





Natural Gas STAR Program

Overview and Accomplishments

Producers Technology Transfer Workshop
Oklahoma City, OK
May 14, 2009



Outline

- 🔥 **Background**
- 🔥 **Natural Gas STAR Program Overview & Highlights**
- 🔥 **Key Program Resources and Updates**

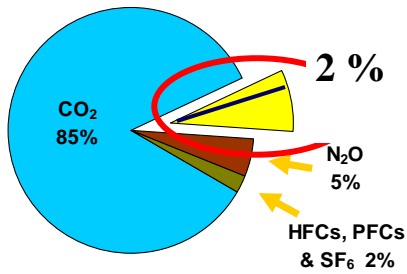


Background



Current U.S. Greenhouse Gas Emissions Estimates

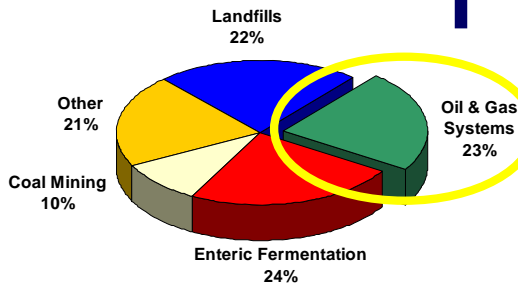
U.S. Greenhouse Gas Emissions All Sources



Oil and natural gas systems are the second **largest** man-made source of methane emissions in the U.S. (**23%**)

Methane emissions from Oil and natural gas systems make up about 2% of total U.S. greenhouse gas emissions

U.S. Methane Emissions by Sector

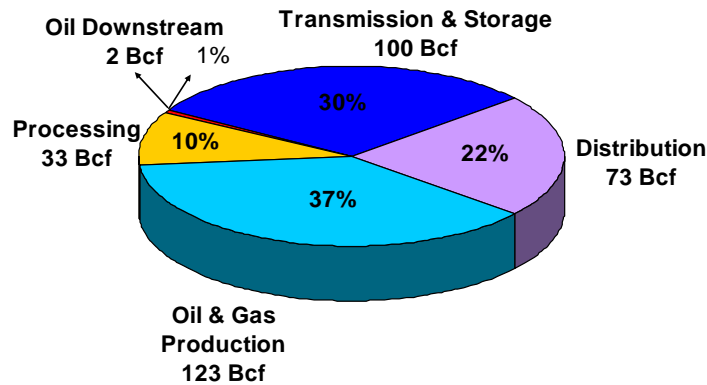


Source: EPA. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 – 2007*. April, 2009.



Background: U.S. Oil and Gas Methane Emissions by Sector

2007 U.S. methane emissions from oil and natural gas industry:
331 Bcf (2% of total U.S. greenhouse gas emissions)

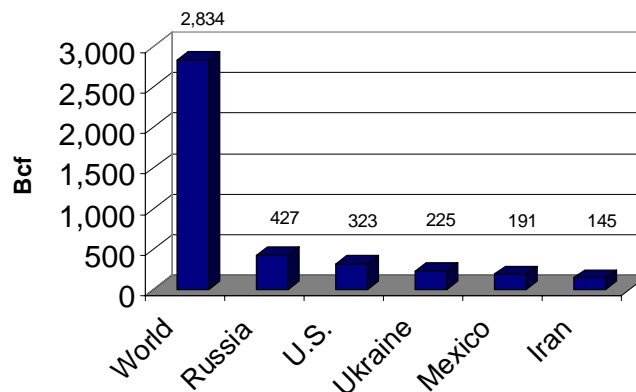


Source: EPA. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 – 2007*. April, 2009.
Note: Natural Gas STAR reductions from gathering and boosting operations are reflected in the production sector.



Oil and Gas Industry Methane Emissions: U.S. & International

U.S. contributes 11% of worldwide methane emissions from oil and natural gas systems



Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 – 2006, USEPA, April, 2008
Global Anthropogenic Non-CO₂ Greenhouse Gas Emissions: 1990 – 2020, USEPA, June 2006



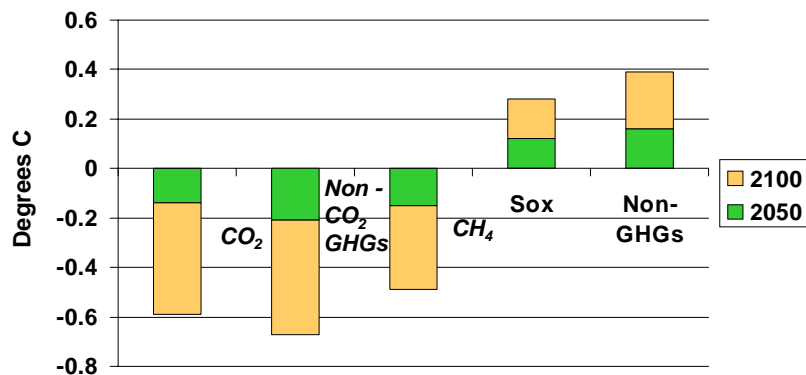
U.S. Oil & Natural Gas Opportunities: Why Gas STAR?

- 331 Bcf of methane emissions per year amounts to:
 - \$2.32B worth of gas lost (at \$7/Mcf)
 - CO₂ emissions from the electricity use of 17.7 million homes for one year
 - Annual greenhouse gas emissions from 24.5 million passenger vehicles
- U.S. oil and natural gas industry has an opportunity to cost-effectively reduce methane emissions resulting in:
 - Increased operational efficiency
 - Increased profits
 - Increased domestic natural gas supply
 - Improved safety
 - Improved environmental performance
 - Better public relations



Methane Emission Reductions: Important Short-term Climate Benefits

- Impact of a 50% reduction from a business as usual scenario in 2050, maintained to 2100



Source: Pew Center on Global Climate Change, 2003



Overview & Program Highlights



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.

- ♣ Over 130 Program Partners across four sectors
 - ♣ 10 International Partners
 - ♣ 20 Endorser Associations

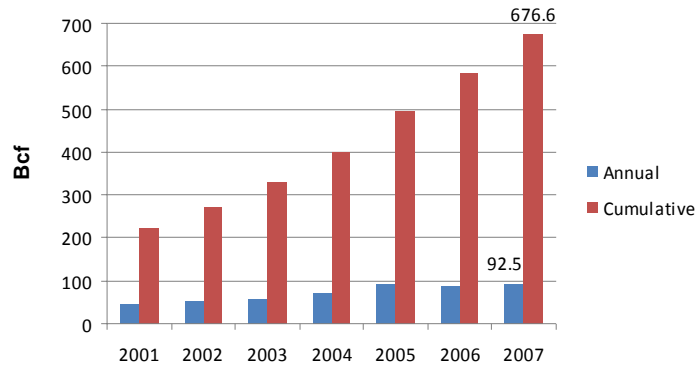
For a complete listing of Natural Gas STAR partner companies and industry association endorsers, visit epa.gov/gasstar/partners/index.html



Accomplishments

- Through participation in the Natural Gas STAR Program, partners reduced methane emissions by 92.5 Bcf in 2007
- 677 Bcf in cumulative reductions since 1993

Domestic Natural Gas STAR Methane Emission Reductions as of 2007



Natural Gas STAR International

- Natural Gas STAR International launched September 26, 2006 now has 10 partners





Program Resources and Tools



Natural Gas STAR Key Components

- 🔥 **Guidance on new technologies and practices**
 - 🔥 Technical documents on more than 80 **cost-effective** technologies and practices
 - 🔥 Free Technology Transfer workshops
 - 🔥 One-on-one technical assistance to identify and prioritize cost-effective methane emission reduction opportunities
- 🔥 **Annual record of partner voluntary actions and methane savings**



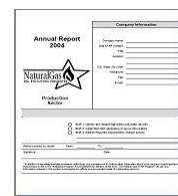
Technical Information



Project Demonstrations



Workshops



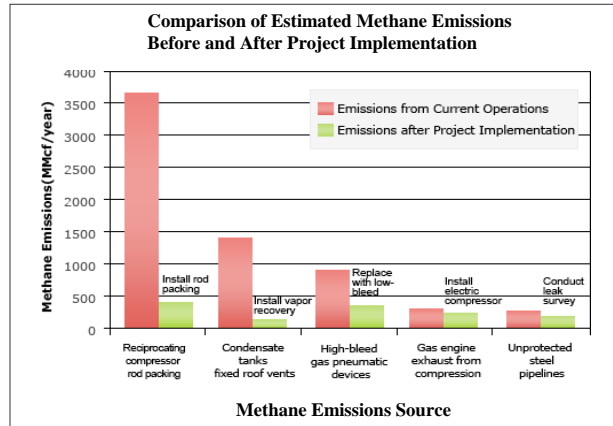
Annual Reports



Natural Gas STAR “Partner Challenge”

EPA offers one-on-one technical assistance to partners in identifying and prioritizing cost-effective methane emission reduction opportunities

- Uses customized data
- Quantifies partners’ methane emissions and identifies corresponding emission reduction opportunities
- Details economic and operational benefits of reduction technologies & practices



<http://www.epa.gov/gasstar/tools/partner-challenge.html>



2009 Technology Transfer Workshops

Production and Processing
Billings, MT
Aug 31, 2009

Production
Oklahoma City, OK
May 14, 2009

Annual Implementation Workshop
San Antonio, TX
Oct 19 to 21, 2009



Methane to Markets
Oil and Gas Subcommittee Meeting
Lake Louise, Alberta, Canada
Sept 14 to 17, 2009

For more information, visit www.epa.gov/gasstar/workshops



Recent Climate Change Activities

- ♣ **Waxman-Markey discussion draft “The American Clean Energy and Security Act of 2009” released March 31, 2009**
 - ♢ EPA’s preliminary economic analysis available at epa.gov/climatechange/economics/economicanalyses.html#wax
- ♣ **Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act signed by the EPA Administrator on April 17, 2009.**
 - ♢ Additional information available at epa.gov/climatechange/endangerment.html
- ♣ **EPA Mandatory Greenhouse Gas Reporting Rule published in the Federal Registrar on April 10, 2009, 60 day comment period open until June 9, 2009.**



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www.epa.gov/gasstar
www.methanetomarkets.org