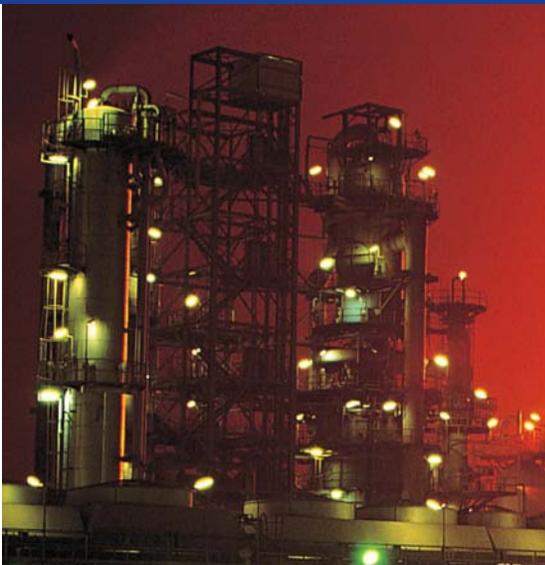


PARTNER UPDATE

WINTER 2008



New this quarter on epa.gov/gasstar

- The Nodal Analysis Tool has a new name—**ON TIME: The Online Tool to Identify Methane Emission Reduction Opportunities.** epa.gov/gasstar/tools
- The Accomplishments Web page has been updated to reflect the Program status following the 2008 reporting season. epa.gov/gasstar/accomplishments/index.html

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Record Numbers for 2008 Annual Implementation Workshop!

The Natural Gas STAR Program convened its largest gathering ever in San Antonio, TX this past November (Nov. 11-13, 2008). The 2008 Natural Gas STAR Annual Implementation Workshop brought together over 220 participants from industry, nongovernmental organizations, governmental agencies, and other key stakeholders who share a common goal of reducing methane emissions from oil and natural gas systems.

The keynote address was given by Dina Kruger, Director of the Climate Change Division, US EPA, on the state of climate change legislation. The



Martha Palomino of Pemex presenting at the 15th Annual Implementation Workshop

Workshop also included presentations on greenhouse gas management programs and strategies, concurrent sector specific technical sessions, and panel discussions on partners' leak detection and measurement experiences. The Workshop concluded with a panel session on carbon credits and finance, with representatives from

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Partner Profile

Newest Natural Gas STAR International Partner's Cast Iron Network Renewal Project Reduces Methane Emissions

Natural Gas STAR International's newest partner, Comgas, is the largest gas distribution company in Brazil, with daily throughput volumes exceeding 14 million cubic meters. Comgas services more than 700,000

customers in 67 municipalities in metropolitan Sao Paulo, surrounding areas, and the coastal region around Santos and the Paraiba Valley. Privatized by the state government in 1999, Comgas is regulated by the Sao Paulo State

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Spotlight on 2008 Natural Gas STAR Award Winners

The Natural Gas STAR Program recognized the following companies at this year's workshop. Awards were based on methane emission reductions achieved, implementation of a variety of technologies and practices, and involvement in the Natural Gas STAR Program, as well as other innovative company initiatives to address methane emissions.

Production Partner of the Year Occidental Oil and Gas Corporation

Occidental Oil and Gas Corporation joined the Natural Gas STAR Program in 2004 and has actively participated and submitted an annual report each year since then. For 2007, Occidental continued to expand their Program, implementing a greater range of methane emission reduction activities, contributing to impressive emission reduction totals for 2007. Occidental has consistently and enthusiastically participated in the Program by presenting at Annual

Implementation Workshops and co-hosting Technology Transfer Workshops. In addition, Occidental has contributed to the Natural Gas STAR quarterly newsletter and is also promoting methane emission reduction activities in Argentina, Columbia and Oman --through participation in the Natural Gas STAR International Program.



EPA Natural Gas STAR Program Representatives with Occidental Oil and Gas Corporation's William Albrecht, Wesley Scott and Krish Ravishankar

Gathering and Processing Partner of the Year ONEOK Partners

ONEOK Partners joined the Natural Gas STAR program in 2000 and has recently reinvigorated its Program efforts—substantially increasing reported methane emission reductions.

ONEOK has promoted education of employees on methane and greenhouse gas emissions through their corporate Web site and in company newsletters. They also share information about their participation in the Natural Gas STAR Program as part of corporate trainings at each of their subsidiaries. Three ONEOK subsidiary distribution companies recently joined Natural Gas STAR in 2007, expanding the company's overall participation in the Program.



EPA Natural Gas STAR Program Representatives with ONEOK Partners Kyle Jantzen, Craig Fosander and Jim Haught

Transmission Partner of the Year El Paso Pipeline Group

El Paso Pipeline Group's natural gas transmission business segment joined

Continued on page 3 ★ ★ ★

Optical Leak Detection at Industrial Facilities: Alternative Work Practice Final Rule

On December 15, 2008, the Environmental Protection Agency (EPA) issued a final amendment to the leak detection and repair requirements allowing the use of optical gas imaging technology to locate emission leaks. This amendment provides requirements for using the new technology; however,

facilities may continue to use existing approved work practices to detect leaks.

This amendment modifies about 40 national rules requiring facilities to find and repair leaks from equipment, including pumps, valves, and connectors, from refineries, chemical production plants, and

bulk liquid storage facilities. This amendment, which was proposed in 2006, will be effective upon publication in the Federal Register.

For more information on the rule, go to: epa.gov/ttncaa1/t3pfr.html.

Spotlight

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Natural Gas STAR in 1996 and since then has reported the implementation of a variety of technologies and practices. For 2007, the El Paso Pipeline Group reported the highest new reductions of any partner in the transmission sector. The El Paso Pipeline Group has been a consistent supporter of Natural Gas STAR, advancing leak detection technologies, participating in workshops and providing detailed information on their impressive emission reduction activities to support the Program's technology transfer efforts.



EPA Natural Gas STAR Program Representatives with El Paso Natural Gas Company's Jesus Soto, John Cordaway and Thomas Hutchins

Distribution Partner of the Year Consolidated Edison Company of New York, Inc.

Consolidated Edison Company of New York joined Natural Gas STAR in 1993 and consistently reported voluntary methane emission reduction activities each year since joining. The company has reported some of the highest emissions reductions of any distribution company through implementation of new and innovative technologies and practices. Furthermore, Consolidated Edison continues to be an active partner, generously sharing information on successful methane emission reduction projects, such as the Cast Iron Joint Sealing Robot that was highlighted in the spring 2008 *Partner Update*.



EPA Natural Gas STAR Program Representatives with Consolidated Edison of New York's William Papp and Dennis Mirda

International Partner of the Year ConocoPhillips Canada Ltd.

ConocoPhillips Canada joined Natural Gas STAR International in 2006 as a charter partner and immediately became actively engaged in the Program. ConocoPhillips Canada has reported the largest number of emission reduction activities of any partner in the Natural Gas STAR International program and highlighted its extensive directed inspection and maintenance activities in the company's 2007 report. In addition, ConocoPhillips Canada has supported the Program by participating in and presenting at Annual Implementation Workshops and at Methane to Markets workshops.

It should be noted that this was the first year that international partners submitted annual reports to the Program. Natural Gas STAR International would like to recognize its international partners for sharing in this significant Program milestone.



EPA Natural Gas STAR Program Representatives with ConocoPhillips Canada Ltd.'s Paul Slobodnik and Roxanne Pettipas

Rookie of the Year Laclede Gas Company

Laclede Gas Company joined Natural Gas STAR as a partner in the distribution sector in 2007. Upon joining the Program, Laclede participated in the

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Workshop

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Participants at the 15th Annual Implementation Workshop in San Antonio, TX.

various carbon credit, verification, and broker organizations participating.

The full agenda and workshop presentations are available online at epa.gov/gasstar/workshops/annualimplementation/2008.html. For participants who have not filled out an evaluation form, please do so at tinyurl.com/gasstar.

Highlights of the 15th Annual Implementation Workshop:

- ★ Over 220 participants from 9 countries
- ★ 7 exhibitors and 10 industry sponsors
- ★ Two field trip site tours—a production and a processing facility—featuring ongoing methane emission reduction technologies and practices

All workshop information, including presentations, is available at epa.gov/gasstar/workshops/annualimplementation/2008.html.

Partner Profile

Continued from page 1 ★ ★ ★

Regulatory Agency for Sanitation and Energy (ARSESP) and its controlling shareholders are BG Group and Shell Group.

Aligned with its environmental and sustainability policy, Comgas implements activities to reduce methane emissions from its operations as well as enhance network safety and operational integrity. This includes continuously monitoring the distribution network and focusing on renewing its cast iron pipeline network. The cast iron network is on average 50 years old and is concentrated in the old downtown Sao Paulo municipality area. The renewal of this network is one of the key aspects of the operational asset support projects undertaken since 1999, when the concession agreement was signed with the Sao Paulo State Government. During the first five years of concession, Comgas has renewed 250 km of its cast iron networks, with US\$ 82 million in investments. Their target is to renew 30 km per year from 2005 to 2010.

During the 1990's, Sao Paulo converted from town gas (naphta) to natural gas.



Auxiliary equipment used to insert polyethylene pipe



Polyethylene piping end ready to be inserted.

This change has led to an increased level of leaks in the cast iron network due to the drying of joints that resulted from the increased dryness of natural gas compared to town gas. Emissions from the cast iron network are also related to fractures and higher operating pressure of natural gas compared to town gas.

To reduce these emissions and increase the safety of its operations, Comgas evaluated several options for reducing leaks, including treatment of leaking joints. Comgas ultimately chose the insertion of polyethylene pipes into the existing network, due to the following advantages:

- ★ Complete elimination of leaks;
- ★ Mitigation of risks during operations;
- ★ Minimization of excavated trenches;
- ★ Lower cost with improved productivity;
- ★ Facilitated renewal of service lines;
- ★ Polyethylene pipes are protected by old cast iron pipe, with possible use of pipe locator;
- ★ Ability to accommodate higher operating pressures and stabilization during peak demand periods.

Comgas implemented this activity using a risk-based approach (considering operational and third party risks), evaluating area profiles and historical information of leaks in order to prioritize the polyethylene pipeline insertion plan.

To quantify the emission reductions achieved, Comgas isolated segments of pipeline that were due for replacement, before the insertion of polyethylene pipe, and installed manometers to measure the pressure drop of the isolated segment over time. Through measuring the pressure decay and other physical data of pipeline, it is mathematically possible to obtain a factor that quantifies the leak in this segment of pipeline over time. With a series of such samples received from different parts of the old network, this factor can be extended in a statistically significant way and used to estimate the annual leak rate of the entire pipeline. It is assumed that the emissions reduce to zero after insertion of the polyethylene pipe in the old cast iron network. Using this measurement methodology, Comgas estimates that this multi-year effort will ultimately reduce their methane emissions by approximately 1.2 Bcf through replacements carried out from 2001 to 2010.

In the News

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A special thanks to our facility hosts at:

DCP Midstream's Wilcox—Processing Plant

Bob Berry and Trey Scofield

Pioneer Natural Resources—Edwards Trend Gas Production and Pawnee Treatment Plant

Cole McClendon, Rodney Shephard, Bob Patton and Ronnie Petzloff

Site Tours at DCP Midstream's Wilcox Processing Plant and Pioneer's Pawnee Plant and Production Wells

Preventing methane losses, delivering more natural gas to markets and generating revenue were all common themes of Natural Gas STAR's Annual Implementation Workshop site tours on November 11, 2008 at DCP Midstream's Wilcox Processing Plant and Pioneer's Pawnee Plant and Production Wells. Guests were given a tour of each facility and demonstrations on how each company uses technolo-

gies to advance the aforementioned themes. DCP provided guests with a presentation overview and a demonstration utilizing an infrared leak imaging camera. Pioneer provided guests with a look at their natural gas treatment plant, designed to remove H₂S and CO₂ from natural gas produced in the Edwards Trend of South Texas.

The Natural Gas STAR Program is built on the concept of open information exchange to facilitate the implementation of technologies and practices that reduce methane emissions. The site tours successfully demonstrated the type of useful information exchange the Program encourages. Natural Gas STAR appreciates our partners' willingness to discuss their successes.



Annual Implementation Workshop participants in front of Pioneer's Pawnee Plant.

U.S. EPA Hosts Oil and Natural Gas Technology Transfer Activities in Buenos Aires

On November 5-6, 2008, the Natural Gas STAR Program and Methane to Markets Partnership held their first Technology Transfer Workshop and Technology Demonstration in the Southern Cone region of Latin America. The workshop was hosted in collaboration with the Argentine Oil and Gas Institute (IAPG), which has been on the forefront of the Argentine oil and natural gas sector development for 50 years, and now includes over 100 companies in the oil and natural gas sector and more than 700 individual members. Pan American Energy and Transportadora de Gas

del Sur SA (TGS) also co-sponsored the workshop.

Approximately 75 participants from Argentine oil and natural gas companies took part in the workshop and site visit. Technical topics had a production focus, but spanned a range of methane emissions reduction opportunities, including pipelines, pneumatics, dehydrators, compressors, vapor recovery units, and directed inspection and maintenance. Case studies covered successful methane emissions reduction applications from Colombia, Mexico and Argentina, with Pan American

Energy and Occidental Argentina Exploration and Production presenting on their experiences within Argentina. The second day of the event, which included several presentations as well as a field demonstration of an infrared camera, was held at the Buenos Aires City Gate and hosted by the natural gas transmission company Transportadora de Gas del Sur SA (TGS).

Workshop proceedings can be found at on the Natural Gas STAR Web site at: epa.gov/gasstar/workshops/techtransfer/index.html.

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Spotlight

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Annual Workshop and engaged the Program early on to begin discussing methane emission reduction project ideas. Laclede submitted its first annual report in 2008 outlining its emission reduction activities, including a successful Damage Prevention Program which was featured in the Summer 2008 *Partner Update*. In addition to submitting emission reductions for 2007, Laclede also reported its historical emission reduction data back to 1993. To gain support for the Program, their Implementation Manager works closely with colleagues in other departments to draw the link between emissions reductions and operation activities.



EPA Natural Gas STAR Program Representatives with Laclede Gas Company's Rick Kotteman

Additionally, the Natural Gas STAR Program would like recognize the following partners for their multi-year participation:

5 Years—Devon Energy Corporation, Newfield Exploration Company, Puget Sound Energy, and Shell Exploration and Production



EPA Natural Gas STAR Program Representatives with Devon Energy Corporation's Steve O'Connell



EPA Natural Gas STAR Program Representatives with Newfield Exploration Company's Jeff Brown

Implementation Manager of the Year Aaron Hutchison—Marathon Oil Company

Since becoming the Natural Gas STAR Implementation Manager for Marathon Oil Company, Aaron Hutchison has provided critical support in helping the company reduce their methane emissions from both Marathon's domestic and international operations. He has been instrumental in ensuring that all program requirements are met consistently and in a timely manner, including preparing and submitting Implementation Plans for all of Marathon's international assets. In addition to this critical role, Aaron has been an advocate in promoting technology transfer efforts to facilitate information sharing. Under his leadership in 2008, Marathon co-hosted a Production Technology Transfer Workshop in Colorado and provided valuable support for other domestic and international workshops throughout the year.



EPA Natural Gas STAR Program Representatives with Marathon Oil Company's Aaron Hutchison



EPA Natural Gas STAR Program Representatives with Puget Sound Energy's Brenna Davis



EPA Natural Gas STAR Program Representatives with Shell Exploration and Production's Kristi Trail

7 Years—Atmos Energy Corporation



EPA Natural Gas STAR Program Representatives with Atmos Energy Corporation's Rob Bennett

12 Years—Anadarko Petroleum Corporation, Iroquois Gas Transmission (not pictured), and PECO Energy Company



EPA Natural Gas STAR Program Representatives with Anadarko Petroleum Corporation's Bill Grygar



EPA Natural Gas STAR Program Representatives with PECO Energy Company's Pieter Ouwerkerk

15 Years—Consolidated Edison Company of New York, Inc. and Williams Gas Pipeline



EPA Natural Gas STAR Program Representatives with Consolidated Edison of New York's William Papp and Dennis Mirda



EPA Natural Gas STAR Program Representatives with Williams Gas Pipeline's Michael Callegari

Methane to Markets Steering Committee: Technical Workshops, Site Tours and Technical Subcommittee Meetings

**27–29 January 2009
Monterrey, México**

Hosted by: México's Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT), PEMEX, and the State Government of Nuevo Leon

The Methane to Markets Partnership is an international initiative that advances cost-effective, near-term methane recovery and use as a clean energy source. The goal of the Partnership is to reduce global methane emissions in order to enhance economic growth, strengthen energy security, improve air quality, improve industrial safety, and reduce emissions of greenhouse gases. For more information, please visit methanetomarkets.org.

Join us for this exciting event!

27 January

- ★ Oil and Natural Gas Technology Transfer Workshop
- ★ Site Tour of Burgos Gas Processing Complex of PEMEX

28 January

- ★ Methane to Market Plenary Session
- ★ Oil and Natural Gas Technology Transfer Workshop

29 January

- ★ Oil and Natural Gas Subcommittee Meeting

For more information and to view meeting agendas, please visit methanetomarkets.org/events/2009/all/all-27jan09.htm.

The event will take place at the Centro Internacional de Negocios Monterrey (CINTERMEX). For more information about this site, please visit cintermex.com.mx/.

Monterrey, México's third-largest city and home to several of México's top businesses, has abundant culture and nightlife, and countless attractions for out-of-town visitors.

Sponsorship Opportunities

This event provides an excellent opportunity to increase your exposure to some of the world's most influential international methane policy makers. Sponsorships are available for USD \$500.00 each. All sponsorship monies received will be used to help offset the cost of refreshments for these events, which cannot be paid for using government funds. For more information, please visit methanetomarkets.org/events/2009/all/docs/all9oct08_sponsorship.pdf.

Sponsors benefits include:

- ★ 3m x 3m exhibit booth space
- ★ Attendee exposure
- ★ Listing in the conference materials

Contact:

Methane to Markets Administrative Support Group at asg@methanetomarkets.org.

**For more information, log on to:
methanetomarkets.org/events/2009/all/all-27jan09.htm.**

In the News

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The Nodal Analysis Tool: Now ON TIME

The Online Tool to Identify Methane Emission Reduction Opportunities (ON TIME), formerly called the Nodal Analysis Tool, is a free online tool for finding cost-effective methane reduction technologies and practices. ON TIME has been updated to include revised icons for easier navigation through the site and an updated

glossary. The tool can be linked to a company's intranet for easy access and is available for internal hosting.

You can now access ON TIME at its new Web address: ontime.methane-tomarkets.org. It can also be accessed from the Natural Gas STAR Web site at epa.gov/gasstar/tools/index.html.

If you have questions or comments about ON TIME, please contact Roger Fernandez (Fernandez.roger@epa.gov) at EPA or Mike Layer (mlayer@NRC.gc.ca) with Natural Resources Canada.

To learn more about technologies and practices that reduce methane emissions use the interactive flow diagrams of the ON TIME tool to link to specific technologies and practices. ON TIME can be accessed at epa.gov/gasstar/tools.



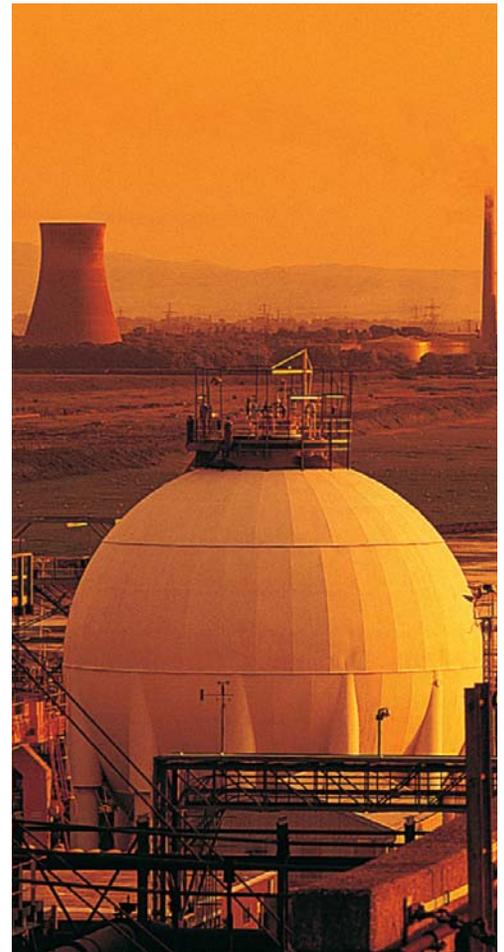
EPA is excited to announce the addition of one new partner to the Natural Gas STAR Program.

Arcland Energy Corporation

Arcland Energy is a Dallas, Texas based exploration and production start-up that is focused on the domestic onshore basins of the Gulf Coast, West Texas and Mid-Continent regions. The company currently holds crude oil and natural gas reserves with the majority of acreage in shallow formation fields for low cost exploration, drilling and production. The company plans to



invest its capital to enhance and extend existing conventional and unconventional hydro-carbon plays and to participate in emerging unconventional resource trends.



Update: Proposed Climate Change Legislation

Mandatory Reporting of Greenhouse Gas Emissions—Update

On Friday, October 24, EPA submitted the Greenhouse Gas Mandatory Reporting proposal to the Office of Management and Budget to begin the formal intera-

gency review process. Once that review process is completed, the Notice of Proposed Rulemaking (NPRM) will be published in the Federal Register and open for public comment. The NPRM covers

reporting of greenhouse gas emissions resulting from upstream suppliers of fuel and industrial gases as well as direct emitters above a certain threshold.

Calendar 2009 UPCOMING EVENTS

METHANE TO MARKETS WORKSHOP

- ★ **Methane to Markets Joint Steering Committee and Subcommittee Meetings, Including an Oil and Gas Technology Transfer Workshop and Site Visit**
Monterrey, Mexico
January 27-29, 2009
Centro Internacional de Negocios Monterrey (CINTERMEX)
For more information please contact: Roger Fernandez at fernandez.roger@epa.gov or (202) 343-9386.

RELATED INDUSTRY EVENTS

- ★ **SMi Utilizing Associated Gas Conference**
Crown Plaza Hotel—London St. James
London, United Kingdom
February 25–26, 2009
For more information and online registration, please visit: smi-online.co.uk/associatedgas.asp.

Are you a Natural Gas STAR Endorser and have an event you would like listed here?

Please e-mail pertinent event information to gasstar@erg.com.

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For additional information on topics
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