

Methane Emissions Mitigation and Ancillary Equipment



**Producers and Processors
Technology Transfer Workshop**

**EPA Natural Gas Star Conference
Glenwood Springs, Colorado
September 11, 2007**



EnCana Oil and Gas (USA) Inc

🔥 Colorado

- 🔥 Piceance Basin
- 🔥 DJ Basin
- 🔥 Paradox Basin

🔥 Wyoming

- 🔥 Jonah
- 🔥 Wind River
- 🔥 Green River

🔥 Texas

- 🔥 Ft. Worth Basin (Barnett Shale)
- 🔥 Permian Basin
- 🔥 Maverick Basin
- 🔥 East Texas

Corporate Policy

- 🔥 Environmental innovation part of corporate policy
- 🔥 Two new funds started in 2007
 - 🔥 EnCana's Environmental Innovation Fund
 - 🔥 Energy Efficiency Fund
- 🔥 Millions of dollars available
 - 🔥 Research
 - 🔥 Pilot Project
 - 🔥 Technology Development

Current Technologies

- 🔥 Replace high-bleed with low-bleed pneumatics on separators
 - 🔥 Over 800 low-bleeds installed in South Piceance and Paradox basins
 - 🔥 Internal CO policy; all new separators will come w/low bleed pneumatics
- 🔥 Instrument Air Packages
 - 🔥 Installed 22 air compressors at our midstream facilities
 - 🔥 Replaces pneumatic gas
- 🔥 Artificial Lifts
 - 🔥 Installed over 2,100 plunger lifts since 2004
 - 🔥 Installing gas lift lines in our Parachute Creek Ranch
 - 🔥 Gas lift pilot projects in each of our 4 CO fields
- 🔥 Green Completions
 - 🔥 Accounts for over 95% of total methane reductions

Current Technologies

- 🔥 Replace gas actuated pumps with solar
 - 🔥 New policy to install only solar chemical pumps where feasible
 - 🔥 Replaced 17 pumps in our South Piceance operations
 - 🔥 Replaced 28 pumps in our Paradox Basin
 - 🔥 Over 500 to go in Colorado
 - 🔥 Total gas savings when complete: 21.1 Mscf/yr

- 🔥 Installing vapor recovery units
 - 🔥 4 vapor recover units at compressor stations
 - 🔥 Investigating VRU options for E&P sites

- 🔥 Over 16 Bcf methane reduction in 2006

Continuing Innovation

🔥 Pilot Projects

- 🔥 Consolidating Water Handling
- 🔥 Quantum Leap Dehydrator – Engineered Concepts, Inc.
- 🔥 Utilizing a condenser/venturi process – JATCO, Inc.
- 🔥 Installing 2-stage combustor unit – Leed Fabrication, Inc.
- 🔥 VGR Separator – Leed Fabrication, Inc.
- 🔥 VRSA vapor recovery unit – Engineered Concepts, Inc.