

## **Bio-fuels at the Conventional Refining Site**

A Government-Industry Workshop

Hosted by the Global Energy Management Institute, University of Houston

May 17, 2007

### **Workshop Program**

<u>Time</u>	<u>Program Event</u>
9:00 a.m.	Introductions - Opening Remarks by Dean Arthur Warga
9:15 a.m.	Overview of bio-fuels technologies with applications in conventional refining <ul style="list-style-type: none"> <li>○ Dr. Pacheco will review the principal options, including Green Diesel, Synthesis Gas from Biomass, Algae derived bio-fuel, and Biomass Thermal Conversion (Pyrolysis)</li> </ul>
9:45 a.m.	Close up on Pyrolysis Oil – why concentrate on this option? <ul style="list-style-type: none"> <li>○ Dr. Pacheco will provide a technical overview and scoping cost economics for ‘Fast Pyrolysis of Biomass’ and discuss why he feels this option may hold the most promise for commercial use at conventional refineries</li> </ul>
10:30 a.m.	Break
10:45 a.m.	Technical frontiers/challenges in developing Pyrolysis Oil <ul style="list-style-type: none"> <li>○ Dr. Pacheco will describe technical and operating frontiers in developing a bio-crude oil @\$30/b cost and limitations on current research</li> <li>○ Discussion will focus on Pyrolysis Oil’s acidity, miscibility with hydrocarbons, stability over time and the likely process results from feeding it to catalytic cracking and/or hydrotreating</li> <li>○ Workshop participants are encouraged to share any views on these development frontiers and thoughts on work needed to progress. Dr. Pacheco will be especially interested in issues and approaches involving existing process and logistical equipment, i.e. the ‘back-end’ after Pyrolysis Oil has been manufactured</li> </ul>
12:15 p.m.	Break for lunch
12:45 p.m.	Talk by UOP representative on their work in this area, especially the suitability of Pyrolysis Oil to run through existing process units and possible adaptations.
1:15 p.m.	Overview of current Public Policy in the bio-fuels area <ul style="list-style-type: none"> <li>○ Dr. Pacheco will cover existing law on mandates/specifications, fiscal incentives and research funding</li> <li>○ Participants to comment on what might be desirable going forward</li> <li>○ <u>Note:</u> Dr. Pacheco cannot comment on future public policy but will be interested in receiving input from industry representatives</li> </ul>
2:00 p.m.	Outline of potential NREL/industry partnership arrangements <ul style="list-style-type: none"> <li>○ Dr. Pacheco will describe different partnership models and give examples of current arrangements</li> <li>○ Participants will be invited to discuss alternatives and comment on which formats might be most interesting</li> </ul>
2:45 p.m.	Discussion of possible follow-up meetings
3:00 p.m.	Adjourn