURSE TIMINGS

Registration : 8:00 am
Seminar Proper : 9:00 am – 5:00 pm
(Lunch at 12:30 – 1:30 pm, Refreshment breaks at 10:30 am & 3:30 pm)

CMT's Biofuels forums provide practical and useful updates. Each forum highlights commercialization issues, feedstock markets and supply, trading and business constraints, as well as biorefinery operations and technology issues. The events are held across the globe from Asia to Middle East, Europe and Latin America.

MESSAGE FROM INTERNATIONAL COURSE LEADER



Dear Delegate,

It is widely known that oil, our main source of liquid fuels, is being depleted and its world-wide production will soon reach its peak. As energy demand increases world wide, new opportunities in alternative energy areas are opening up.

Ethanol from biomass is a promising alternative, both from the environmental and economics viewpoints, which calls for the involvement in the energy sector of individuals who, so far, have been alien to it. Farmers and agricultural landowners, plant scientists, microbiologists, sugar mill operators and managers, agricultural machinists, agricultural products traders, engineers and many others are needed to play important roles in this field. However, most of them are, at the moment, unfamiliar with this new area as a whole and have not networked or interacted with individuals already in the energy sector.

This workshop has been structured to be an in-depth technical introduction to the economic and environmental benefits, logistics and technologies in use and under R&D for producing ethanol from a wide variety of biomass sources, such as sugarcane, corn, sorghum and even garbage. Such in-depth introduction will provide valuable insights and will be a starting point for the delegates to fit this growing new field to their own needs and hopefully continue to pursue and interact with others towards its implementation.

I look forward to interacting and networking with you in this workshop.

*Regards,
Cesar Granda*

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11 - 12 April 2007 • Singapore

Update your details at
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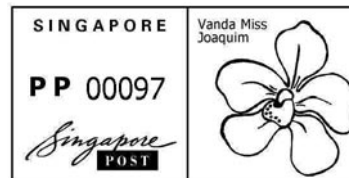
CONFERENCE VENUE

CMT has arranged special discounted room rate at SGD195+++ (Superior Single/Double) per room per night, exclusive of breakfast at SGD20+++ per pax (subject to room & rate availability) for delegates at **Park Hotel Orchard, Singapore**. Rates are subject to 10% service charge and prevailing government taxes. Please reserve your room with the hotel directly, providing full credit card number and expiry date to:

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270 Orchard Road, Singapore 238857

Phone: **+65 6730 1516** Fax: **+65 6734 9137** Email: **derekchang@orsg.parkhotelgroup.com**

Cut off Date for Room Booking: 11 March 2007



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TT must include additional USD21 for Beneficiary's Bank charges. Delegates must bear all bank charges and local taxes (if applicable). Fees must be NETT of ALL charges.

Fees: The full Registration Fee includes cost of all sessions, luncheon, coffee/tea & CD documentation.

	1 Person	Group fee for 3 or more* (from the same company)
Early Bird Fee *Register & Pay before 10 Mar. 07	USD1,195 (SAVE USD100)	USD995 (MIN SAVINGS OF USD900)
Regular Fee	USD1,295	USD1,095 (MIN SAVINGS OF USD600)

* **Terms and conditions apply.**

Cancellations, Refunds & Transfers: A full refund will be promptly made for all written cancellations 3 weeks before the meeting. Thereafter, cancellations are not refundable. A substitute may be made at any time.

Photocopy Registration Form to Preserve Brochure Copy. Apr. 2007

CMT'S UPCOMING EVENTS

Be part of this premier Biofuels event in Indonesia.

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BioRefintec

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"Opportunities for Biomass applications in Refineries & Investments in Biorefinery Technologies"

Inviting:

- European Commission
- Energy Center of Netherlands (ECN)
- Agrotechnology & Food Sciences Group Netherlands
- Novamont • Bio2Value
- Cathay Biotech • IEA Germany
- UOP • Rohm & Haas • SGS
- Wagenigen University & Research Center Netherlands
- Shell • Dupont

2007 **biofuels & feedstocks**
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17 - 18 May • **Manila**