



# Natural Gas STAR Program

## Technology Transfer Workshop

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Midland, TX  
June 8, 2005



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

# 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



## ★ 118 Program Partners

★ 62% of transmission

★ 26 partners

★ 60% of distribution

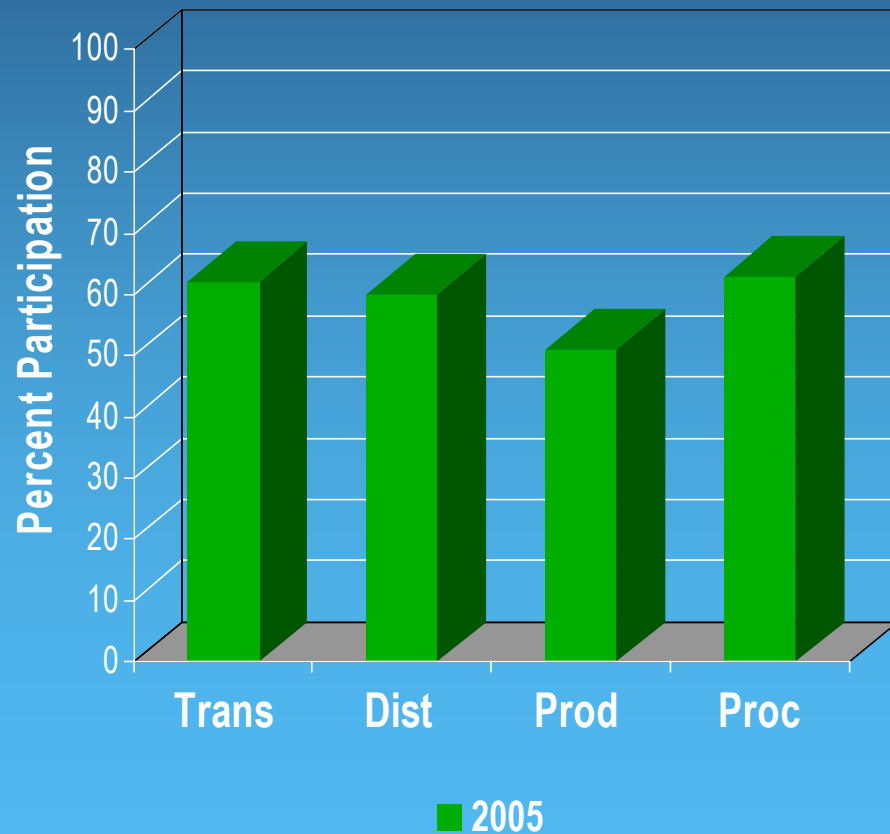
★ 48 partners

★ 51% of production

★ 32 partners

★ 63% of processing

★ 12 partners



# Natural Gas STAR Program Endorsers

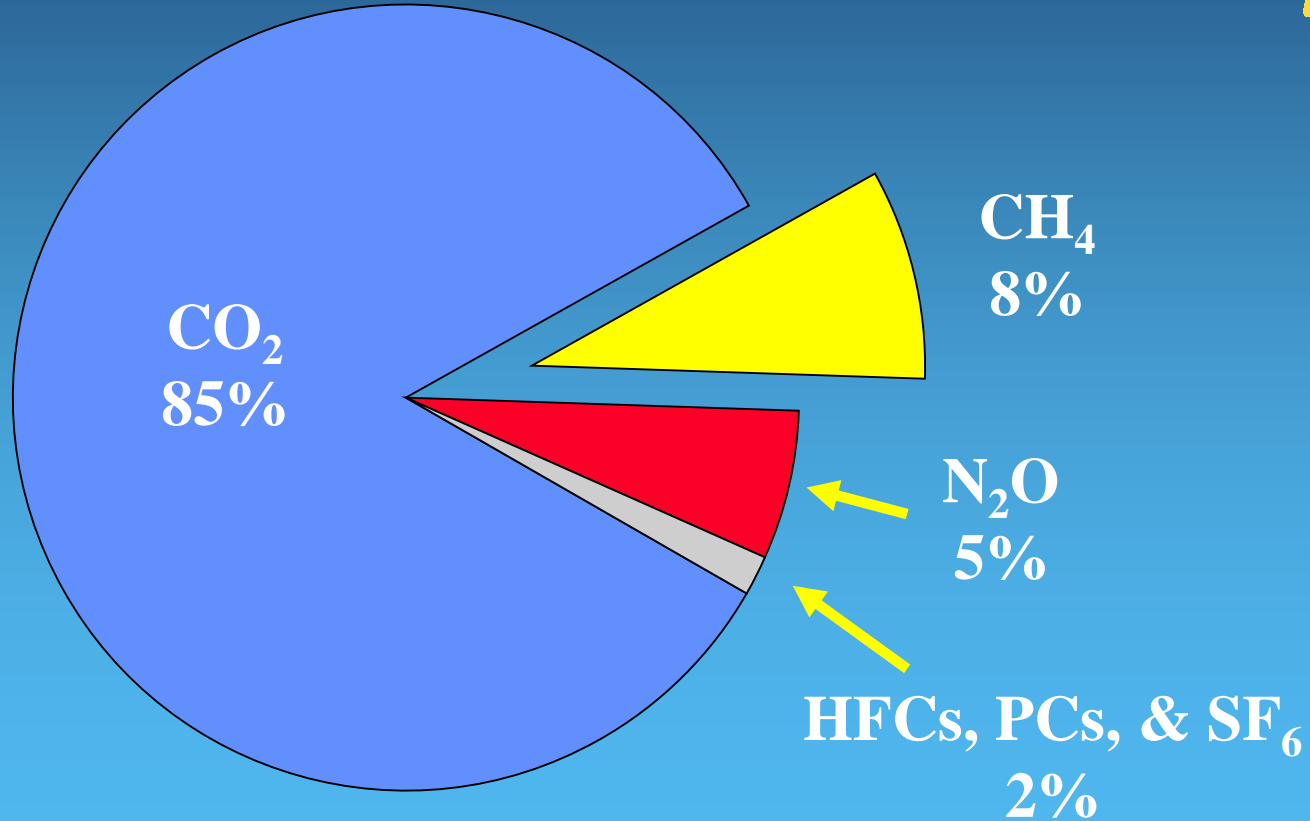


- ★ American Gas Association (AGA)
- ★ American Petroleum Institute (API)
- ★ Domestic Petroleum Council (DPC)
- ★ Gas Processors Association (GPA)
- ★ Gulf Coast Environmental Affairs Group (GCEAG)
- ★ Independent Producers Association of Mountain States (IPAMS)
- ★ Interstate Natural Gas Association 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)

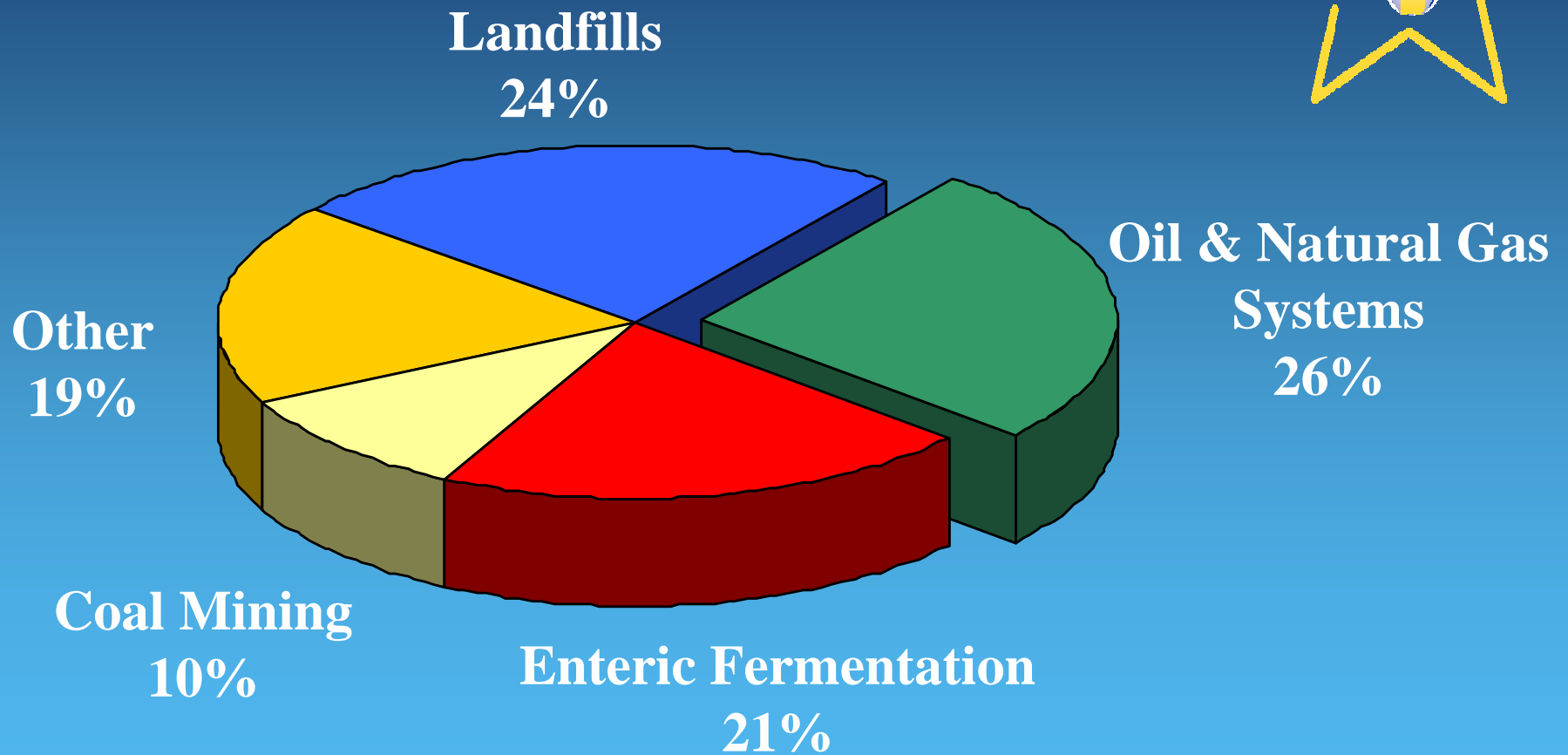
**Methane  
Emissions in the  
Oil and Gas  
Industry**



# U.S. Greenhouse Gas Emissions All Sources



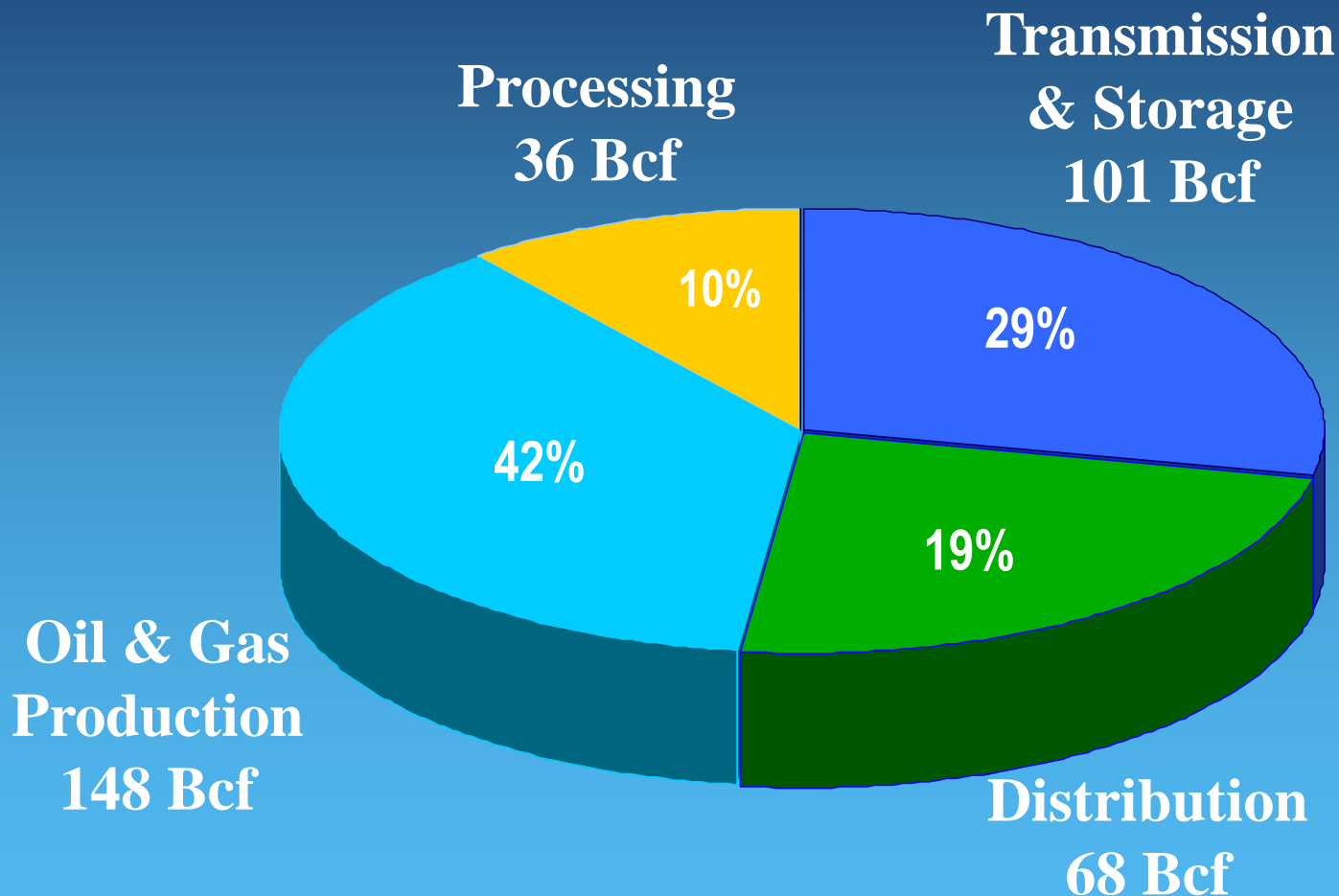
# U.S. Greenhouse Gas Emissions Methane



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



*Bcf (billion cubic feet)*



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



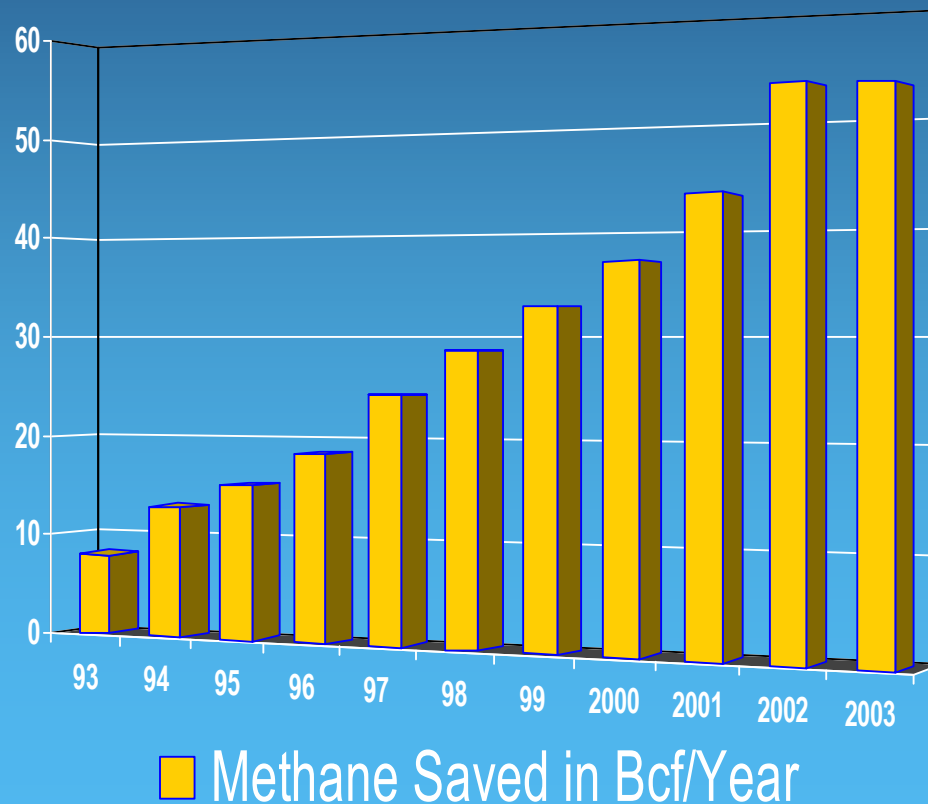
**Methane  
Emissions  
Reduction  
Successes**



# Natural Gas STAR Partner Accomplishments

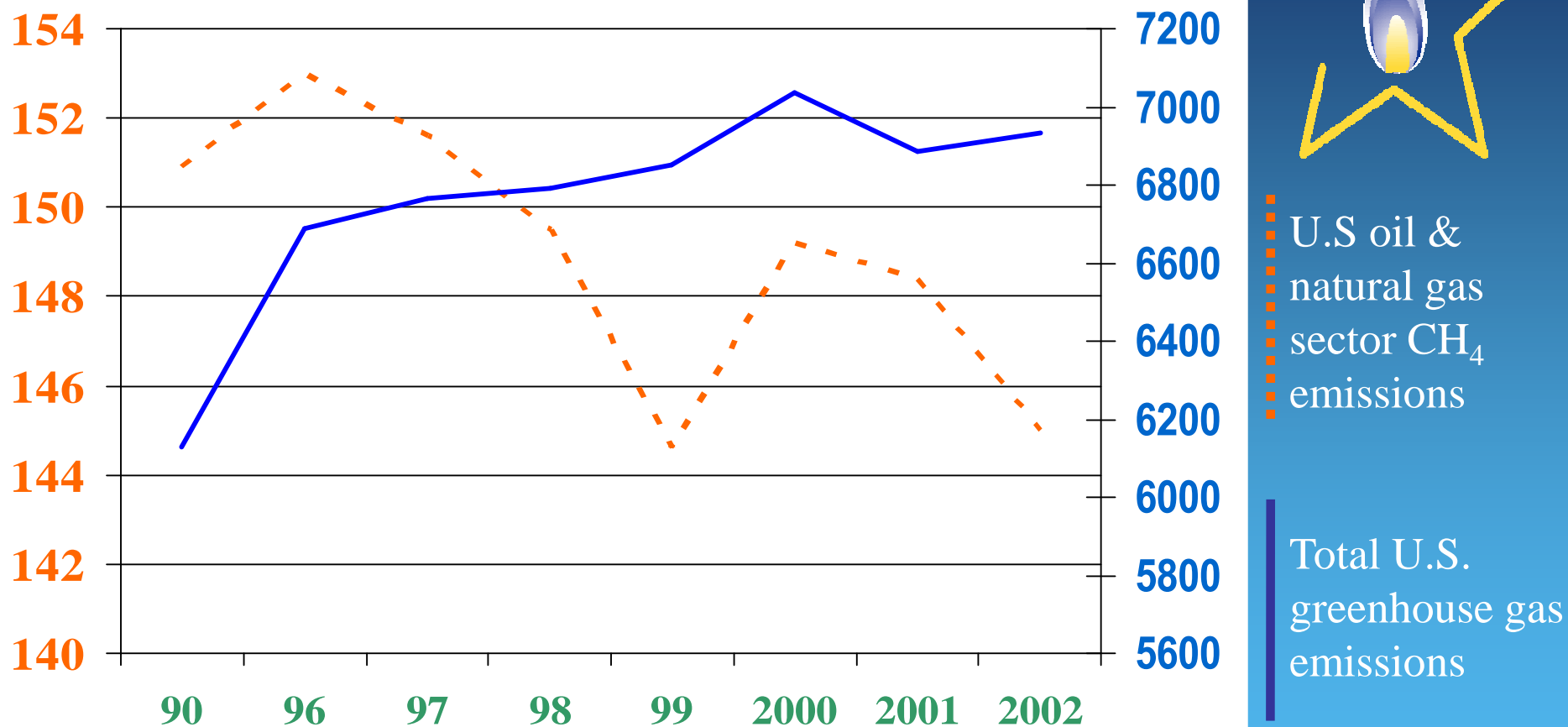


★ 338 Bcf in methane emissions reductions since 1993!



# Natural Gas STAR Partner Accomplishments

## Years 1990 - 2002

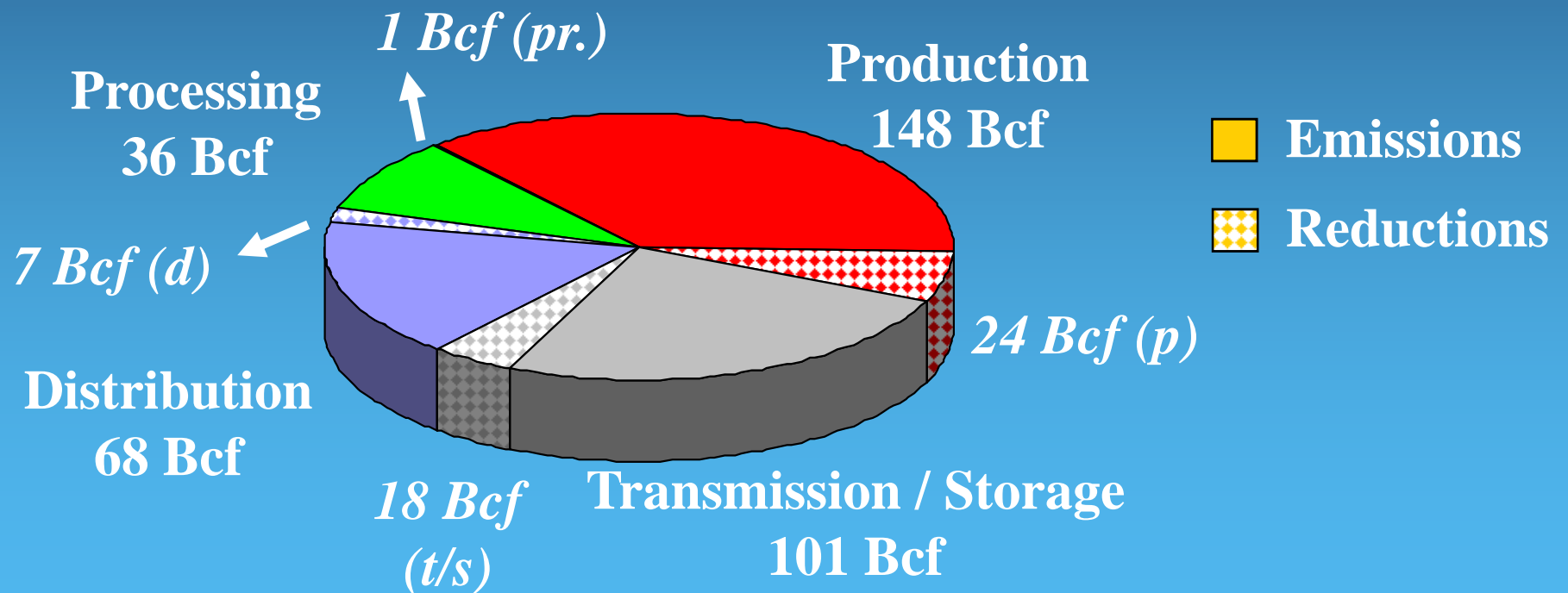


Units in teragrams of CO<sub>2</sub> equivalent (TgCO<sub>2</sub>E)

# Natural Gas Industry Emissions



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



# Gas STAR Emission Reductions



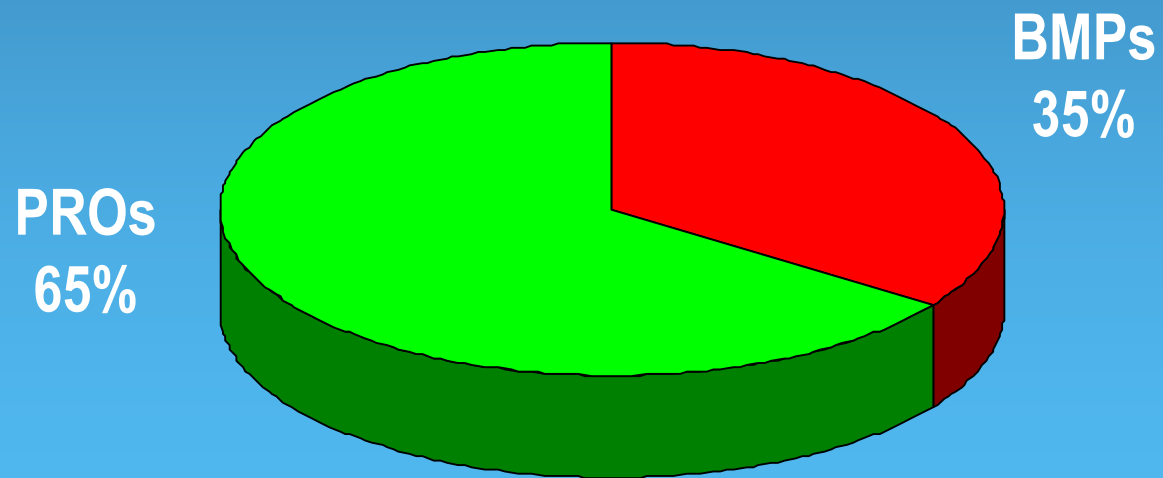
- ★ Emission reductions are achieved when partners implement:
  - Best Management Practices (BMPs)
    - Industry consensus on proven emission reduction practices
  - Partner Reported Opportunities (PROs)
    - Emission reduction technologies and practices undertaken by individual partners
- ★ BMP and PRO technical documents posted on [epa.gov/gasstar](http://epa.gov/gasstar)

# Reductions from BMPs and PROs



- ★ Majority of Gas STAR reductions from Partner Reported Opportunities

\$1 Billion in  
Methane Savings



# Top Gas STAR PROs



- ★ **Replace Wet Seals with Dry Seals**
  - ★ 18.4 Bcf savings from 6 companies
- ★ **Use Compressors for Pipeline Pumpdown**
  - ★ 17.1 Bcf savings from 20 companies
- ★ **Install Vapor Recovery Units**
  - ★ 48.7 Bcf savings from 20 companies
- ★ **Conduct Leak Survey**
  - ★ 1.0 Bcf savings from 10 companies
- ★ **Eliminate Unnecessary Equipment or Systems**
  - ★ 3.1 Bcf savings from 15 companies

# Workshops



## ★ Technology Transfer Workshops (5 to 6 per year)

- Production: Oklahoma City, OK – April 20, 2005  
Houston, TX – October 27, 2005  
Gillette, WY – August, 2005
- Processing: Oklahoma City, OK – April 22, 2005
- Transmission: Midland, TX – June 8, 2005
- Distribution: Teleconference, May 17, 2005

## ★ Annual Implementation Workshop

- Houston, TX – October 25 to 26, 2005



# 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 system-related activities. The Program welcomes Gas STAR Partner participation.
- ★ [epa.gov/methanetomarkets](http://epa.gov/methanetomarkets)

# Contact Information



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