The New England Roundtable of CSCMP presents a forum on:

ENERGY SUSTAINABILITY & AFFORDABILITY IN LOGISTICS

Date/Place: APRIL 8, 2005 at the Hotel@MIT, Cambridge, MA

Note: Convenient parking at the Hotel is included in the price. Seating is limited at this event. Sign up by March 21 and get a 25% discount. This event is priced as low as possible ("break-even") to enable as many people as possible to learn about this critical issue.

Program Description:

This event presents the twin problems of skyrocketing energy costs and worsening environmental degradation. Business managers are seeing COGS inch upwards and fuel costs steadily rise each month. Environmentalists are seeing the glaciers and polar caps melt away and coastlines submerge as global temperatures creep higher. Both of these occurrences are deeply troubling to supply chain professionals. Where is mankind heading? Who is doing something about it?

This forum begins with the head of the MIT Sustainability program defining the problem of "sustainability." This dose of reality sets the stage for presentations by early adopters who are betting their working capital on a fuel cell solution. The US Postal Service will describe the many experiments that they are doing with their enormous fleet of 208,000 vehicles. Nuvera will describe how the use of fuel cells in fork lifts can provide a payback here and now, not 10 years in the future. UPS will describe their innovative trials of fuel cells in their delivery fleet. ChevronTexaco Technology Ventures will describe the technology and economics of hydrogen production and their ground-breaking program to build hydrogen fueling stations in the US. Finally the Department of Energy will present the government's vision for sustainable energy use in industry and describe the initiatives that they are sponsoring across the country.

Agenda:

8-8:45am	Registration (Danish, Coffee, Juice)
8:45-8:55am	Introductions
8:55-9:40am	Kickoff: David Marks, Professor of Engineering Systems and Civil and Environmental Engineering, MIT. "Near-Term Pathways to a Sustainable Energy Future"
9:40-10:25am	Hahn Dinh, Program Director – Vehicle Engineering, Engineering, Research and Development Department, USPS. "Managing the Largest Delivery Vehicle Fleet" (Description of alternative energy vehicle engineering by the Postal Service)
10:25-10:45am	Break
10:45- 11:15am	Thomas Holmes, Sr. Engineering Manager, Nuvera. "The Integrated Fuel Cell and Hydrogen Generation Power Solution"
11:15-Noon	Michael Herr, Vice President of Corporate Environmental Affairs, UPS. "Sustainable Transport and Logistics"
Noon-1:00pm	Lunch
1:00-1:45pm	Puneet Verma, Manager, Hydrogen Unit, ChevronTexaco Technology Ventures. "Hydrogen Development and Demonstration Activities at ChevronTexaco"
1:45-2:45pm	Keynote: Steve Chalk, Hydrogen Program Manager, DOE. "The President's Hydrogen Fuel Initiative"
2:45pm	Adjourn

Registration:

Registration cost (includes parking at the Hotel@MIT)

$80	if payment is received by midnight Monday March 21
$105	if payment is received on or after March 22.
$40	if full time student with ID (limited student slots available, parking is not included in student price)

Option 1: Register on our website: https://clmnert.org/seminar_2005.htm Pay by Visa or MasterCard on the website or by mailing a check to the address below.

Option 2: Register by mail and pay by mail by mailing the completed registration form below and a check payable to the New England Roundtable to:

New England Roundtable
c/o Paul Provencal
P.O. Box 31
Atkinson, NH 03811

Questions about the registration: Contact Paul Provencal at 617-212-6034
Questions about the program content: Contact Bruce Arntzen at 978-897-3976

Directions:

From the South
Follow Rt. 3N or Rt. 95N to I-93N. Take Storrow Dr West, to the Massachusetts Ave., Rt.2A/N exit. Go right off of exit, over bridge. After four lights, turn left onto Sidney Street. Hotel@MIT is down one block on the left.

From the West:
I-90 East (Mass Pike) to Exit 18,Cambridge/Somerville. Over bridge, straight onto River Street. At fourth light, turn right onto Massachusetts Ave. Go through three lights and turn right onto Sidney Street. Hotel@MIT is down one block on the left.

From the North
Follow 95S to 93S. Take Storrow Drive West to the Massachusetts Ave., Rt. 2A/N exit. Go right off of exit, over bridge. After four lights turn left onto Sidney Street. Hotel@MIT is down one block on the left.

From Logan International Airport
Follow signs through Sumner tunnel to Storrow Dr. West, to the Massachusetts Ave., Rt. 2A/N exit. Go right off of exit, over bridge. After four lights, turn left onto Sidney Street. Hotel@MIT is one block on the left.

From Boston via Subway/MBTA:
Take the red line to Central Square Station. Exit to street level, then cross Massachusetts Ave. Go left three blocks and take first right after the fire station onto Sidney Street. Walk down one block and entrance to hotel is on left on Green Street.

From Harvard Square or Alewife via Subway/MBTA:
Same as above except stay on same side of the street upon exiting.

Hotel@MIT

20 Sidney Street
Cambridge, MA 02139
Telephone: 617.577.0200
Toll Free: 800.222.8733

Registration Form:

April 8 Forum on Energy Sustainability and Affordability in Logistics

Name: _____

Telephone Number: _____

Title: _____

Member: _____ Non-Member: _____

Company: _____

Student? _____ School: _____

Address 1:_____

Address 2: _____

Enclosed is a check for $ _____ for _____ people.

Is this your first CSCMP event? _____

Email Address: _____

Detailed Descriptions of each Presentation

8:55-9:40am Kickoff: David Marks, Professor of Engineering Systems and Civil and Environmental Engineering, MIT. "Near-Term Pathways to a Sustainable Energy Future"

This talk will focus on the need to identify – and communicate to decision makers – robust "transitional systems" or energy pathways that bridge today's energy technologies, infrastructures, and markets, to future "sustainable" systems. Because of the scope and depth of such an effort, the Alliance for Global Sustainability composed of MIT, ETH Zurich, University of Tokyo and Chalmers University of Technology (Sweden) have joined together in a multi-year multi-million dollar exercise of analysis and outreach to stakeholders. The Energy Pathways program will be comprised of a series of regionally based, sectorally focused research projects, supported by a parallel "integration project" which will ensure that the program as a whole focuses on key issues and challenges. One such challenge is how to ensure affordable, reliable energy for continued economic development, while meeting greenhouse gas, local air quality, and other quality of life prerogatives. Others may focus on the flexibility of alternative pathways, including issues of technology lock-in/lock-out, or how well they address demographic trends such as increasing urbanization in developing countries, or aging populations in developed ones. The Integration Project will also ensure that key lessons from one regional-sect oral project are transferred to sister projects, communicated to the public at large through a series of high profile activities, and integrated into a suite of AGS "learning" products focusing well beyond the AGS's

own students. At present there are four candidate regional-sectoral projects under development, as illustrated on the left, which collectively cover many of the key energy sectors, as well as regions of the globe. At present the energy "sectors" of principle interest include: Sustainable Mobility, Future Fuels and Feedstock, Clean Electricity Supplies, and Efficient Smart Utilization. The preliminary findings indicate a long life for fossil fuels but with other serious implications for the mobility industries.

9:40-10:25am Hahn Dinh, Program Director – Vehicle Engineering, Engineering, Research and Development Department, USPS. "Managing the Largest Delivery Vehicle Fleet" (Description of alternative energy vehicle engineering by the Postal Service)

As the owner of the world's largest vehicle fleet, United States Postal Service (USPS) has been a pioneer in all areas of alternative fuel vehicle technology for several decades. One of our major goals is increasing fuel economy and fuel independence while reducing emission. With more than 110 million gallons of fuel consumed annually by more than 200,000 vehicles, the USPS is very interested in new vehicle technologies. This presentation will provide a comprehensive review of all existing vehicle types in the fleet and potential applications with current vehicle technologies. In summary, the paper offers a long-term outlook and strategic recommendations for the USPS for the years to come.

10:45- 11:15am Thomas Holmes, Sr. Engineering Manager, Nuvera. "The Integrated Fuel Cell and Hydrogen Generation Power Solution"

In high throughput material handling applications, a forklift power solution needs to ensure productivity, safety, reliability, and low cost to the End-user. Forklift batteries are typically replaced 1-2 times per shift, requiring heavy lift equipment, a dedicated technician, and 15-30 minutes of downtime. A large capital infrastructure consisting of 2-3 batteries and a battery charger per forklift is also required. The battery lifetime is sensitive to its charging history, use of proper cool-down procedures, maintenance of the water levels, and operator discipline. Fuel cells offer an alternative forklift power solution by converting hydrogen into a highly efficient source of electricity. The fuel cell power module consists of the fuel cell stack, a thermal management system, controls, and an on-board hydrogen storage tank. The size and cost of the power module can be minimized by designing the fuel cell stack to provide the base power load, and incorporating a small battery to satisfy the peak power requirements. This hybrid system allows for in-situ recharging of the battery by the fuel cell during normal operation. This technology will initially be introduced as a drop-in replacement of the battery tray for existing forklifts, and will ultimately be fully integrated into next generation forklift designs. A significant productivity gain can be realized by fast-refueling of the forklift with hydrogen, as opposed to swapping batteries. The fuel cell also provides constant power over the entire shift in comparison to the voltage sag currently experienced with batteries over time or in cold storage applications. The success of fuel cells in material handling applications relies on providing the end-user with a safe, reliable and low-cost source of hydrogen. The generation of hydrogen from natural gas at the customer site is the most cost effective means of meeting those needs for fleet operations. The hydrogen generator must also include purification, compression, storage, and dispensing. The specific customer needs can be satisfied most effectively by packaging the hybrid fuel cell power module and the hydrogen generator together as an integrated power solution.

11:15-Noon Michael Herr, Vice President of Corporate Environmental Affairs, UPS. "Sustainable Transport and Logistics"

As the world's largest package delivery company, UPS operates one of the largest delivery fleets in the world. Over the past 30+ years, UPS has actively participated in advancing the development of future generations of delivery vehicles that reduce dependence on fossil fuels and significantly reduce fuel consumption and emissions. As a result, UPS has one of the largest alternative fuel fleets in the North America, including hydrogen fuel cell, electric, hybrid electric, liquefied natural gas, compressed natural gas and propane-powered vehicles in its fleet. UPS

Vice President for Corporate Environmental Affairs Mike Herr will discuss UPS's "rolling laboratory" philosophy – using its alternative fuel fleet as a way to learn about the latest fleet technologies in a real world setting.

1:00-1:45pm Puneet Verma, Manager, Hydrogen Unit, ChevronTexaco Technology Ventures. "Hydrogen Development and Demonstration Activities at ChevronTexaco"

ChevronTexaco will present an overview of their activities in the development of hydrogen technologies and demonstration projects. ChevronTexaco's rationale for these activities and some of the challenges in developing a Hydrogen Economy will be discussed. (Speaker will describe the pilot tests of building hydrogen fueling stations.)

1:45-2:45pm Keynote: Steve Chalk, Hydrogen Program Manager, DOE. "The President's Hydrogen Fuel Initiative"

In support of the President Bush's Hydrogen Fuel Initiative, the Department of Energy (DOE) created a comprehensive program to overcome the technical and economic barriers to a hydrogen economy. DOE's research program addresses fundamental challenges related to hydrogen production, delivery, storage and fuel cells. If the program is successful, technology will be ready to meet customer requirements and to help industry establish a business case for hydrogen fuel cell cars by 2015. High-volume manufacturing processes are critical to meeting cost targets and commercializing hydrogen and fuel cell technologies. A new manufacturing initiative will be discussed.