



Natural Gas STAR Program

Gas Processing Technology Transfer Workshop

Oklahoma City, OK
April 22, 2005



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



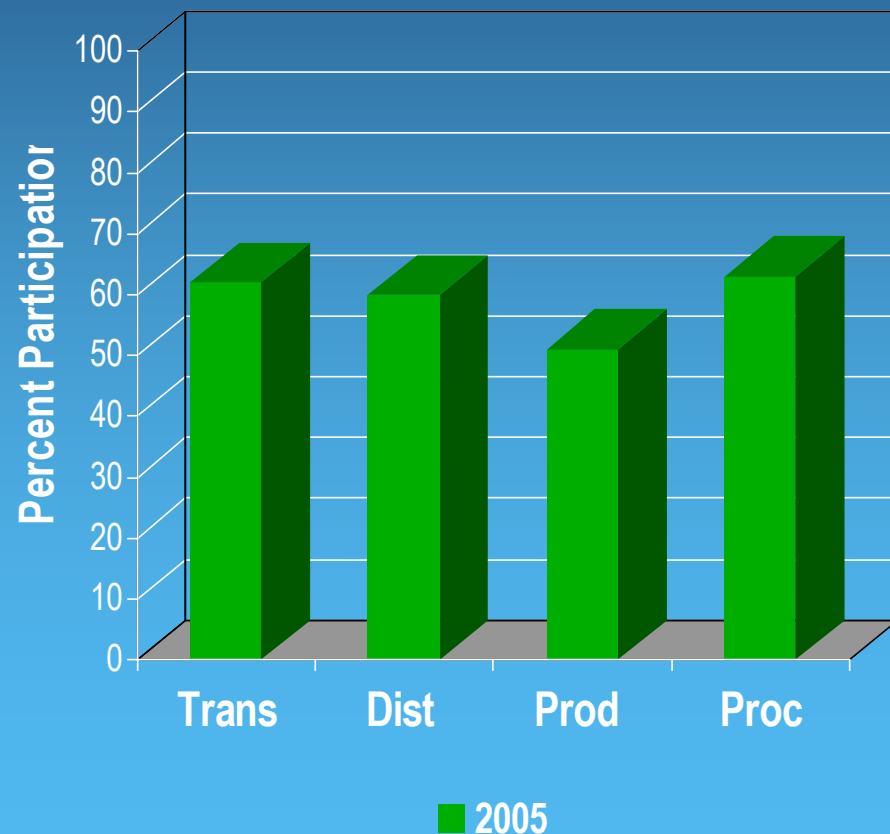
★ 117 Program Partners

- ★ 62% of transmission
- ★ 26 partners

- ★ 60% of distribution
- ★ 48 partners

- ★ 51% of production
- ★ 31 partners

- ★ 63% of processing
- ★ 12 partners



Processing Sector Gas STAR Partners



U.S. Gas
Throughput MMcfd

Company

Company	U.S. Gas Throughput MMcfd
BP plc.	11730.0
Duke Energy Field Services	5972.9
Gulf Terra Energy Partners	3784.5
Dynegy Midstream Services	2712.8
Enterprise Products	2265.4
Williams	2126.2
ExxonMobil	1806.0
Aux Sable Liquid Products	1426.0
ONEOK Field Services	1200.1
Venice Energy Services	997.0
Western Gas Resources	709.0
Kinder Morgan Energy Partners	678.6
Devon Gas Services	590.1
Amerada Hess Corp	571.8
Enbridge Energy Partners	564.5
ChevronTexaco	534.1

 Gas STAR Partners
 Other Companies

Oil & Gas Journal, June 28, 2004

Processing Sector Gas STAR Partners



U.S. Gas Throughput MMcfd

Company	U.S. Gas Throughput MMcfd
Norcen Explorer	500.0
Copano Energy	488.0
Marathon Oil	456.9
Shell Western E & P	446.2
Enogex	426.0
Michigan Consolidated Gas	400.0
AEP Resources	399.0
Occidental of Elk Hills	398.0
ConocoPhillips	378.8
Occidental Petroleum	341.3
Colorado Interstate Gas	340.0
Energy Transfer	330.0
Unocal	320.7
Sid Richardson Energy Services	311.4
Pioneer Natural Resources	275.0



Oil & Gas Journal, June 28, 2004

Natural Gas STAR Program Endorsers

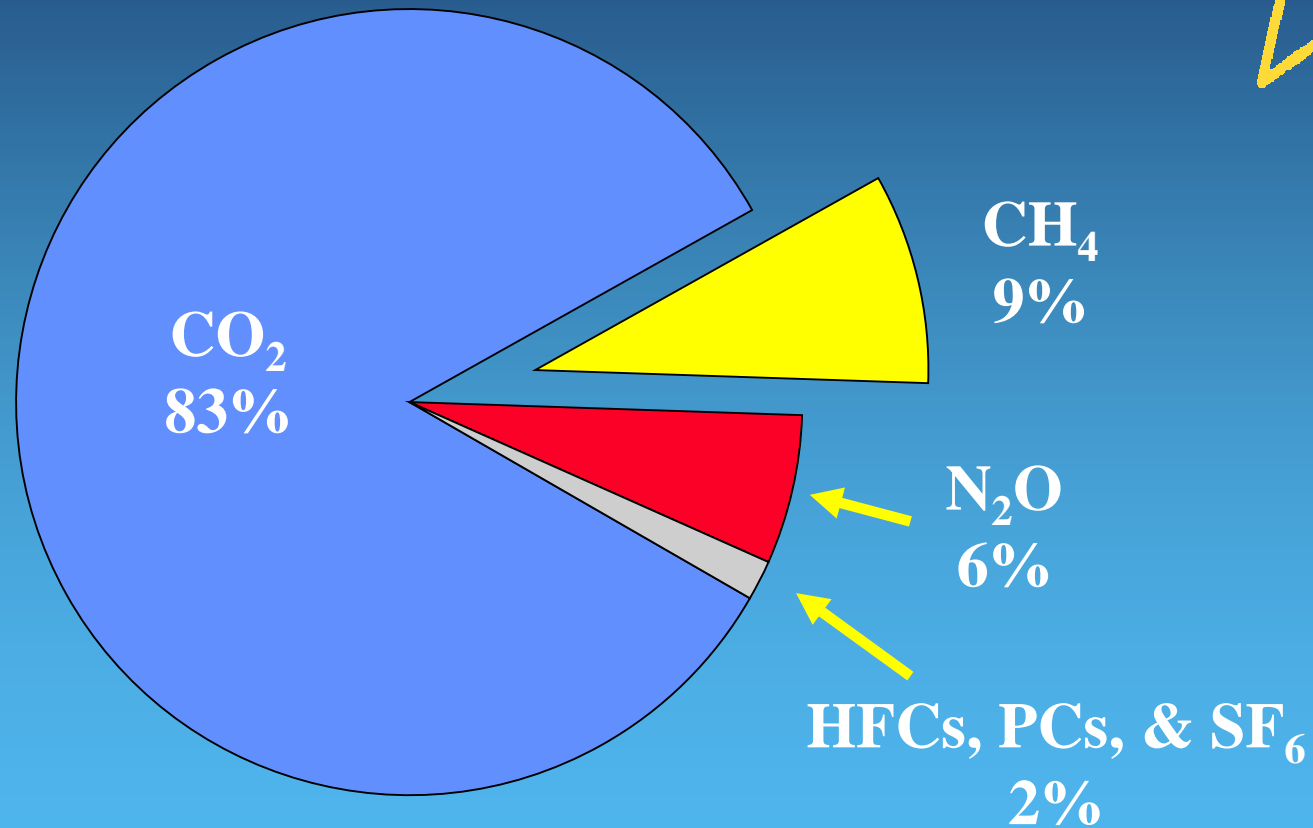


- ★ American Gas Association (AGA)
- ★ American Petroleum Institute (API)
- ★ Domestic Petroleum Council (DPC)
- ★ **Gas Processors Association (GPA)**
- ★ Gulf Coast Environmental Affairs Group (GCEAG)
- ★ Independent Producers Association of Mountain States (IPAMS)
- ★ Interstate Natural Gas Association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

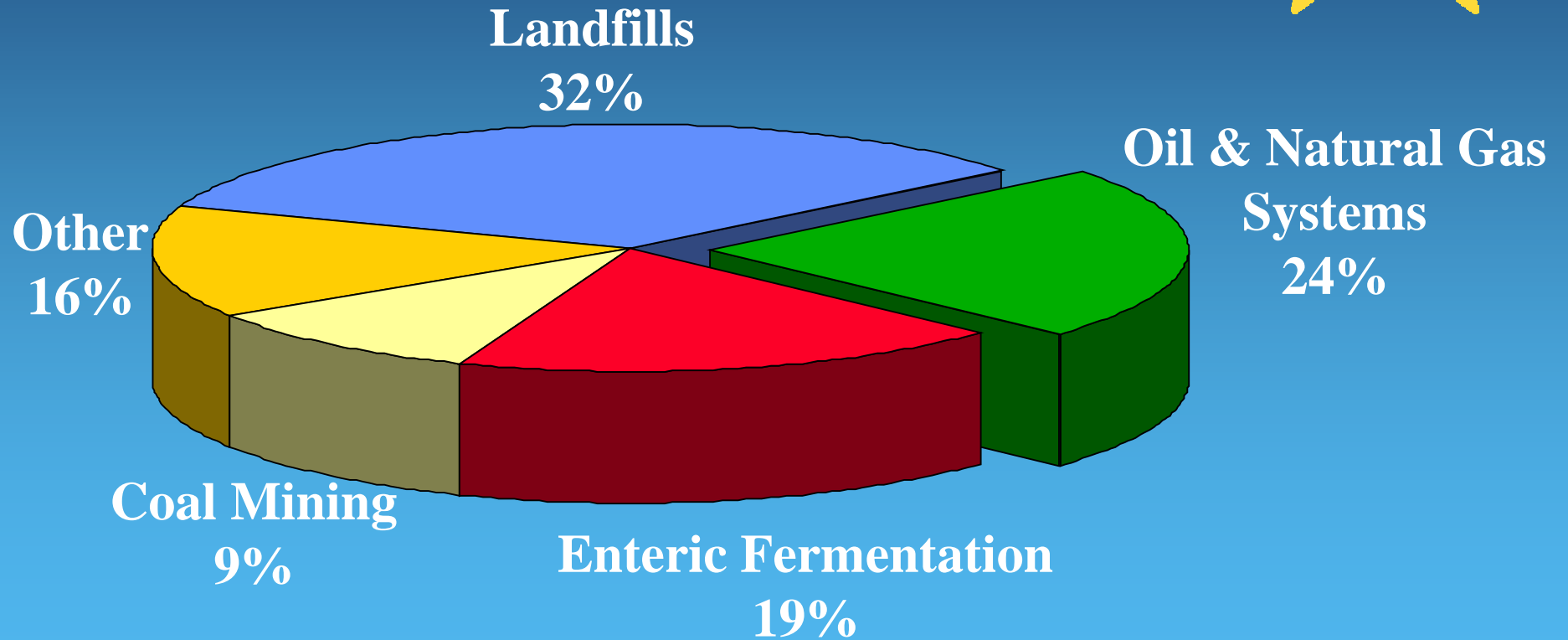
**Methane
Emissions in the
Oil and Gas
Industries**



U.S. Greenhouse Gas Emissions All Sources



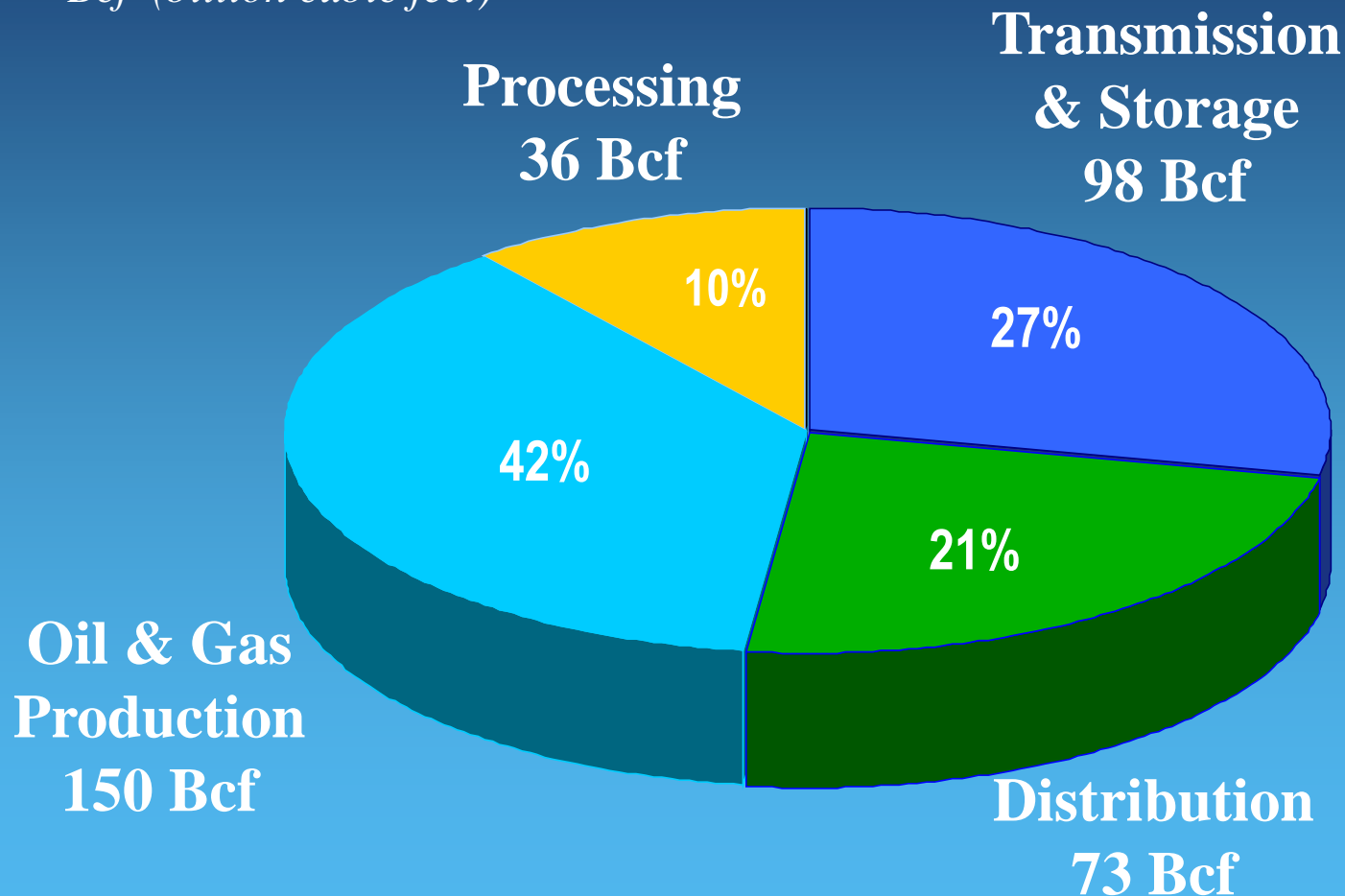
U.S. Greenhouse Gas Emissions Methane



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.

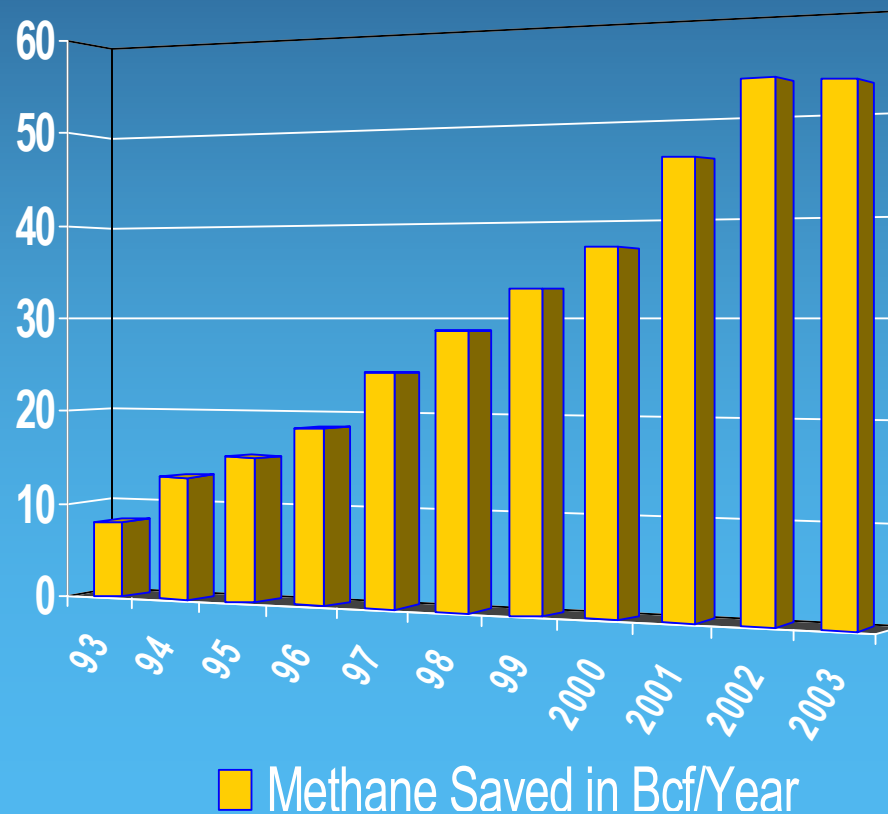
**Methane
Emissions
Reduction
Successes**



Natural Gas STAR Partner Accomplishments

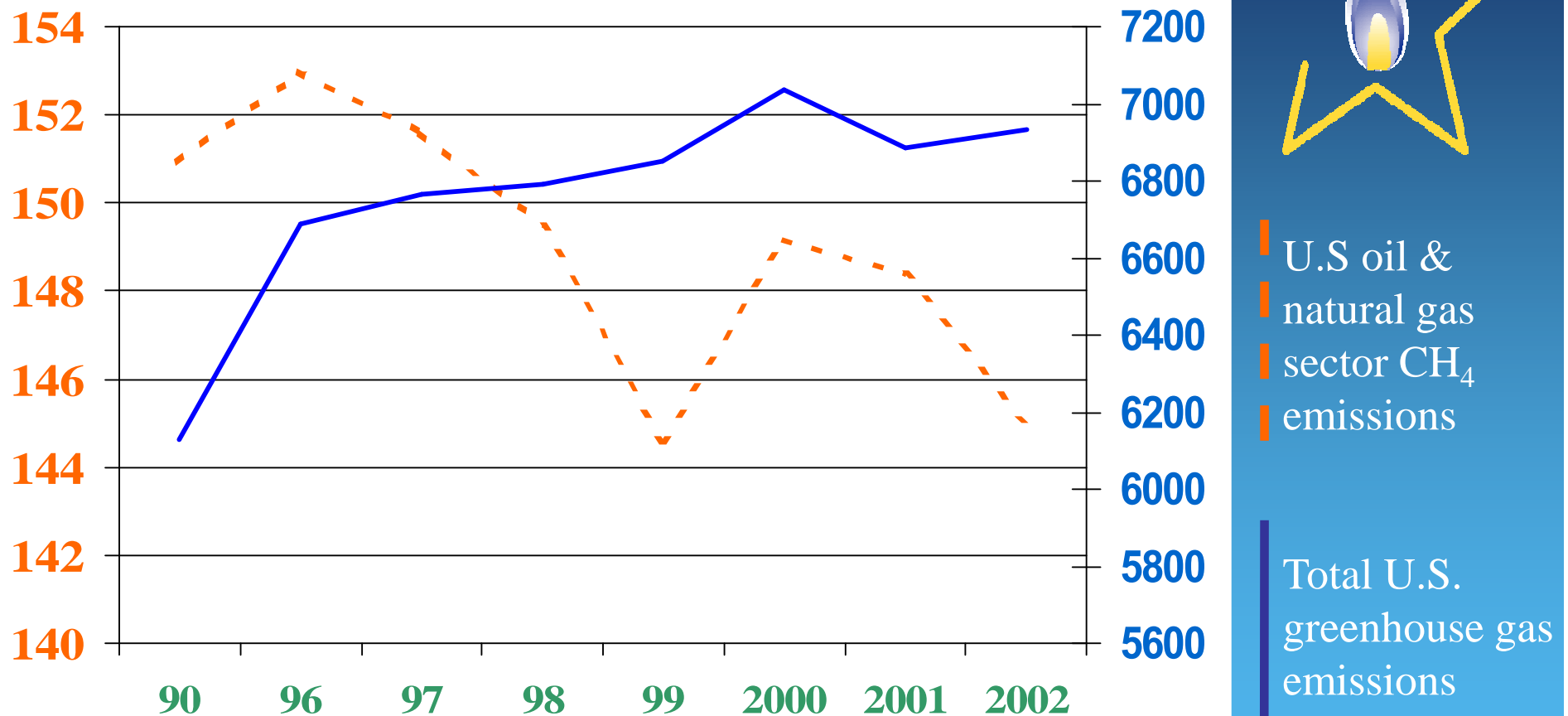


★ 338 Bcf in methane emissions reductions since 1993!



Natural Gas STAR Partner Accomplishments

Years 1990 - 2002

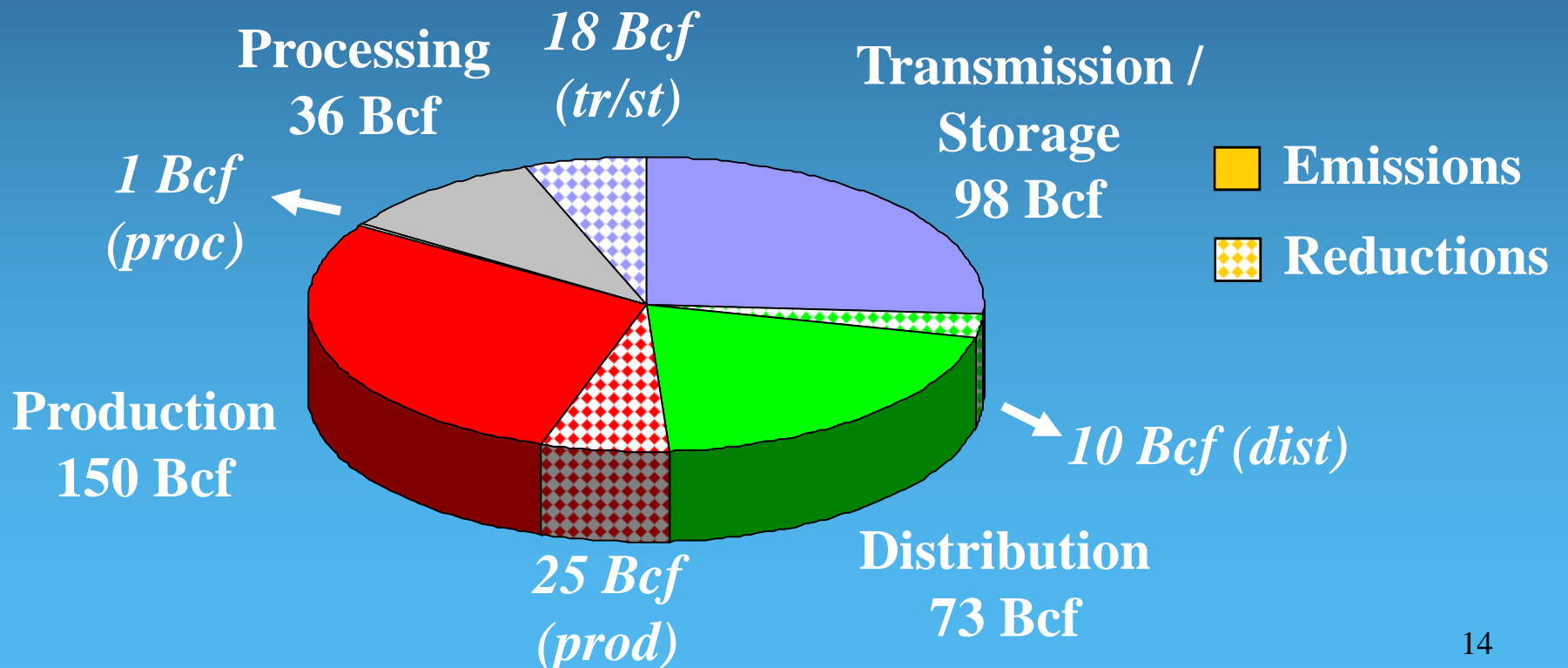


Units in teragrams of CO₂ equivalent (TgCO₂E)

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 - 15 MMcf
- ★ BMP 3: Implement DI&M programs - 15 MMcf
- ★ BMP 4: Partner Reported Opportunities (PROs) – 1,067 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 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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