

NATURAL GAS STAR



Winter 2003

PARTNER UPDATE

10th Annual Natural Gas STAR Implementation Workshop Highlights

The 10th Annual Natural Gas STAR Implementation Workshop, held from October 27–29, 2003 in Houston, TX, was a great success. Record attendance, engaging speakers, including President Bush’s top environmental advisor, James Connaughton who delivered the keynote address, and the lively discussion among partners all contributed to a great workshop.

Awards

EPA Natural Gas STAR Program Manager, Roger Fernandez, announced the recipients of the 2003 Partner of the Year Awards at the recognition luncheon. The Awards are presented annually to companies that have displayed excellence in their pursuit of methane emissions reductions and in their continuing support of the Natural Gas STAR Program. These companies have exhibited a continued commitment to reducing emissions, implemented a significant number of best management practices (BMPs) and partner reported opportunities (PROs) since joining the Program, and have been consistent in reporting results. The 2003 Partners of the Year are:

- **Production Sector** — This year, **BP** reported 1.9 Bcf (Billion cubic feet) in methane emissions reductions (the most among natural gas production companies). BP also provides a strong presence in the Program, exhibiting leadership in reducing emissions and supporting the Program’s outreach and technology transfer goals.
- **Transmission Sector** — This year **El Paso Pipeline Group** reported the largest volume of new emission reductions (more

than 2.4 Bcf). To date, they have achieved the highest cumulative reductions of all transmission partners totaling 32 Bcf. El Paso has been successful by implementing a significant number of emission reduction opportunities.



Chairman James Connaughton (pictured in the front row, second from the left) with the 2003 Gas STAR award recipients

IN THIS ISSUE

10th Annual Implementation Workshop Highlights	1
Conference Update	4
Partner Spotlight	6
Technology Focus	7
Emissions Reduction Opportunity Reports	7

- **Distribution Sector** — In 2002, **Columbia Gas of Ohio** reported reductions of 4.9 Bcf — greater than any other distribution company — by placing a strong focus on implementing the core best management practices.
- **Processing Sector** — **Western Gas Resources (WGR)** has achieved cumulative methane emission reductions of over 2 billion cubic feet by implementing several technologies and practices. WGR has demonstrated commitment to communicating the importance of Natural Gas STAR, both internally and externally.

EPA also recognized three partners with Continuing Excellence Awards for their ongoing Program support and continued commitment to finding and implementing new emissions reduction opportunities:

- **Kerr-McGee Oil & Gas Corporation** in 2002 submitted reporting data for several new sites and activities, almost doubling the number of sites reporting emissions reductions, and routinely contributes to the Program technology transfer and outreach efforts.
- **ChevronTexaco** reported 709,508 Mcf of reductions this year, the third highest production reporter, and contributes to Program technology transfer efforts by presenting at workshops and developing an implementation case study.
- **Columbia Gas Transmission** and **Columbia Gulf Transmission** (NiSource Companies) reported the highest incremental reductions this year (almost 4 Bcf), reported the 3rd highest

incremental reductions this year (over 1 Bcf), and reported the fifth highest cumulative reductions of all transmission partners (5 Bcf).

The Rookie of the Year Award was presented to **Northern Natural Gas** for their outstanding implementation of the Natural Gas STAR Program during their first year of participation. Northern Natural gas reported nearly 200,000 Mcf in emissions reductions and has implemented and reported a significant number of BMPs and PROs.

Reid Smith of BP was honored as the Implementation Manager of the Year for his outstanding leadership in outreach and technology transfer goals and consistent leadership and support for Natural Gas STAR Program activities.



The keynote speaker, James Connaughton, Chairman of the White House Council on Environmental Quality spoke to an audience of approximately 125 people. Mr. Connaughton commended the Gas STAR Program for its importance and recognized it as a significant component of President Bush's Climate Change strategy. Mr. Connaughton's presence and enthusiasm at the workshop underscored the Administration's support for the Gas STAR Program. He emphasized that each partner

contributes to the overall success of the Administration's policies on climate change and environmental quality.

Annual Workshop Sponsors

Natural Gas STAR thanks the following organizations for their support of the Annual Implementation Workshop:

- American Petroleum Institute
- Heath Consultants, Inc.
- Hy-Bon Engineering
- Mueller Environmental, and
- American Gas Association.

Special thanks to El Paso Pipeline Group and Southern Gas Association for co-sponsoring the Methane Emissions Reduction Cost-Effective Methane Sensors Workshop.

2003 Tech Transfer Workshop Sponsors

The Natural Gas STAR Program would like to thank several partners that have sponsored Technology Transfer Workshops across the country throughout 2003. Murphy Exploration and Production, Gulf Coast Environmental Affairs Group & American Petroleum Institute co-sponsored a Technology Transfer Workshop for the Production Sector. Pioneer Natural Resources & Gas Processors Association co-sponsored a Technology Transfer Workshop for the Processing Sector, and NiSource sponsored a Technology Transfer Workshop for the Transmission and Distribution Sector.



Representatives from new partner companies and organizations

New Partners

In 2003, thirteen companies representing all four sectors of the natural gas industry, made the commitment to help the environment and reduce their methane emissions by joining the Natural Gas Star Program. The new partners are:

Alliant Energy	Gulf South Pipeline
Anadarko Petroleum Corporation	Northern Natural Gas Co.
Consumers Energy Corporation	Puget Sound Energy
Devon Energy Corporation	Quicksilver Resources Inc.
El Paso Production Co.	Torch Energy Services, Inc.
Energen Resources Corporation	XTO Energy, Inc.
Enogex Inc.	

Gas STAR Endorsers

Natural Gas STAR would like to thank the following endorsing organizations that have worked closely with Gas STAR in 2003. These organizations have helped to promote Natural Gas STAR through their respective Web sites and promotional materials, have committed to recruiting their members to the Program, and several have hosted workshops. The organizations are:

- American Gas Association
- American Petroleum Institute
- Domestic Petroleum Council
- Gas Processors Association
- Natural Gas Supply Association
- Southern Gas Association



Individuals representing endorsing organizations and trade associations

Sessions and Speakers

Technical sessions throughout the workshop allowed attendees to learn more about technologies and issues relevant to their operations.

Session 1 — Partner Experiences

Don Anderson of Western Gas Resources, Inc. spoke about the organization's methane reduction activities, including, compression consolidation and optimization, hot taps, and flare installation. He concluded that the value of the gas saved (over \$3.5 million a year) can enhance the economics of capital projects. **Paul Mikolaycik** of Gas Transmission Northwest Corporation (GTN) highlighted their corporate environmental policy and commitment to Gas STAR. Paul reported that GTN has already saved 8.8 Bcf of methane worth \$26.5 million, and sees more opportunities for additional projects in the future. **Thanh Phan** of Duke Energy Gas Transmission (DEGT) spoke about their success with PROs, such as pipeline pump downs, in-service

pipeline sleeve repairs and hot taps. Thanh commented that, in addition to the good corporate citizen recognition and financial rewards of greenhouse gas emissions reductions, his company's customers also save money through a reduction in shrinkage.

Reid Smith of BP showed how his company prevented 63 thousand metric tonnes of methane from being released by employing two technologies: green completions and "smart" automation. These activities allowed BP to sell an additional \$18 million worth of gas.

Session 2 — Inventory Development

Brian Boyer of COMM Engineering focused on IQR, a systemic approach for implementing a program to Identify emissions sources, Quantify emission sources, and Reduce emissions. By breaking a greenhouse gas emissions reduction



program into these discrete pieces, Brian explained, a daunting task can be made more manageable. **Leonard Crook** of ICF Consulting outlined the methodology and value of ICF's greenhouse gas emissions management system (GEMS™) to develop inventories and evaluate economic emissions reductions. Leonard showed that this Excel-based set of tools can be easy to use, powerful and customizable. **Jim Johnstone** of Contek Solutions presented information on the use of their GHG PLUS+ software to inventory methane and carbon dioxide emissions from oil and natural gas operations. This Microsoft Access-based program was designed for use by production and technical personnel and follows the API recommended methodology. **Mike Milliet** of ChevronTexaco discussed the system architecture, operation, and evaluation of the SANGEA™ Energy and Emissions Estimating System. SANGEA™ is designed to assemble greenhouse gas emissions and energy usage data from all sectors of the energy industry.

Conference Update

The 3rd International Methane and Nitrous Oxide Conference was held from November 17–21, 2003 in Beijing, China. With more than 400 attendees, over 100 speakers offered insight on characterizing and reducing methane emission sources, using proven economic and innovative technologies to reduce emissions, and overcoming barriers to project development. To obtain a copy of the conference proceedings, please contact Roger Fernandez at (202) 343-9386 or fernandez.roger@epa.gov.

Session 3 — Emissions Markets

Anthony DiNicola of Unocal focused his presentation on Unocal's activities in the carbon credit market under the Clean Development Mechanism (CDM). He highlighted Unocal's approach to the development and implementation of CDM projects in Indonesia, Thailand and the Philippines. **Kedin Kilgore** of Natsource presented a summary of the progress and current state of national and international carbon credit markets. Kedin emphasized that, although there is a great deal of uncertainty in the carbon credit markets, the opportunity is great, particularly for energy companies with international operations.

Session 4 — Leak Detection

Don Robinson of ICF Consulting presented information on the use of optical imaging for leak detection. He discussed the various technologies available, and summarized results from recent field and laboratory demonstrations. Don also showed a dramatic video of the Backscatter Adsorption Gas Imaging (BAGI) camera in action. **Lisa Spaeth** of Ophir Corporation discussed the development status and demonstration success of Ophir's innovative methane and ethane leak detection tool for ground- and air-based monitoring of pipelines. Ophir's duoThane™ system has been demonstrated over operational pipeline and over active underwater

seeps, and should be commercially available in 2004. **Paul Wehnert** of Heath Consultants discussed the design, development status, applicability, and demonstration results of their new remote methane leak detector. Paul emphasized that survey crews who had the opportunity to test the technology liked it, and that the technology is at least as effective as the traditional flame ionization (FI) technique in most cases.

Session 5 — Partner Break-out Sessions

At the end of the second day, attendees broke into two groups, new partners and veteran partners, to discuss issues of particular interest. Both Partner Break-out Sessions sparked lively discussion among participants.

In the veteran partner break-out session, highlights included discussions of sunset periods, the default value for directed inspection and maintenance at gate stations, and future directions for Gas STAR. A few partners stated that they felt the scope of the Gas STAR Program should be expanded to include other greenhouse gases. Most agreed that the subject of sunset periods needs to be addressed, since many of the technologies implemented years ago are now approaching the end of their allowed reductions reporting periods, but the group did not reach consensus on what should be done. The group agreed that the next step on the gate stations default value is for

Tell Us What You Think!

The Natural Gas STAR Program would like to hear what you think about the Partner Updates. Contact Roger Fernandez, EPA's Natural Gas STAR Program Manager, at (202) 343-9386 or fernandez.roger@epa.gov to comment on the article topics, timeliness, format of the Updates, and to request any additional information. We appreciate your feedback. Thank you!

EPA to propose revisions and submit them to the group for consideration, which Kevin Tingley agreed to do in advance of the next reporting period.

In the new partner break-out session, Roger Fernandez led the group in a discussion of techniques for gaining company support for emissions reductions activities. Several partners offered examples of how they were able to gain buy-in from their management by emphasizing the advantages of Gas STAR participation. Companies discussed the importance of announcing corporate methane emission reduction achievements and methods for communicating this information within their companies and to the public. A live demonstration of the Gas STAR Web-based emissions data management, reductions reporting and economic analysis tools was given as well.



Partner Spotlight—BP

BP (as Amoco) was one of the charter members of the Natural Gas STAR Program in 1995 and reconfirmed their membership in 1999 after the merging of BP and Amoco. BP produces an average 1.9 million barrels of crude oil and 7.6 Bcf of natural gas daily. The company has 29,000 service stations and production activities in 23 countries.

Since 1998, BP has implemented several emission reduction opportunities and taken an aggressive stance towards finding ways to reduce greenhouse gas emissions through their entire organization. In 1999, BP conducted a worldwide inventory, giving them a thorough understanding of the methane emissions sources in their natural gas and production systems.

Since becoming a Natural Gas STAR partner, BP has utilized several PROs to reduce methane emissions including the installation of pressure regulators on well sites (539,200 Mcf of methane emissions reduced); installation of smart automation well-loading and plunger lift control (971,000 Mcf); implementation of green completion procedures (227,905 Mcf); implementation of process optimization (201,000 Mcf); and procedural based reductions in well venting (94,000 Mcf). Additionally, BP has aggressively identified and replaced high bleed pneumatics, changing out more than 11,000 devices in the last four years, reducing methane emissions by over 2 Bcf. BP has also participated in cooperative research efforts with EPA and the Gas Technology Institute to quantify the emission reduction benefits from targeted leak detection and repair programs at gas processing facilities.

Reid Smith, Environmental Advisor for BP's Onshore U.S. Business Unit, frequently speaks at

workshops across the country on his perspectives on GHG inventory, how reducing greenhouse gases and increasing efficiency go

hand in hand, and the value of the Natural Gas STAR Program. "We look at the reduction of greenhouse gases as equivalent to increasing the efficiency of operations. The less greenhouse emissions, the more sales," Smith said.

Smith views the Natural Gas STAR Program as a good model for how a government, industry initiative should work. He said, "The biggest value of the Natural Gas STAR Program is that it is an incredible forum for sharing ideas with colleagues and other companies." Smith noted that the recognition is also valuable. "Companies that are undertaking voluntary commitments always appreciate recognition of their efforts."

In addition to the awards that BP received at this year's Annual Workshop, BP has previously received the Continuing Excellence Award in 2002 and the Producer Partner of the Year award in 2001.



Joined Natural Gas STAR: 1995
(as Amoco)

Reconfirmed Membership, BP-Amoco Merger: 1999

2002 Reported Reductions: 1.9 Bcf

Cumulative Reductions: 12.1 Bcf

Cumulative Savings: \$36.3 million (at \$3/Mcf)

Technology Focus

Natural Gas Dehydration Technology Verified

The ETV Greenhouse Gas Technology Center, in cooperation with Southern Research Institute, has verified the performance of the Quantum Leap Dehydrator (QLD) manufactured by Engineered Concepts, LLC. The QLD is designed for emission control of criteria pollutants, hazardous pollutants, and greenhouse gases.

The performance verification test was conducted at the Kerr-McGee Gathering Station in Brighton, CO. Tests consisted of a seven-day operational performance monitoring period followed by environmental performance testing. The verification report and statement are available on the ETV Web Site at http://www.epa.gov/etv/pdfs/vrvs/03_vr_quantum.pdf and http://www.epa.gov/etv/pdfs/vrvs/03_vs_quantum.pdf

Emissions Reduction Opportunity Reports

Emissions Reduction Opportunity Reports currently are being sent to every Natural Gas STAR partner company starting with those that submitted annual reports this year. The main goal of these reports is to give partners the opportunity to see how their company's methane emissions reduction progress compares to their peers in the industry. Additional data such as suggested technologies and techniques for further reducing methane emissions are included.

Reports were developed specifically for each company. Comparative data was aggregated and normalized in order to maintain the confidentiality of peer companies.

Gas STAR Program Managers will be contacting each partner concerning their Emissions Reduction Opportunity Report to seek input on its usefulness and to discuss options for increasing methane reduction activities. We welcome your feedback and look forward to working with you to further reduce methane emissions and improve profitability.



End of the Year Wishes:

Gas STAR wishes friends and families a Happy Holiday Season!

Natural Gas STAR Contacts

Program Managers

Note: Program Managers have new phone and fax numbers.

Roger Fernandez
(202) 343-9386 (ph)
(202) 343-2208 (fax)
fernandez.roger@epa.gov

Kevin Tingley
(202) 343-9086 (ph)
(202) 343-2208 (fax)
tingley.kevin@epa.gov

Natural Gas STAR Service Representatives

Heather Wright
(703) 841-0547
heather.wright@erg.com

Rebecca Ferro
(703) 841-1705
rebecca.ferro@erg.com

David Frank
(703) 841-0588
david.frank@erg.com

Darcie Honabarger
(703) 841-0412
darcie.honabarger@erg.com

Erica Buck
(703) 465-1587
erica.buck@erg.com

For additional information on topics in this Update, please contact Roger Fernandez.

