The Natural Gas STAR Program

The Natural Gas STAR Program is a flexible, voluntary partnership between EPA and the oil and natural gas industry designed to cost-effectively reduce methane emissions from natural gas operations.
U.S. Industry Participation

★ 117 Program Partners
★ 62% of transmission
★ 26 partners
★ 60% of distribution
★ 48 partners
★ 51% of production
★ 31 partners
★ 63% of processing
★ 12 partners
## Production Sector Gas STAR Partners

<table>
<thead>
<tr>
<th>Company</th>
<th>U.S. Production (Bcf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>1278</td>
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<tr>
<td>ExxonMobil</td>
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<tr>
<td>ChevronTexaco</td>
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<tr>
<td>ConocoPhillips</td>
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<td>Devon Energy</td>
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<td>Shell Exploration and Production</td>
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<tr>
<td>Anadarko Petroleum</td>
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<td>El Paso</td>
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<tr>
<td>Burlington Resources</td>
<td>409</td>
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<tr>
<td>Dominion Exploration &amp; Production</td>
<td>346</td>
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<tr>
<td>EnCana</td>
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<tr>
<td>Marathon Oil</td>
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<td>Unocal</td>
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<td>Chesapeake Energy</td>
<td>246</td>
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<td>XTO Energy</td>
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</tbody>
</table>

Gas STAR Partners

Other Companies

Oil and Gas Journal, September 13, 2004
# Production Sector Gas STAR Partners

<table>
<thead>
<tr>
<th>Company</th>
<th>U.S. Production (Bcf)</th>
</tr>
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<tbody>
<tr>
<td>Apache</td>
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<tr>
<td>EOG Resources</td>
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<tr>
<td>Kerr-McGee</td>
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<td>Occidental Petroleum</td>
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<td>Williams</td>
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<td>Newfield Exploration</td>
<td>184</td>
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<td>Pioneer Natural Resources</td>
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<td>Noble Energy</td>
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<td>Westport Resources</td>
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<td>Amerada Hess</td>
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<td>Forest Oil</td>
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<td>Questar</td>
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<tr>
<td>Pogo Producing</td>
<td>77</td>
</tr>
</tbody>
</table>

*Additional partners*
- Totalfinalef
- Energen Resources
- Quicksilver Resources
- Murphy Oil
- Houston Exploration
- Torch Energy
- Venoco
- Hunt Oil

Oil and Gas Journal, September 13, 2004
Natural Gas STAR Program
Endorsers

- American Gas Association (AGA)
- American Petroleum Institute (API)
- Domestic Petroleum Council (DPC)
- Gas Processors Association (GPA)
- Gulf Coast Environmental Affairs Group (GCEAG)
- Independent Producers Association of Mountain States (IPAMS)
- Interstate Natural Gas Association of America (INGAA)
- National Association of Regulatory Utility Commissioners (NARUC)
- Natural Gas Supply Association (NGSA)
- New York State Energy Research and Development Authority (NYSERDA)
- Southern Gas Association (SGA)
January 10, 2003

From: Mr. Red Cavaney
To: Hon. Spencer Abraham

The Honorable Spencer Abraham
January 10, 2003
Page Two

The American Petroleum Institute

Dear Mr. Secretary,

The American Petroleum Institute is passionate about addressing climate change and environmental issues. Our Institute recognizes the importance of reducing greenhouse gas emissions to combat climate change and protect the environment.

API's Climate Action Challenge programs contain broad goals such as reducing oil and gas sector greenhouse gas emissions. We propose to develop GHG management plans that will identify key cost-effective government programs, such as 100% participation in Natural Gas Star and CHP Challenge. Expanding participation in the Natural Gas Star program would further reduce greenhouse gas emissions from natural gas production – critical for the nation's overall GHG strategy.

Our Climate Action Challenge targets long-term solutions, such as developing cost-effective GHG emission reduction technologies, focusing on energy efficiency, and reducing emissions from new vehicles. Under the Energy Innovation and Reporting Challenge, we are aggressively working to reduce energy consumption in the transportation sector. The protocol is critical for us, as it provides a reliable way to measure our energy efficiency goals and efforts towards greenhouse gas emissions reduction.

The attached document provides additional details on our Climate Action Challenge Program. API and its members look forward to working with the Department of Energy and other stakeholders to address this complex and evolving issue of climate change and ensure progress towards global GHG reduction targets. We appreciate your continued support and assistance in this effort.

Sincerely,

[Signature]

President and CEO
Methane Emissions in the Oil and Gas Industry
U.S. Greenhouse Gas Emissions
All Sources

- CO$_2$ 83%
- CH$_4$ 9%
- N$_2$O 6%
- HFCs, PCs, & SF$_6$ 2%

U.S. Greenhouse Gas Emissions
Methane

- Oil & Natural Gas Systems: 24%
- Landfills: 32%
- Enteric Fermentation: 19%
- Coal Mining: 9%
- Other: 16%

U.S. Oil and Gas Industry Methane Emissions (Annual)

Bcf (billion cubic feet)

- Transmission & Storage: 98 Bcf (27%)
- Processing: 36 Bcf (10%)
- Distribution: 73 Bcf (21%)
- Oil & Gas Production: 150 Bcf (42%)

U.S. oil and natural gas industry methane emissions account for 2% of total U.S. greenhouse gas emissions.

Methane Emissions Reduction Successes
Natural Gas STAR Partner Accomplishments

★ 338 Bcf in methane emissions reductions since 1993!

Bar chart showing methane saved in Bcf/Year from 1993 to 2003.
Natural Gas STAR Partner Accomplishments
Years 1990 - 2002

Units in teragrams of CO₂ equivalent (TgCO₂E)

2002 Production Sector Emissions Reductions

- **BMP 1:** Replace high bleed pneumatic devices
- **BMP 2:** Install flash tank separators on glycol dehydrators
- **BMP 3:** Partner Reported Opportunities (PROs)
  - 80% of production sector reductions came from PROs

**Top PROs**
- 12 Bcf

**Other PROs**
- 6 Bcf

**BMP 1**
- 4 Bcf

**BMP 2**
- 0.6 Bcf

**2002 Production Sector Emissions Reductions**
Methane emissions (solid) and reductions (*italics*) in each sector of the U.S. natural gas industry.

- **Production**: 150 Bcf
- **Processing**: 36 Bcf
- **Transmission / Storage**: 98 Bcf
- **Distribution**: 73 Bcf

Top Production Sector PROs

- Install Instrument Air System
- Install Plunger Lift in Gas Wells
- Pipe Glycol Dehydrator Emissions to VRU
- Convert Gas-driven Chemical Pumps to Instrument Air
- Eliminate Unnecessary Equipment
- Install Vapor Recovery Units on Storage Tanks
Annual Conference
October 25 -26, 2005
Houston, TX
White House “Methane to Markets” Initiative

★ Five year activity to develop verifiable methane emissions reduction projects at landfills, coal mines and natural gas systems.

★ Goal is to build long-term capacity within developing countries and economies in transition.

★ Countries include: Argentina, Australia, Brazil, China, Colombia, India, Italy, Japan, Mexico, Nigeria, Russia, Ukraine and UK

★ Gas STAR will lead natural gas systems-related activities. The Program welcomes Gas STAR Partner participation.
Contact Information

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