

# Proposed Gas STAR Gold Program

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Natural Gas STAR Program  
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# Overview

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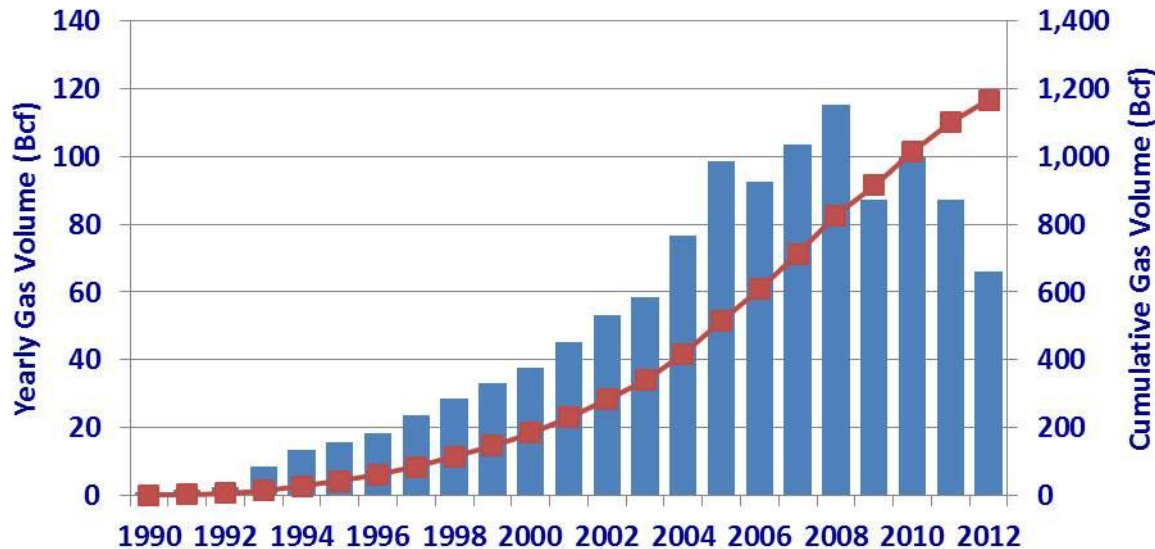
- ▶ Background
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# Natural Gas STAR Program



- ▶ Currently, Gas STAR includes 109 domestic oil and gas partner companies from all sectors, representing about 50% of the U.S. natural gas industry and 18 international Partners.
- ▶ Partners have reported over 1 trillion cubic feet of methane emissions reductions since the Program began in 1993.

Natural Gas STAR Program Emission Reductions, Annual and Cumulative



# Drivers for Evaluating Gas STAR



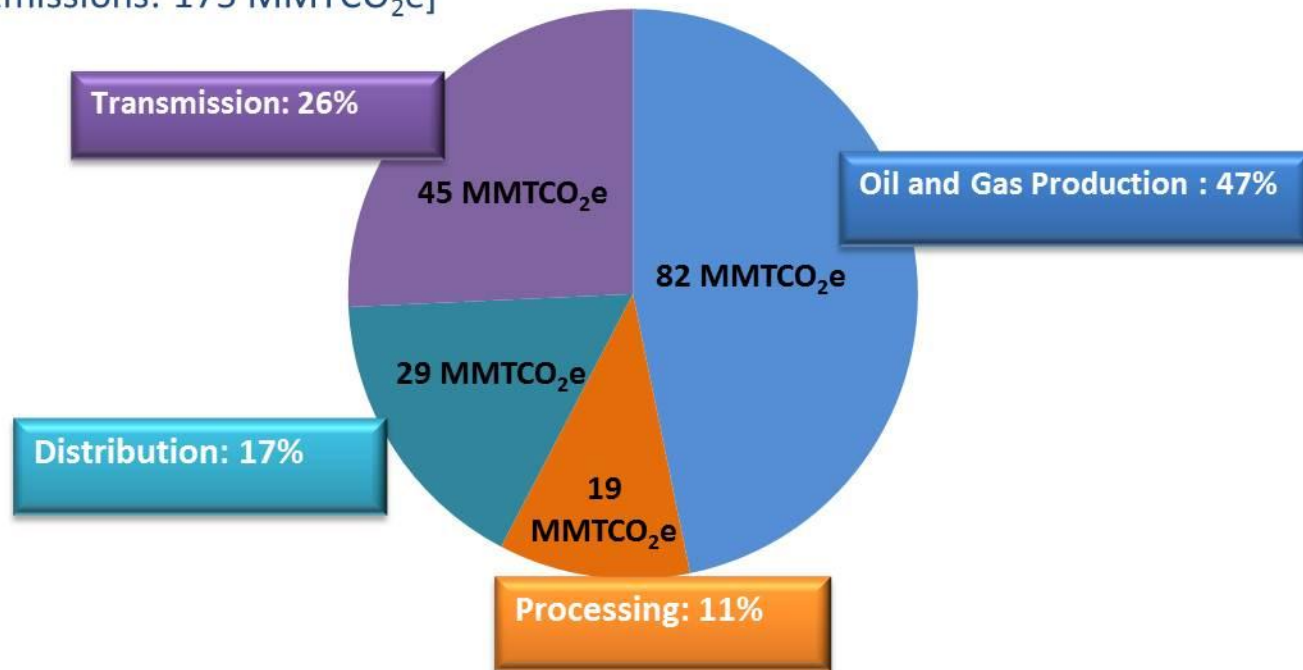
- ▶ **Methane is a potent greenhouse gas and clean energy source**
  - ▶ Reducing methane emissions has important cross-cutting benefits including reducing climate impacts, VOCs and HAPs and thereby improving local air quality, improving industrial efficiency/safety, increasing domestic energy supply, and generating revenue.
  
- ▶ **Oil and gas is a key focus of the President's 2013 Climate Action Plan and the Strategy to Reduce Methane Emissions (March 2014)**
  - ▶ Interagency methane strategy recognizes oil and gas as a key sector and highlights the opportunity to bolster the Natural Gas STAR Program
  
- ▶ **Significant and diverse stakeholder interest in oil and gas-sector methane emissions**
  
- ▶ **Opportunity to leverage existing frameworks**
  - ▶ EPA NSPS and State regulations have established control technologies and practices that could be used in a voluntary context to address sources at existing facilities.
  - ▶ GHGRP facility-level data is available for verification/tracking purposes.
  
- ▶ **Mature program**
  - ▶ Gas STAR began in 1993 and has never been significantly updated. Program enhancement can provide new opportunities for partners and EPA.

# Opportunities for Future Action

- ▶ While progress has been made, opportunity remains to further reduce methane.
- ▶ Viable low-cost technologies and practices exist today. Remaining low-cost abatement potential estimated at over 60 million metric tons of CO<sub>2</sub>e.
- ▶ Opportunity for greater participation beyond current Program flexible framework.

## Projected US Methane Emissions from Oil and Gas Industries in 2015\*

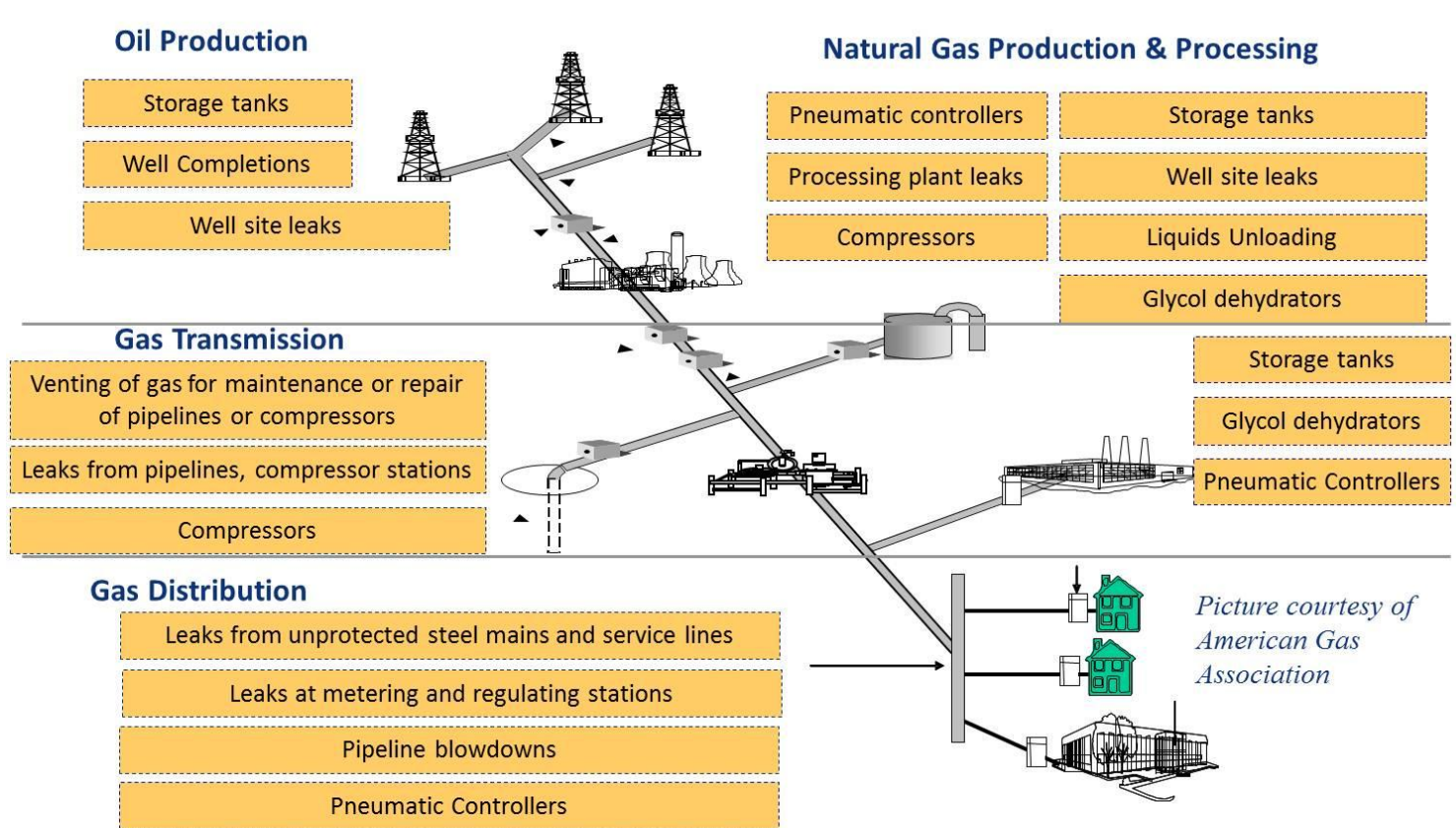
[Total Emissions: 175 MMTCO<sub>2</sub>e]



\* Post 2012 New Source Performance Standards

Source: Global Non-CO<sub>2</sub> Mitigation Report and Global Non-CO<sub>2</sub> emissions and projections report

# Key Opportunities for Methane Reductions



# Gas STAR Gold Program Objectives

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- ▶ The existing Gas STAR Program will remain in place with a primary focus of technology transfer.
- ▶ The proposed Gas STAR Gold Program creates a framework under which facilities will be recognized by EPA for implementing, at the facility level, methane reduction activities for all major methane emission sources. Major goals include:
  - ▶ Showcase the achievements of U.S. oil and gas operations at the facility-level by offering a standard set of best protocols to be implemented at the facility-level.
  - ▶ Achieve greater methane emissions reductions across the entire value chain (production through distribution) by encouraging additional facilities to achieve Gold- level performance.
  - ▶ Create a verifiable and transparent mechanism to demonstrate achievements and acknowledge high performers.
  - ▶ Complement and, where appropriate, exceed existing regulatory requirements - such as applying control techniques required for new sources under NSPS Subpart OOOO to existing facilities.
  - ▶ Publically recognize participating companies' emission reduction.

# Gold Program Overview

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- ▶ Under the proposed Gas STAR Gold Program, companies can achieve Gold status at a facility by implementing all specified reduction protocols for all applicable methane sources at the facility level.
- ▶ **To achieve Gold status, companies would:**
  - ▶ **Submit a Letter of Intent** outlining list of proposed facilities working toward Gold status.
  - ▶ Develop an **Implementation Plan** for each facility seeking Gold status.
  - ▶ **Implement all applicable Gold protocols** at a minimum of one facility.
  - ▶ **Submit an Annual Report** for each Gold status facility demonstrating achievement of all protocols and plans for maintaining facility-level Gold status.
  - ▶ Continue the process of implementing the Gold status protocols **at least one new facility** each year.
- ▶ **To achieve Platinum status, companies would:**
  - ▶ Achieve Gas STAR Gold status for a high percentage (to be specified) of their facilities. For example, when a company attains Gold status for 90% of its facilities, they would achieve Platinum recognition at the corporate level.



# Gas STAR Gold Program - EPA Implementation

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## ▶ EPA will:

- ▶ **Provide focused technical assistance** to companies as needed.
- ▶ **Develop a reporting and verification system** to transparently certify and track Gold status progress and achievements at participating facilities.
- ▶ **Publically recognize companies** by allowing Gold facilities to use an official EPA Gas STAR Gold logo and showcasing a facility's success on the Gas STAR website and at other applicable events and outlets.
- ▶ **Calculate and document progress** in reducing methane emissions consistent with existing EPA data and estimation methodologies.
  - Create a “scorecard” so that the public can compare corporate progress.

# Proposed Gold STAR Protocols

Protocol	Emission Source	Off P	On P	GB	Pc	T	S	LNG S	LNG I&E	D
1	Associated Gas	Y	Y	Y						
2	Casinghead Gas		Y							
3	Centrifugal Compressors - Wet and Dry Seals	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	Compressor Blowdowns	Y	Y	Y	Y	Y	Y	Y	Y	Y
5	Compressor Starts	Y	Y	Y	Y	Y	Y	Y	Y	Y
6	Equipment Fugitives above Ground	Y	Y	Y	Y	Y	Y	Y	Y	Y
7	Flares	Y	Y	Y	Y	Y	Y	Y	Y	
8	Gas-driven Pneumatic Devices	Y	Y	Y	Y	Y	Y	Y	Y	Y
9	Glycol Dehydrators	Y	Y	Y	Y	Y	Y	Y	Y	
10	Hydrocarbon Storage Tanks	Y	Y	Y	Y	Y				
11	Liquids Unloading		Y							
12	Pipeline Venting and Blowdowns		Y	Y	Y	Y	Y	Y	Y	Y
13	Pipeline Inspection and Repair (including low pressure distribution and gathering lines and high pressure pipelines)		Y	Y	Y	Y	Y			Y
14	Pressure Relief Valves - System Upsets	Y	Y	Y	Y	Y	Y	Y	Y	Y
15	Reciprocating Compressors Rod Packing	Y	Y	Y	Y	Y	Y	Y	Y	Y
16	Vessel Blowdowns	Y	Y	Y	Y	Y	Y	Y	Y	Y
17	Cast Iron Distribution Pipeline and Unprotected Steel Pipeline									Y

# Benefits to the Oil and Gas Industry

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- ▶ **EPA recognition of clear, comparable, verifiable and transparent** data on a facility's methane emissions performance.
  - ▶ **Facility emission data transparency** is necessary. Facilities will publically disclose all relevant data in order to verify Gold status and give reputability.
- ▶ **EPA recognition** of facility performance.
  - ▶ EPA will publicize facility progress on our website and through workshops.
  - ▶ EPA will give facilities permission to use the EPA Gas STAR Gold logo.
  - ▶ EPA will publicly track company progress by listing Gold facilities and indicate percentage of operations that these facilities represent.
- ▶ Facility **revenue generation** through the sale of reduced methane emissions.
- ▶ Reduced **VOC and HAPs** emissions in upstream oil and gas sector.
- ▶ Increased **safety** at the facility level.
- ▶ Better **local and state** relationships.

# Gas STAR Gold Program – Request for Feedback

EPA seeks feedback from stakeholders regarding all aspects of this proposed program, including:

▶ **Program Recognition and Incentives**

- ▶ What other benefits would be appropriate for facilities that implement all “Gold” protocol standards?
- ▶ How can EPA best promote facility “Gold” achievements?
- ▶ How can EPA market this program to key stakeholders including company management and boards, state and local regulators, financiers, shareholders and the public?

▶ **Program Implementation**

- ▶ What are the major facility barriers to achieving “Gold” recognition that EPA can assist in overcoming?
- ▶ EPA is seeking feedback on specific aspects of implementing the Program at the facility level including handling acquisitions and divestitures for the production segment.

▶ **Existing Regulatory Frameworks**

- ▶ It is the intent of Gas STAR “Gold” Program to meet or exceed existing voluntary and mandatory methane-related regulatory frameworks. Do any of the proposed protocols conflict with existing regulations or frameworks?

▶ **Proposed Protocols**

- ▶ Are appropriate emissions sources targeted in these protocols? Should EPA consider any additional emissions sources and/or associated protocols?
- ▶ Are appropriate best management practices, technologies and/or emission mitigation targets used in the protocols?
- ▶ For the local distribution sector (LDC), please provide feedback on performance goals for specific sources, such as cast iron pipe replacement and suggestions for how to increase methane emissions reductions from LDCs with limited or no cast iron or exposed steel pipe?
- ▶ How, and how frequently, should protocols or other program elements be updated to reflect evolving state of the art?

# Timeline for Launch of Gas STAR Gold

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- ▶ **On-going - Outreach to key industry, trades, State and NGO stakeholders**
  
- ▶ **May 12 – Natural Gas STAR Annual Implementation Workshop: Gas STAR Gold Program Discussion**
  - ▶ Describe proposed details of Gold STAR Program and seek initial feedback.
  - ▶ Framework document describing program implementation and overview of proposed protocols.
  
- ▶ **Through July 31 - Feedback Process**
  - ▶ EPA will request feedback on proposed program implementation
  - ▶ EPA will host an in-person meeting and webinars.
    - June 4, 2014: Proposed Webinar
    - June 13, 2014: Proposed Webinar
    - June 25, 2014: In person meeting in Washington, DC
  
- ▶ **Autumn 2014 – Finalize Program Protocols**
  - ▶ Review of stakeholder feedback and finalization of Program details.
  
- ▶ **On-going through December 31, 2014 – Welcome Charter Partners and Launch Partnership**
  - ▶ Receive signed Letters of Intent from Charter Partners.
  - ▶ Kick-off event
  
- ▶ **January 1, 2015 – Begin first year of Gas STAR Gold Program**

# Contact us!

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**We look forward to working with you and hope that you will consider joining the Gas STAR Gold Program!**

For more information about Gas STAR Gold:

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

**We welcome your feedback!**

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

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