



# Natural Gas STAR Program

## Processors Technology Transfer Workshop

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Sponsors – Gas Processors Association and  
Pioneer Natural Resources, Inc.

September 23, 2004

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



# The Natural Gas STAR Program



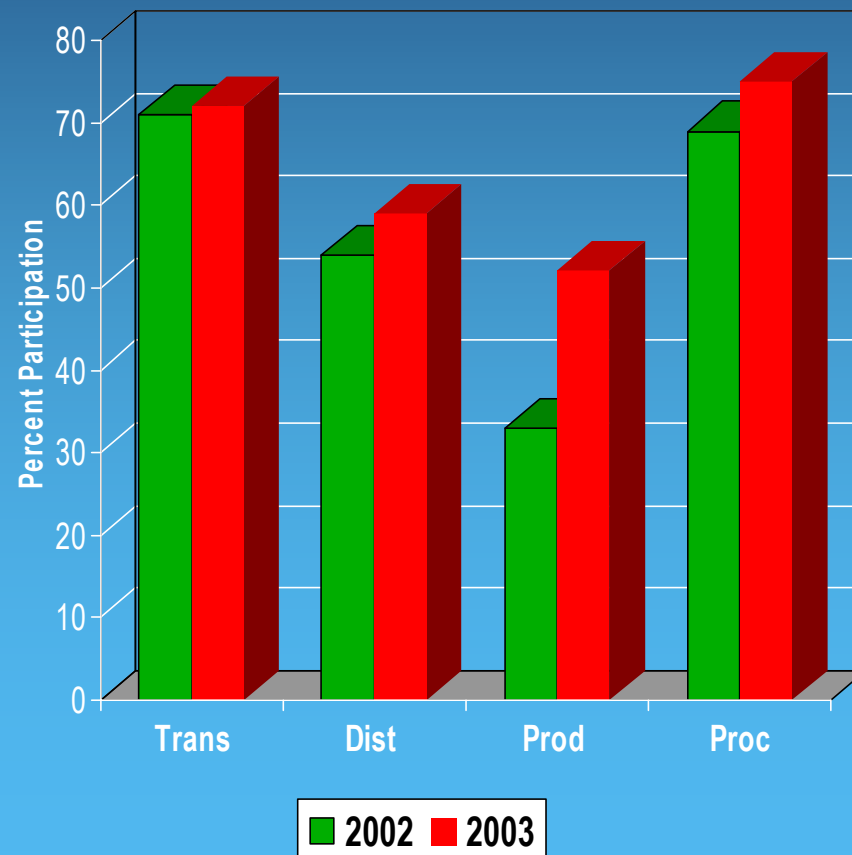
The Natural Gas STAR Program is a *flexible, voluntary partnership* between EPA and the oil and natural gas industry designed to *cost-effectively* reduce methane emissions from natural gas operations

# U.S. Industry Participation



## ★ 109 Program Partners:

- ★ 56% of transmission
- ★ 23 Partners
- ★ 44% of distribution
- ★ 45 Partners
- ★ 62% of production
- ★ 29 Partners
- ★ 62% of processing
- ★ 12 Partners



# Processing Sector Gas STAR Partners



- ★ BP p.l.c.
- ★ ChevronTexaco Corporation
- ★ ConocoPhillips Company
- ★ Duke Energy Field Services
- ★ Dynegy Midstream Services, L.P.
- ★ El Paso Field Services
- ★ Enbridge Energy Partners, L.P.
- ★ Enogex
- ★ ExxonMobil
- ★ ONEOK Field Services Company
- ★ **Pioneer Natural Resources, Gas Processing**
- ★ Western Gas Resources, Inc.

# Natural Gas STAR Program Endorsers



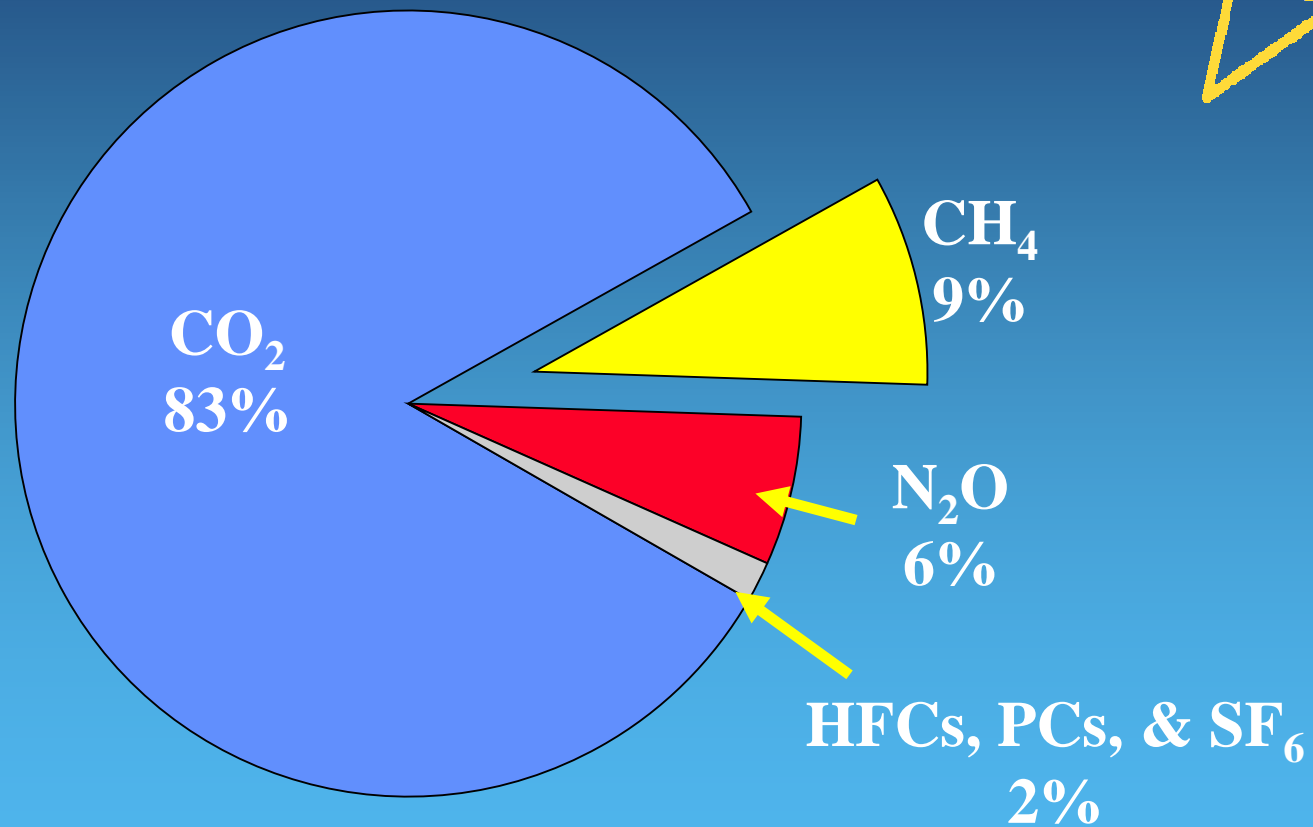
- ★ American Gas Association (AGA)
- ★ American Petroleum Institute (API)
- ★ Domestic Petroleum Council (DPC)
- ★ **Gas Processors Association (GPA)**
- ★ Gas Technology Institute (GTI)
- ★ Gulf Coast Environmental Affairs Group (GCEAG)
- ★ Interstate Natural Gas Association of America (INGAA)
- ★ Independent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

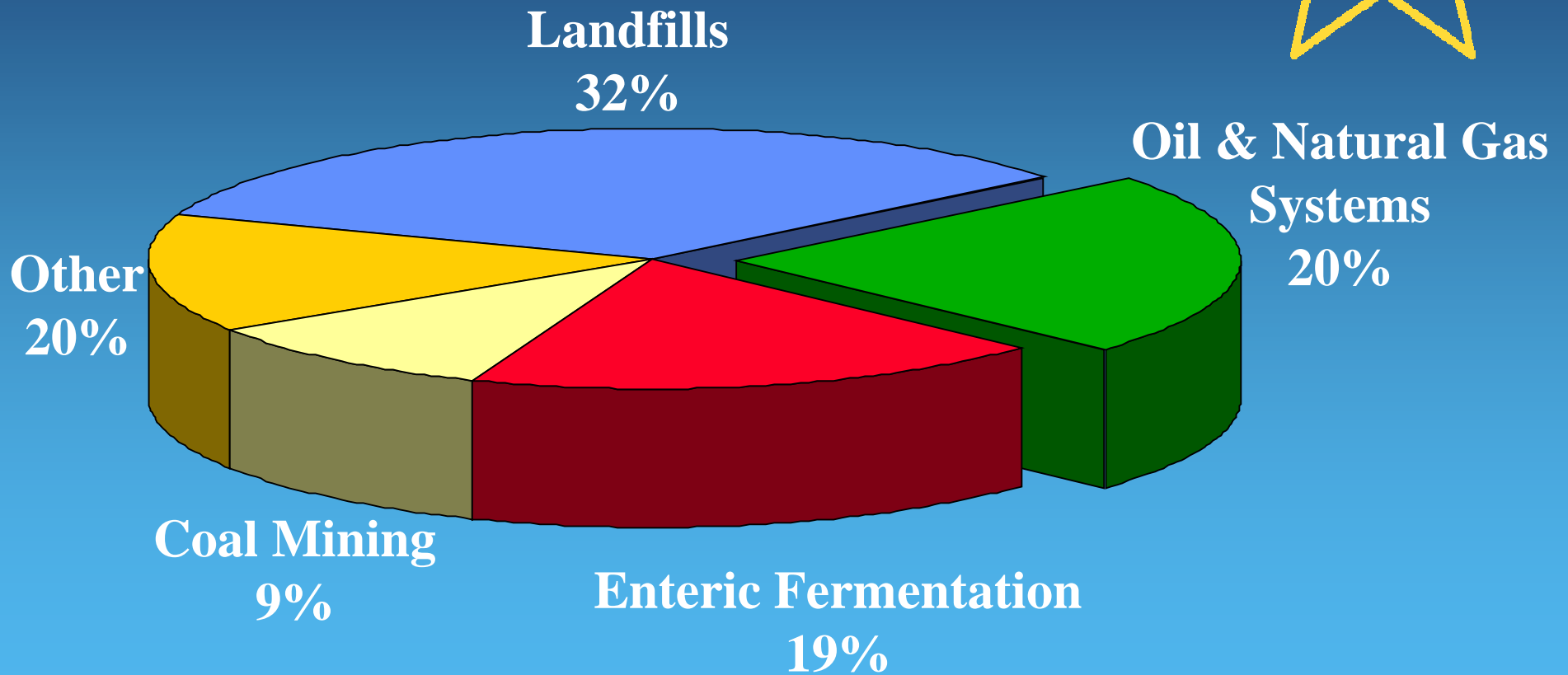


# U.S. Greenhouse Gas Emissions

## All Sources



# U.S. Greenhouse Gas Emissions Methane

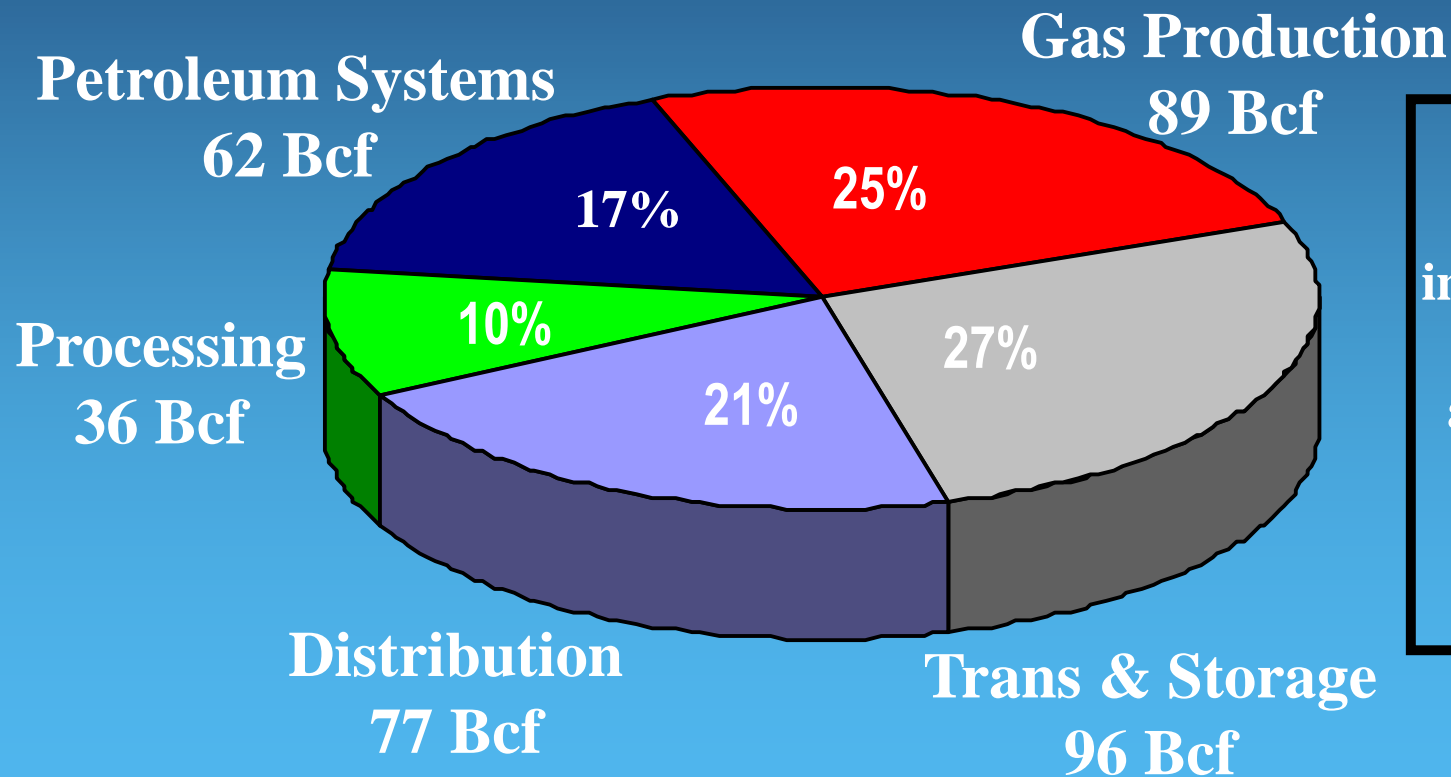


*Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 - 2002*



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

360 Bcf (billion cubic feet)



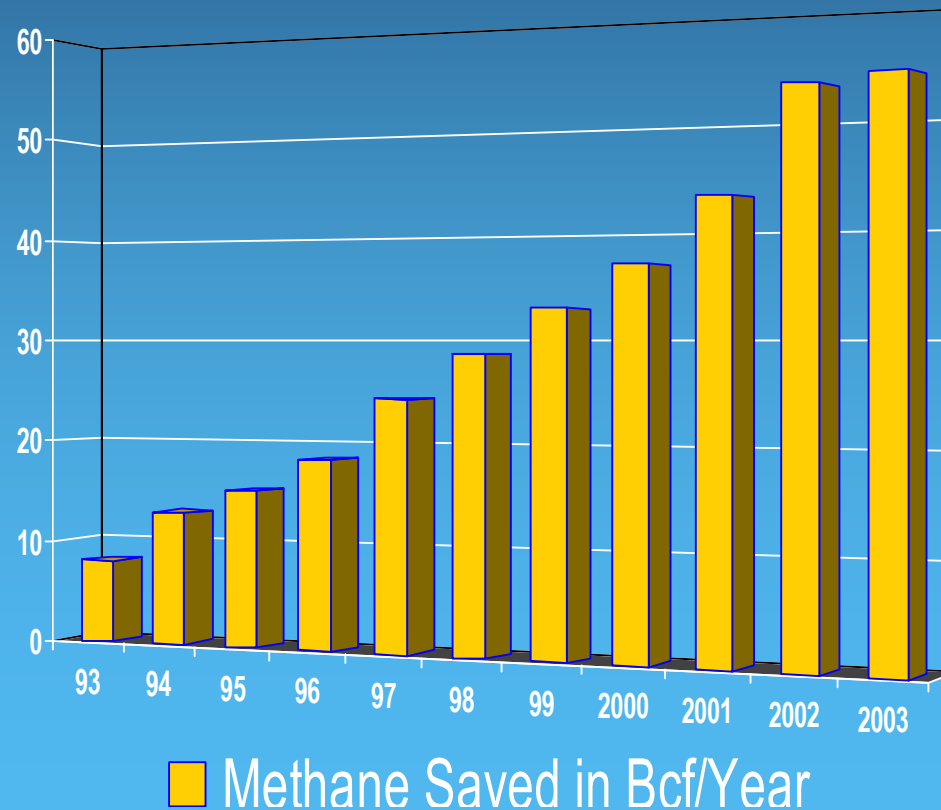
U.S. oil and natural gas industry methane emissions account for 2% of total U.S. greenhouse gas emissions

**Methane  
Emissions  
Reduction  
Successes**



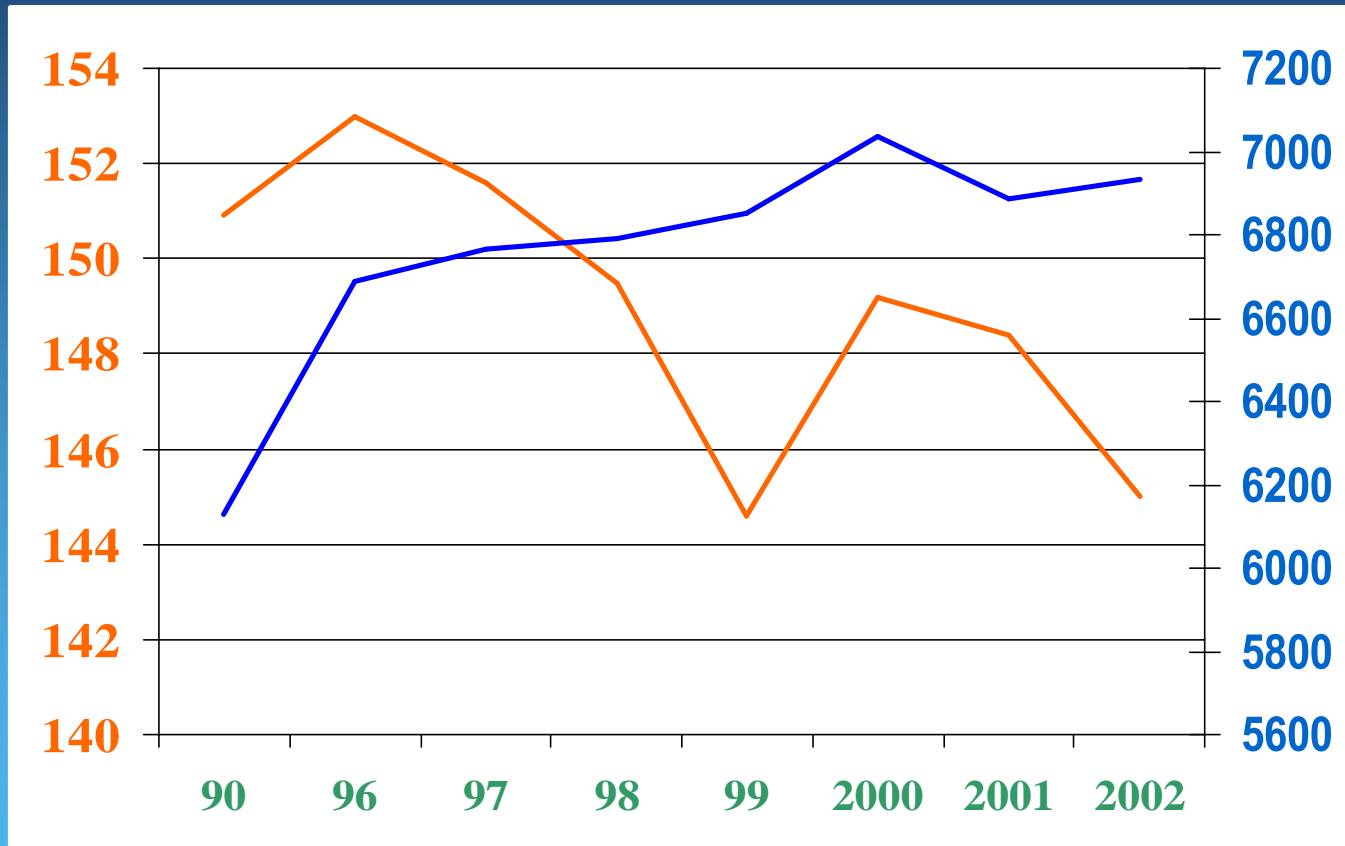
# Natural Gas STAR Partner Accomplishments

★ ~ 350 Bcf in methane emissions reductions since 1993!



# Natural Gas STAR Partner Accomplishments

Years 1990 - 2002



U.S oil & natural gas sector CH<sub>4</sub> emissions

Total U.S. greenhouse gas emissions

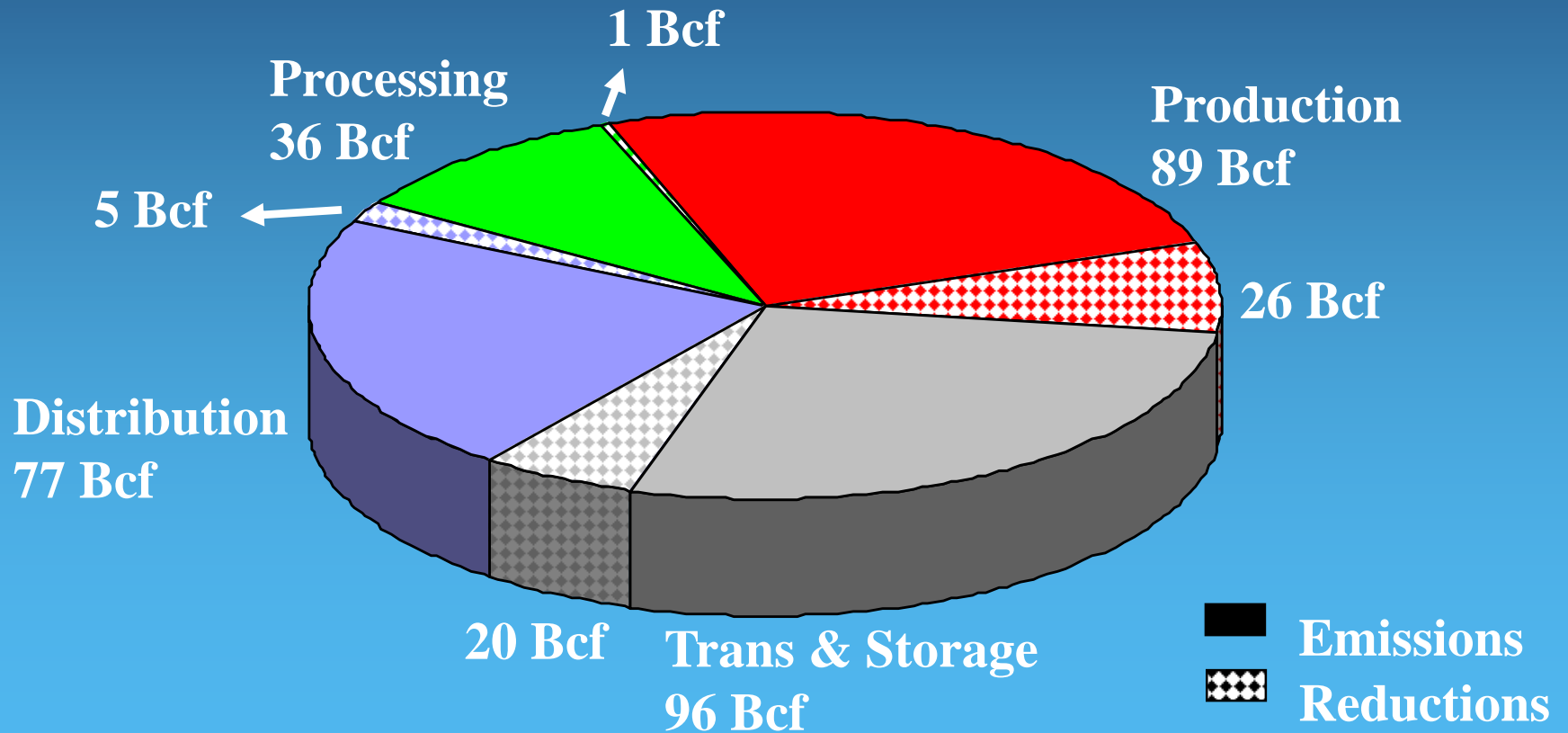
Units in Teragrams of CO<sub>2</sub> equivalent (TgCO<sub>2</sub>E)

*Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 - 2002*

# Natural Gas Industry Emissions



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



# 2003 Processing Sector Emissions Reductions



- ★ BMP 1: Replace pneumatic devices with instrument air - 87 MMcf
- ★ BMP 2: Install flash tank separators on glycol dehydrators - 0 MMcf
- ★ BMP 3: Implement DI&M programs - 0 MMcf
- ★ BMP 4: Partner Reported Opportunities (PROs) - 1,000 MMcf

# Top Processing Sector PROs



- ★ Eliminate Unnecessary Equipment
- ★ Use Hot Taps
- ★ Reroute Glycol Skimmer Gas
- ★ Install VRUs
- ★ Replace Gas Pumps with Electric Pumps

# Workshops



**Annual Conference**

**October 26 -27, 2004 - 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:
  - Australia, China, India, Italy, Japan, Mexico, Ukraine and UK
- ★ Gas STAR will lead natural gas system-related activities. The Program welcomes Gas STAR Partner participation

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