



Marathon's Participation in the EPA Natural Gas STAR Program

April 29, 2008

Marathon 

Agenda

- ◆ The GHG Challenge
- ◆ Participation in the EPA Natural Gas STAR Program
 - Domestic
 - International
- ◆ Activities in Colorado

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The GHG Challenge



- ◆ Reduce GHG impact through improved energy efficiency and methane capture
- ◆ Highlight best industry practices and affordable technologies
- ◆ Participate in the EPA Natural Gas STAR Program and the World Bank Global Gas Flaring Reduction program

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The GHG Challenge



- ◆ Individual business units develop a GHG reduction plan
 - Highlight effectiveness in both savings and GHG reductions
- ◆ Use EPA Natural Gas STAR Lessons Learned and Fact Sheets for ideas and comparisons
- ◆ Marathon is implementing 6 of the top 10 technologies and practices employed in the production sector.

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Marathon and the Natural Gas STAR Program



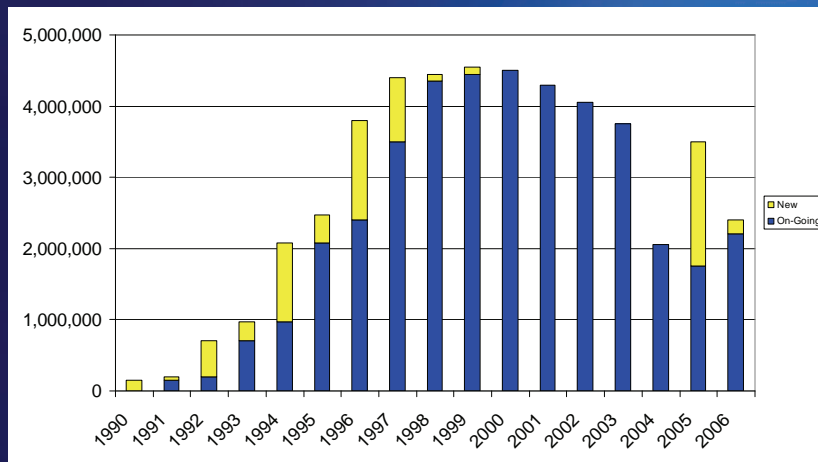
- ◆ Became a Natural Gas STAR Partner in 1994
- ◆ Became an International Gas STAR Partner in 2006
 - Equatorial Guinea
 - United Kingdom
 - Ireland
- ◆ Founding member of U.S. and international programs
- ◆ Production Partner of the Year in 1997 and 2006

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Marathon's Natural Gas STAR Results



- Approximately 2 BCF of new reductions in 2005-2006



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Marathon's Natural Gas STAR Results



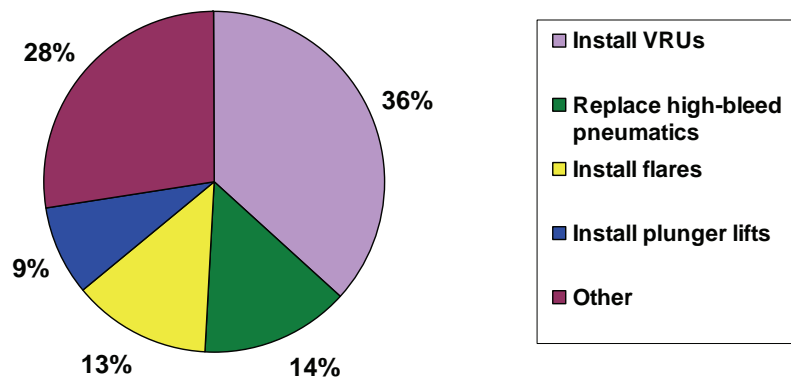
- ◆ Cumulative 1994-2006 reductions of 48.8 Bcf
- ◆ Equivalent to savings of \$29,000,000 (assuming \$6/mscf)
- ◆ Reduction of over 19 million tonnes of CO₂ eq emissions

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Marathon's Natural Gas STAR Results



1994-2006 CH₄ "Reductions"



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Technologies Under Consideration



♦ Heaters

- Automatic Secondary Air Control (ASAC)
- Turbulators

♦ Compressors

- Install Electric Compressors

♦ Pneumatic Controllers

- Gas Pneumatic Control Conversion to Instrument Air
- High Bleed Gas Pneumatics Conversion to Low Bleed Gas Pneumatics

♦ Fugitive Emissions

- Optical Imaging of Fugitive Emissions
- Reciprocating Compressor Seals

♦ Flash Losses

- Optimizing Operating Pressures
- Vapor Recovery

♦ Wells

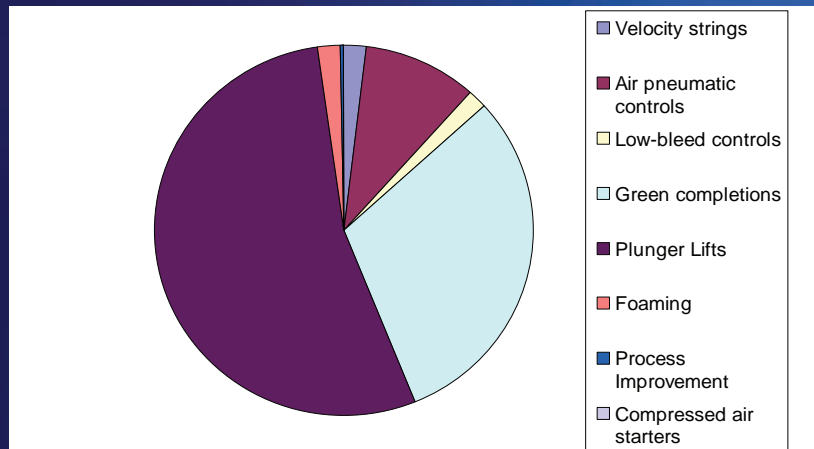
- Green Completions
- Velocity Strings and Plunge Lifts

♦ Chemical Pumps

- Conversion of Gas Operated Chemical Pumps to air

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2007 Natural Gas STAR Projects



New Methane Reductions ~ 0.8 BCF

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International Practices



- ◆ Offshore production in Equatorial Guinea, Ireland, and United Kingdom
- ◆ Projects include
 - Flaring reduction
 - Process improvements
 - Compressor seal maintenance
 - Leak detection and repair programs
- ◆ Estimated reduction of ~2.0 BCF from 2005 - 2007

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Activities in Colorado



- ◆ Marathon is currently developing assets in the Piceance Basin
- ◆ 8,700 acres in Garfield County
- ◆ Expect 700 wells in the next 10 years
- ◆ Production commenced in late 2007

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Technologies Used in Colorado



- ◆ Ability to implement Natural Gas STAR technologies from the initial field development
- ◆ All new wells feature:
 - Green completions
 - Low-bleed pneumatic devices
 - Plunger lift systems
- ◆ In addition, implement IR leak detection and repair programs for the entire field life

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Estimated Reductions in Colorado



- ◆ Estimate total savings of ~1,500 mscf per year per well
- ◆ Total savings of ~23,000 mscf per well over a 10-year period
- ◆ Over a 10-year period, save \$160,000 and 9,300 tonnes CO₂e per well

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Questions?

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