

# Natural Gas and Hydrogen Infrastructure Opportunities Workshop

Building 200 Auditorium • Chemical Sciences and Engineering Division (CSE)

Argonne National Laboratory • 9700 S Cass Avenue, Lemont, IL 60439

October 18–19, 2011

## Agenda

### WORKSHOP OBJECTIVES:

- Convene industry and other stakeholders to share current status/state-of-the art for natural gas and hydrogen infrastructure.
- Identify key challenges (both technical and non-technical, such as permitting, installation, codes and standards) preventing or delaying the widespread deployment of natural gas and hydrogen infrastructure. Identify synergies between natural gas and hydrogen fuels.
- Identify and prioritize opportunities to address the challenges reported above, and determine roles and opportunities for both government and industry stakeholders.

## TUESDAY, OCTOBER 18, 2011

9:00–10:00 AM	<b>Registration and Continental Breakfast</b>
10:00–10:15 AM	<b>Welcome</b> <ul style="list-style-type: none"><li>■ <b>Dr. Peter Littlewood</b>, Argonne Associate Laboratory Director for Physical Sciences and Engineering</li></ul>
10:15–10:30 AM	<b>Workshop Goals, Objectives, and Desired Outcomes</b> <ul style="list-style-type: none"><li>■ <b>Steve Chalk</b>, Deputy Assistant Secretary, Energy Efficiency and Renewable Energy, U. S. Department of Energy (DOE)</li></ul>
10:30–11:00 AM	<b>Natural Gas Markets and Perspectives</b> <ul style="list-style-type: none"><li>■ <b>Bill Liss</b>, Gas Technology Institute</li></ul>
11:00–12:00 PM	<b>Panel Discussion #1: Fuel Supply &amp; Infrastructure: Markets and Barriers</b> (Moderator: <b>Bill Liss</b> , Gas Technology Institute) Panel Members: <b>Roger Marmaro</b> , Hythane Company, <b>Mike McGowan</b> , Linde North America, <b>Matt Most</b> , Encana Natural Gas, <b>Brian Weeks</b> , Gas Technology Institute <ul style="list-style-type: none"><li>■ Natural Gas and Hydrogen Markets – Barriers to Infrastructure Growth (Technical, Regulatory, Other)</li></ul>
12:00–12:30 PM	<b>Working Lunch (box lunches provided)</b>
12:30–2:30 PM	<b>Breakout Session #1: Market Potential and Barriers</b> <ul style="list-style-type: none"><li>■ 1A: Infrastructure Development, Regulatory &amp; Environmental Issues, R&amp;D needs</li><li>■ 1B: Infrastructure Development, Regulatory &amp; Environmental Issues, R&amp;D needs</li><li>■ 1C: Deployment Synergies</li></ul>
2:30–2:45 PM	<b>Break</b>
2:45–3:30 PM	<b>Summary Reports from Breakout Group Discussions</b>
3:30–4:00 PM	<b>Synergies in Natural Gas and Hydrogen Fuels</b> <ul style="list-style-type: none"><li>■ <b>Brian Bonner</b>, Air Products and Chemicals, Inc.</li></ul>
4:00–4:30 PM	<b>Moderated General Discussion on the Day's Topics</b> (Moderator: <b>Fred Joseck</b> , DOE)
5:00 PM	<b>Adjourn</b>

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## Agenda (Continued)

### WEDNESDAY, OCTOBER 19

8:00–8:30 AM	<b>Check-in and Continental Breakfast</b>
8:30–9:00 AM	<b>NGV and FCV Transportation Perspectives</b> <ul style="list-style-type: none"><li>▪ Matt Fronk, Matt Fronk and Associates, LLC</li></ul>
9:00–10:00 AM	<b>Panel Discussion #2: Fuel Use: Transportation and Stationary Applications</b> (Moderator: <b>Matt Fronk</b> , Matt Fronk & Associates) Panel Members: <b>Dan Hennessy</b> , Delphi, <b>Zaki Kabir</b> , Clear Edge Power, <b>Bob Wimmer</b> , Toyota <ul style="list-style-type: none"><li>▪ NGVs (light- and heavy-duty vehicles)</li><li>▪ FCVs, CHP, and Fuel Providers</li></ul>
10:00–10:15 AM	<b>Break</b>
10:15–12:15 PM	<b>Breakout Session #2: Transportation and Stationary Applications</b> <ul style="list-style-type: none"><li>▪ 2A: NGVs, FCVs, Specialty Vehicles and Heavy-Duty Trucks</li><li>▪ 2B: CHP, CHHP, and Synergistic Approaches</li><li>▪ 2C: Alternative Uses for Natural Gas and Hydrogen</li></ul>
12:15–12:45 PM	<b>Working Lunch (box lunches provided)</b>
12:45–1:30 PM	<b>Summary Reports from Breakout Group Discussions</b>
1:30–2:30 PM	<b>Panel Discussion #3: Innovative Strategies</b> (Moderator: <b>Steve Chalk</b> , DOE) Panel Members: <b>Gus Block</b> , Nuvera Fuel Cells, <b>Marc Klein</b> , Clean Energy Fuels, <b>Gary Stottler</b> , GM, <b>Frank Wolak</b> , Fuel Cell Energy <ul style="list-style-type: none"><li>▪ Innovative Approaches to Accelerate Deployment, including Policies, Financial Incentives, Innovative Business Case Strategies</li></ul>
2:30–3:00 PM	<b>Moderated General Discussion: Suggested Next Steps</b> (Moderator: <b>Sunita Satyapal</b> , DOE)
3:00–3:30 PM	<b>Wrap-Up: Steve Chalk, DOE</b>
3:30 PM	<b>Adjourn</b>