



# Natural Gas STAR Leadership Package

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## Annual Implementation Workshop

Houston, TX  
October 24-26, 2005

[www.epa.gov/gasstar](http://www.epa.gov/gasstar)



# Agenda



- ★ Focus on Leadership
- ★ Partner Highlights
- ★ Next Steps: What Can You Do?

# Natural Gas STAR Leadership Package

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- ★ Capture innovative activities that exemplify Gas STAR Program goals: a win for the partner, the Program, the industry, the environment
- ★ Selected examples convey Program's flexibility
  - ★ Cross-company collaboration
  - ★ Communication and awareness-raising
  - ★ Intra-company competition
  - ★ Technology and process optimization
- ★ This is just a start . . . We look forward to hearing about other innovations

# Agenda



- ★ Focus on Leadership
- ★ **Partner Highlights**
- ★ Next Steps: What Can You Do?

# El Paso Pipeline Mentors Enbridge Energy



- ★ Allows new partners to benefit from others' experience and come up to speed quickly

Partner Profile  
El Paso Pipeline Group

Partner Profile  ENBRIDGE  
Enbridge Energy Partners, Inc.

## The Value of a Gas STAR Mentor

In early 2003, EPA contacted Enbridge to gauge the company's interest in joining the Gas STAR Program. During initial discussions, the Environmental Health and Safety (EH&S) Specialist Fred Whitted expressed a desire to learn more about Gas STAR and what a partnership would entail before making a commitment. He attended the 2003 Gas STAR Implementation Workshop in Houston, Texas, where he learned about cost-effective emission reduction activities that his peers had implemented. During this time, he also met John Cordaway, an engineer and Natural Gas STAR Implementation Manager for El Paso Pipeline Group, who would prove to be a valuable resource.

# Partnership and Award Press Releases



- ★ Raise awareness internally and externally
- ★ CEO and upper level management buy-in demonstrates commitment to goals
- ★ Builds pride and ownership of program at all levels of staff

 **Occidental Oil and Gas Corporation**


**NEWS RELEASE**

For Immediate Release: September 14, 2004

OCCIDENTAL PARTNERS WITH EPA  
TO FURTHER REDUCE EMISSIONS FROM OIL AND GAS OPERATIONS


(ELK HILLS, CA) — Occidental Oil and Gas Corporation announced today that it is partnering with the U.S. Environmental Protection Agency through its Natural Gas STAR program to evaluate, implement, and report on cost-effective technologies and practices to reduce methane emissions from its oil and gas operations.

"Natural Gas STAR is a win-win approach to addressing concerns about global climate change," said Roger Fernandez, Program Manager for the EPA. "Natural Gas STAR partners reduce gas losses, improve operational efficiencies, and save money while protecting the environment by reducing emissions of greenhouse gases and other air pollutants. EPA is excited to be working with Occidental to meet these important economic and environmental goals."

 November 26, 2002

**EPA Recognizes Pioneer as  
Processing Partner of the Year**

Pioneer Natural Resources was recently recognized by the United States Environmental Protection Agency (EPA) as the 2002 Natural Gas STAR "Processing Partner of the Year" at its awards ceremony and Annual Conference in Houston. Representing Pioneer at the ceremony were Wilbur Dover, Jim Sherrard, James Moier, Joe Gray and Henry Galpin.

**News** 

For Immediate Release: January 22, 2004

OGE Contact: Brian Alford (405) 553-3187  
EPA Contacts: Roger Fernandez (202) 343-9386  
Kevin Tingley (202) 343-9086

**Enogex Joins EPA's Natural Gas STAR Program**  
*Company also reduces transmission system fuel percentage, resulting in pipeline customer savings*

OKLAHOMA CITY – Enogex, Inc., a subsidiary of OGE Energy Corp., today announced it has partnered with the Environmental Protection Agency in its Natural Gas STAR Program to reduce methane emissions.

"We look forward to being a part of the Natural Gas STAR Program. This program is an excellent example of government and industry working together to find solutions to environmental issues. By participating, we will keep up-to-date on the latest approaches for reducing methane emissions while improving our efficiency," said Pete Delaney, OGE Energy Corp. Executive Vice President and Chief Executive Officer of Enogex.

# Partner Signing Ceremonies

- ★ Raise awareness of company and upper management commitment to Gas STAR partnership

## Natural Gas STAR Rookie of the Year

**Devon Energy Corporation**—Since joining the Program in July 2003, Devon has been very active and supportive of Gas STAR by holding a high-profile signing ceremony, assisting in the development of technical documents, contributing to an article in the Gas STAR *Partner Update*, and volunteering its Bridgeport Gas Plant as a location for filming the new Gas STAR Program video. Devon is implementing a significant number of emission reduction activities and will submit its first annual report next year.



Napo River, Ecuador; Long Beach operations, California; Safah field operations, Oman; Natural Gas STAR signing ceremony, Elk Hills field, California


NATURAL GAS STAR  
OXY OIL & GAS  
U.S.A.

# Devon Energy Monthly Newsletter




- ★ Tracks Gas STAR participation month-to-month
- ★ Communicates new technologies/practices
- ★ Creates competition among divisions

devon



## Natural Gas STAR Partner Newsletter



**September 2005**

**Welcome**

This is the September 2005 installment of a monthly newsletter highlighting Devon's activities in the Environmental Protection Agency (EPA) Natural Gas STAR Program. These monthly installments summarize Devon's methane emission efforts and a specific partner reported emission reduction opportunity that might be of benefit at certain Devon operations.

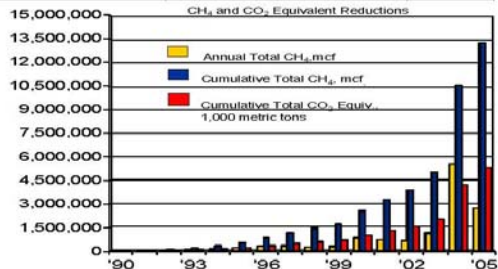
**STAR Reductions**

Methane Reduction Activity	Methane Reductions (Cumm)	2005 YTD
Central Division	3,926,459	1,221,073
FWB	3,589,734	987,970
Mid-Continent	336,725	233,103
Southern Division	5,937,762	2,146,661
South Texas	2,525,364	445,870
Carthage	2,390,276	1,024,385
Groesbeck	1,022,121	676,406
Western Division	2,499,144	63,299
Rockies	950,244	56,565
Permian	1,548,900	6,734
Gulf Division	141,529	12,045
Midstream	1,753,827	263,645
<b>Total Reductions</b>	<b>14,258,721</b>	<b>3,706,723</b>

**In this Issue:**

- Welcome
- Division Status Table
- Annual Reduction Graph
- PRO Fact of the Month

**CH<sub>4</sub> and CO<sub>2</sub> Equivalent Reductions**



**PRO Fact Sheet of the Month**

**"Convert Pneumatics to Mechanical Controls"**

This month, the highlighted PRO (Partner Reported Opportunities) Fact Sheet document is related to Converting Pneumatics to Mechanical Controls. The attached PRO Fact Sheet feature provides more details about this reduction opportunity.

If you have an idea or recognize an opportunity for a process change or pressure setting to improve efficiencies or reduce venting, please discuss these ideas with your EHS specialist or call Steve O'Connell at (405) 552-4672.

Check out Devon's EPA video on the K drive at:  
[K:/Universal/Permanent/EHS Dept. Presentations/ Natural Gas STAR](#)



# Dynegy Midstream Services Aerial Pilot Study



## Partner Profile

**Dynegy—Successful Initiatives  
Leading to Reduced Methane Emissions**



### **The Aerial Pilot Study**

After Dynegy was introduced to the aerial imaging technology, the company hired a consultant to visit its New Mexico pipelines to conduct a pilot project that entailed flying over and analyzing its pipelines. Fugitive methane emissions were then located via the infrared imaging camera mounted on a helicopter. (Information on aerial imaging is available in the *Winter 2004 Partner Update*.)

This aerial imaging pilot study covered 150 miles of pipeline per day. Previously, only 10 to 15 miles a day could be monitored by driving a sniffer truck looking for lifeless vegetation (and other indications of natural gas leaks). Leaks

discovered in Dynegy's pipelines were fixed; and other companies were notified if leaks were found in their lines. The pipeline repairs, conducted as a result of the pilot study, reduced Dynegy's methane emissions by approximately 146 million cubic feet (MMcf) per year. Shankar Ananthakrishna, Dynegy's Gas STAR Implementation Manager, explained that emission savings were calculated by running a system balance check—comparing the amount of gas going into the system versus what was coming out of the system. After fixing the leaks in the pipelines, the balance was much closer than when calculated before the aerial imaging.

- ★ Implementing new technologies provides benefits for partner company
- ★ Reporting experience and learnings can benefit whole industry

# Northern Natural Gas Compressor Station Field Demonstration



- ★ Hands on demonstrations of tools and technologies drive home real benefits of recommended activities



# Newfield Exploration Company Process Optimization



**Pro – Op**  
Process Related Opportunity - Optimization

NEWFIELD

- **PRO - OP** – a systematic approach to increase production efficiencies and profitability through evaluating process components whereby methane emissions are reduced on a cost effective basis.

Attention to Details...Increases Profitability

BALANCE FOCUS CONTROL

- ★ Developing novel ways to manage technology and process design can reduce emissions and increase profitability
- ★ Sharing experiences adds to success of Program and other partners

# Study of Methane Losses at Processing Plants



★ Volunteering facilities for technical studies advances technology development and provides benefits to host companies

## IDENTIFICATION AND EVALUATION OF OPPORTUNITIES TO REDUCE METHANE LOSSES AT FOUR GAS PROCESSING PLANTS

Prepared For:

GAS TECHNOLOGY INSTITUTE  
1700 South Mount Prospect Road  
Des Plaines, IL 60018-1804

### EXECUTIVE SUMMARY

A comprehensive directed inspection and maintenance (DI&M) measurement program has been conducted at four gas-processing plants in the western United States to identify potential sources of cost-effective opportunities for reducing natural gas losses and methane emissions due to fugitive equipment leaks and avoidable process inefficiencies or wastage. Raw natural gas is predominantly methane but may contain varying amounts of non-methane hydrocarbons (NMHC) and impurities or contaminants, such as hydrogen sulfide (H<sub>2</sub>S), nitrogen (N<sub>2</sub>), carbon dioxide (CO<sub>2</sub>) and water vapor (H<sub>2</sub>O). Losses of natural gas to the atmosphere result in direct emissions of these constituents. Losses of natural gas into flare systems or due to excess fuel consumption result in atmospheric emissions of CO<sub>2</sub> and other combustion products.

# Next Steps



- ★ These are just a few examples of the work being done by Gas STAR Partners
- ★ Gas STAR will be formalizing document in Q1'06
- ★ Please communicate other activities for inclusion

# Contact Information



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