



EnCana's Energy Efficiency and Environmental Innovation Fund

Complimenting the EPA Natural Gas STAR Program

Energy Efficiency Program

- Launched in 2007
- Goal of the Program is to create measurable reductions in energy use and related air emissions by:
 - developing cooperative working relationships across all levels of the company as well as with outside organizations to seek opportunities for energy efficiency
 - researching new technology that can have significant, value-added impact on energy/conservation and related reductions in greenhouse gas emissions
 - working with our staff and the communities in which we operate to incorporate energy efficient changes into their lives
- Since its launch, more than \$8 million in energy efficiency projects have been identified and financed throughout the company.
- Due to the overwhelming response to this program, the 2008 budget has been increased to \$50 million

How it Relates to EPA Natural Gas STAR Program

- Energy Efficiency Program provides added incentive for employees to implement Gas STAR projects
- Many of the Energy Efficiency Projects also qualify for the Gas STAR Program
- 2008 Project Highlights Include:
 - Retrofit of High Bleed Pilot Valves
 - Solar Chemical Pumps with SCADA Interface
 - Roll-Out of Directed Inspection & Maintenance Program
 - Installation of Vapor Recovery Units

Pilot Valve Retrofit

- Retrofits have been completed throughout the North and South Rockies Business Units
- Validation tests performed in Wyoming area in April 2008
- Utilized the FLIR camera and Hi-Flow Sampler to perform pre- and post-testing of the pilot valves
- Typical results of ~150 Mcf/yr methane reduction



Solar Chemical Pumps with SCADA Interface

- 100 installations in MCBU
- 16 MMscf of gas saved per year
- 5-10% reduction of chemical usage
- SCADA data reduces number of visits per year



SCADA Implementation with Solar Pumps

The screenshot displays the SCADA interface for 'Chemical pumps'. It includes a navigation menu at the top, a 'POLL DATA' section with a dropdown menu for 'Andy Bonner 03', and a table of pump data. The table has columns for Status, Timestamp, Pump Spd, Pump Speed, Pump Vol Per/Day Qts, VDI, Inlet Amb Temp C, Active Alms, Fluid Height, Pump Time, Vol Chem Delivd, and Chem Type. Below the table, there's a 'Chemical Types' section with a dropdown for 'A Bonner 3' and a 'Set' button.

	Status	Timestamp	Pump Spd	Pump Speed	Pump Vol Per/Day Qts	VDI	Inlet Amb Temp C	Active Alms	Fluid Height	Pump Time	Vol Chem Delivd	Chem Type
ANDY_BONNER_1	Normal	04/15 06:05:03	52	52	112.4	0	16	0	0	1256	2725	FOAMER
ANDY_BONNER_3	Normal	04/15 06:05:20	48	48	83.1	0	17	0	0	2228	4402	FOAMER
AULTMAN_2	Normal	04/15 06:05:20	0	0	101.9	0	10	0	0	1507	2523	FOAMER
AULTMAN_4	Normal	04/15 06:05:33	56	56	118.9	0	17	0	0	1454	3400	FOAMER
AULTMAN_7	Normal	04/15 06:05:44	32	32	110.0	0	16	0	0	1385	1718	FOAMER
AULTMAN_9	Normal	04/15 06:05:44	40	40	102.0	0	18	0	0	1287	2145	FOAMER
BOBBY_BONNER_1	Normal	04/15 06:05:54	40	39	21.4	0	16	0	0	2273	3787	FOAMER
BOBBY_BONNER_9	Normal	04/15 06:06:12	48	20	212.8	0	15	0	0	732	1467	FOAMER
GLYNDA_2	Normal	04/15 06:05:21	16	9.7	22.27	0	0	0	0	0	0	CORRINH

Directed Inspection & Maintenance Program

- 2008 – Roll-Out of DI&M Program
- Projected Annual Savings: \$2.3 million/year
- Purchased FLIR cameras and Hi-Flo Samplers for all business units
- Protocol and Training currently being rolled out
- More information to follow with Cindy Allen's presentation

Installation of Vapor Recovery Units

- VRUs to be installed at locations in Colorado and Wyoming
- VRU installed at the M1E well pad in the South Piceance
 - Projected Annual Savings: \$280,000
- VRU to be installed at Frenchie Draw Compressor Station



Other Interesting Energy Efficiency Projects

- Project Porchlight / Camplight
 - Encourages the switch to more energy efficient light bulbs
- Employee Rebate
 - Employees can receive up to \$600 rebate for purchasing Energy Star products
- Fuel Additives for Diesel and Natural Gas Drill Rig Engines
 - Achieve lower fuel consumption
 - Strive for lower emissions
 - Potential to extend the life of the engines
 - Increase engine reliability

Environmental Innovation Fund

- Launched in 2004 to finance projects that:
 - Reduce air emissions, operational waste and our physical footprint
 - Conserve and recycle water, energy and materials
 - Protect and reclaim groundwater, land and habitat
 - Develop new, renewable energy technologies
- To date, the fund has donated more than \$23 million to 15 projects
- Some projects are related to oil & gas, but others are more broadly based energy-related improvements

Energy Efficiency Fund U.S. – Path Forward

- \$10MM for US Operations
- Operations team working to discover new ideas
- Role of Energy Efficiency Fund in the Carbon Constrained World
 - Need to tie in GHG Emissions Reduction Verification to Energy Efficiency Program