



EnCana's Energy Efficiency Initiative

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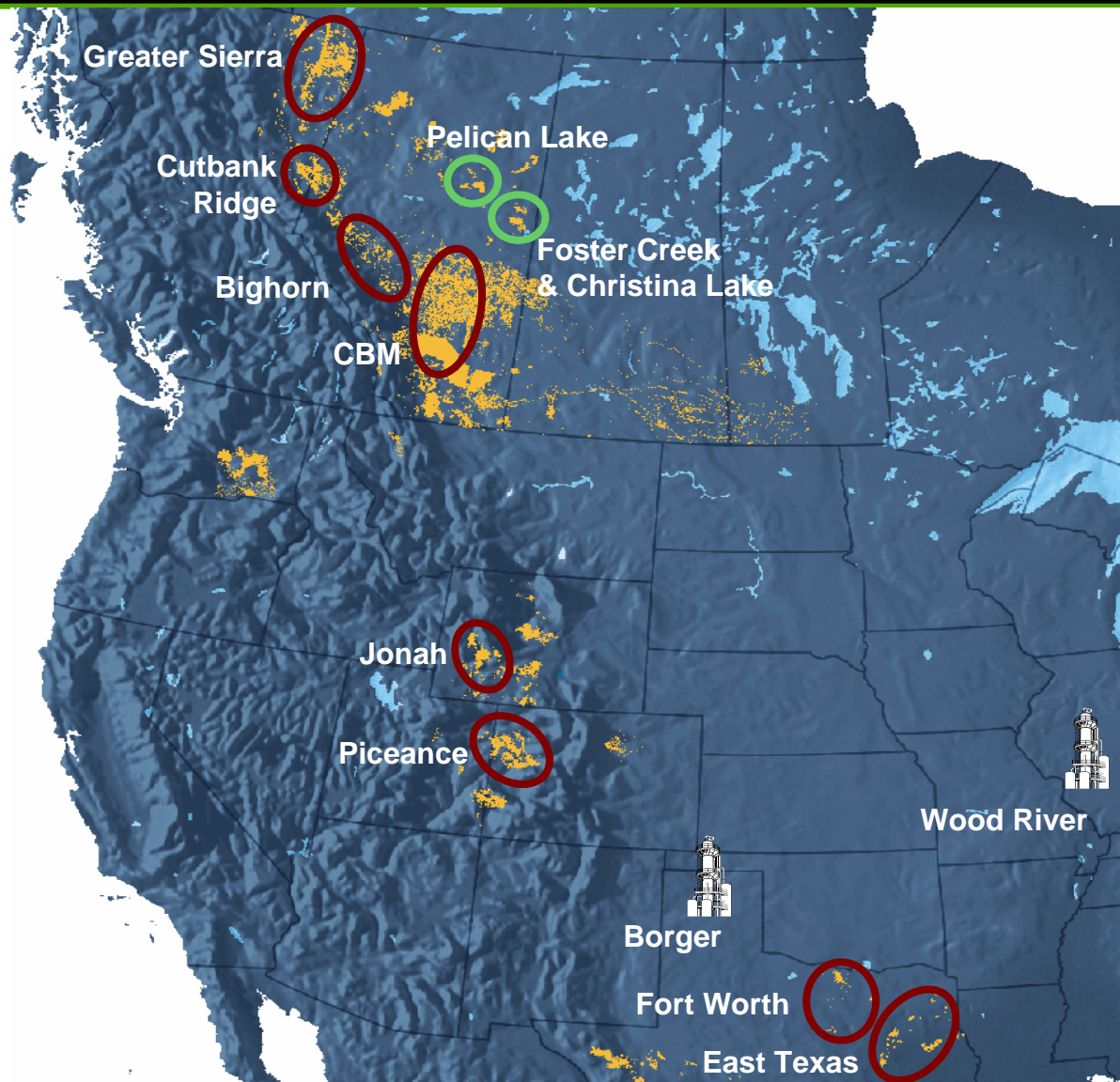
Outline

- **Who is EnCana**
- **EnCana's Energy Efficiency Initiative**
 - In Operations
 - For Employees
 - In Communities
- **Energy Efficiency Projects**
- **GHG Reductions**



EnCana Corporation

- 12 key resource plays across North America.
- Long term investments and continuous improvements





EnCana Corporation

Our Mission:

Energy for People

Our Vision:

EnCana will be the world's High Performance Benchmark independent oil and gas company focusing on:

- Unconventional natural gas
- Integrated in-situ oil

Our Corporate Constitution:

EnCana is a company where shared principles guide our behavior and merit determines our reward.

Our EHS Management System

Environmental practices exist to safeguard the environment and ensure environmentally sound performance throughout the lifecycle of the asset or operation.





Energy Efficiency Initiative

- **A way of doing business**
- **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



Energy Efficiency Initiative

- **Corporate Initiative Began in April 2007 with a \$10MM budget**
- **Three pillars of program: Operations, Employees, Communities**
- **Administered at a Corporate Level with Divisional representation**
- **Budget expanded to \$50MM in 2008**
- **Continued Success of program drives expansion to \$100MM in 2009**



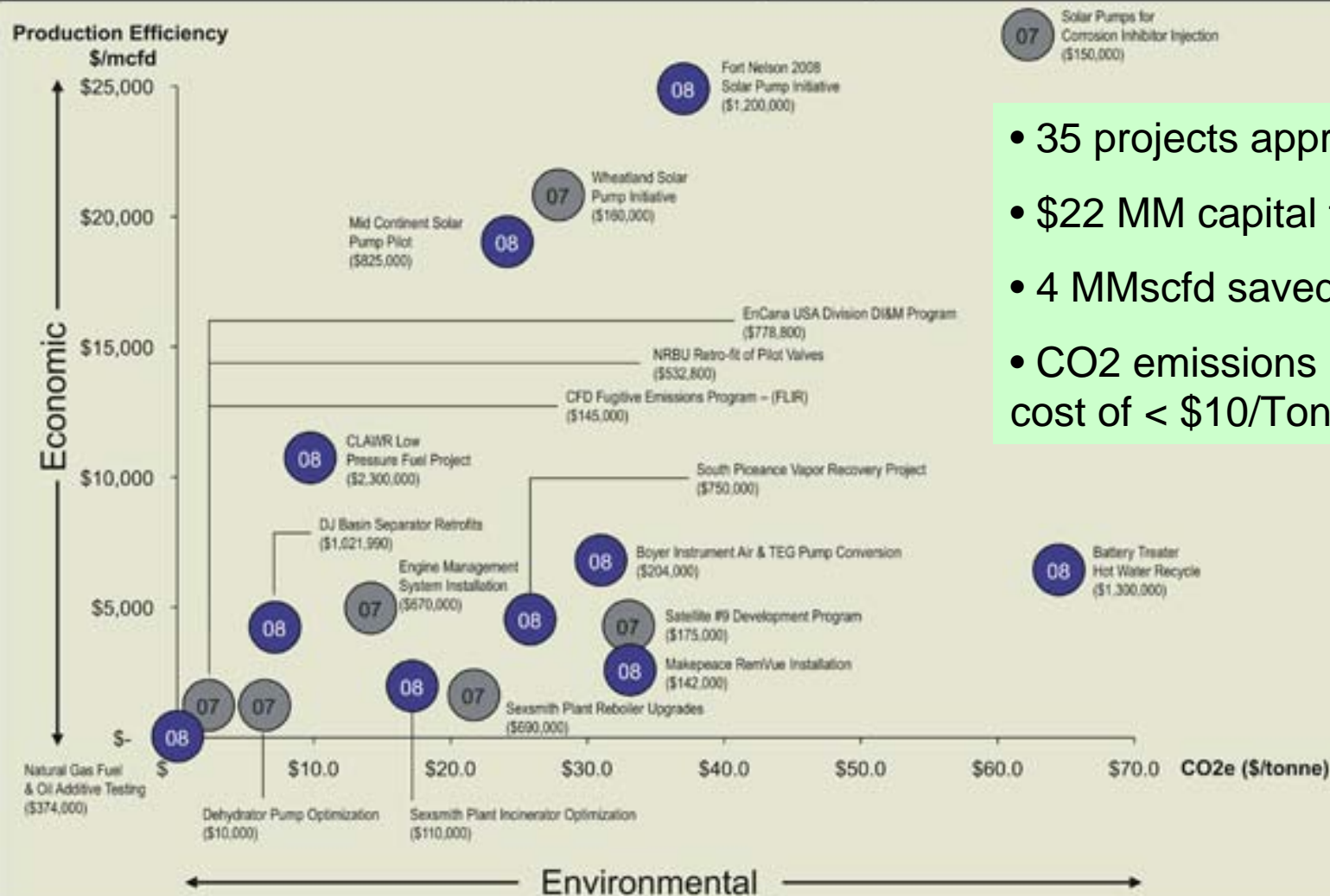
Energy Efficiency - Operations

- **Project Camplight**
 - goal is to switch incandescent bulbs with energy efficient compact fluorescent light (CFL) bulbs in our field locations including camps, wellsites and compressor station offices
- **The Energy Efficiency group pays for the first set of CFL bulbs**
- **CFL bulbs use 75 percent less energy and last 10 times longer than standard bulbs**
- **Changing 50 100-watt bulbs = removing 4.5 cars from the road in one year**



Energy Efficiency in Operations – Projects

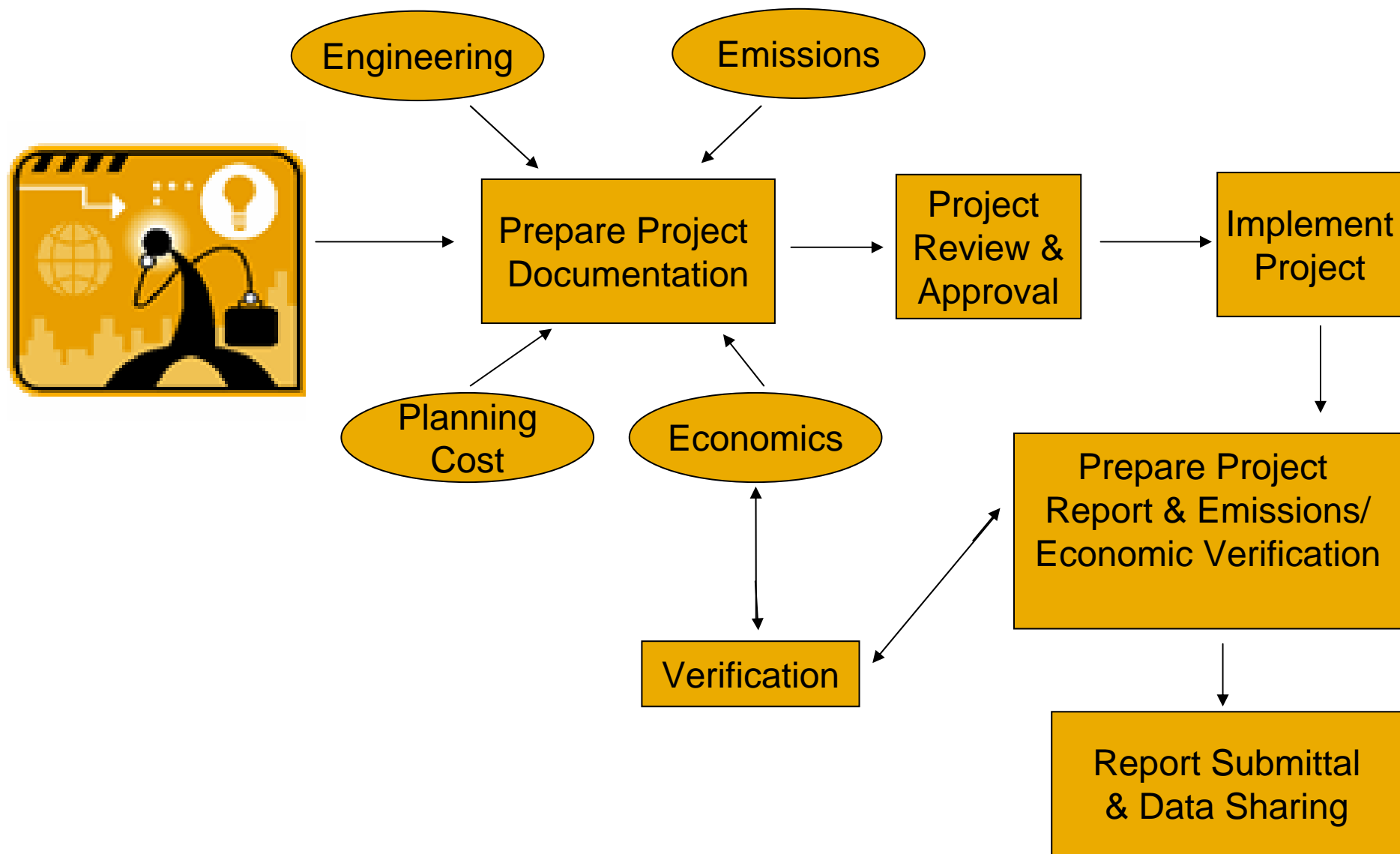
Energy Efficiency Project Portfolio



- 35 projects approved to date
- \$22 MM capital to date
- 4 MMscfd saved
- CO2 emissions reduced at a cost of < \$10/Tonne



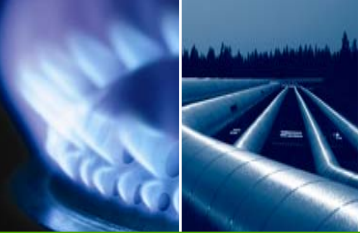
Energy Efficiency Process – US Division





Highlighted Operations Projects

- **Conversion of diesel fired drilling rigs to natural gas**
- **Vent reductions using infrared technology**
- **Solar chemical pump installations**
- **Production separator modifications**
- **Engine rod packing replacements**



Energy Efficiency Opportunities

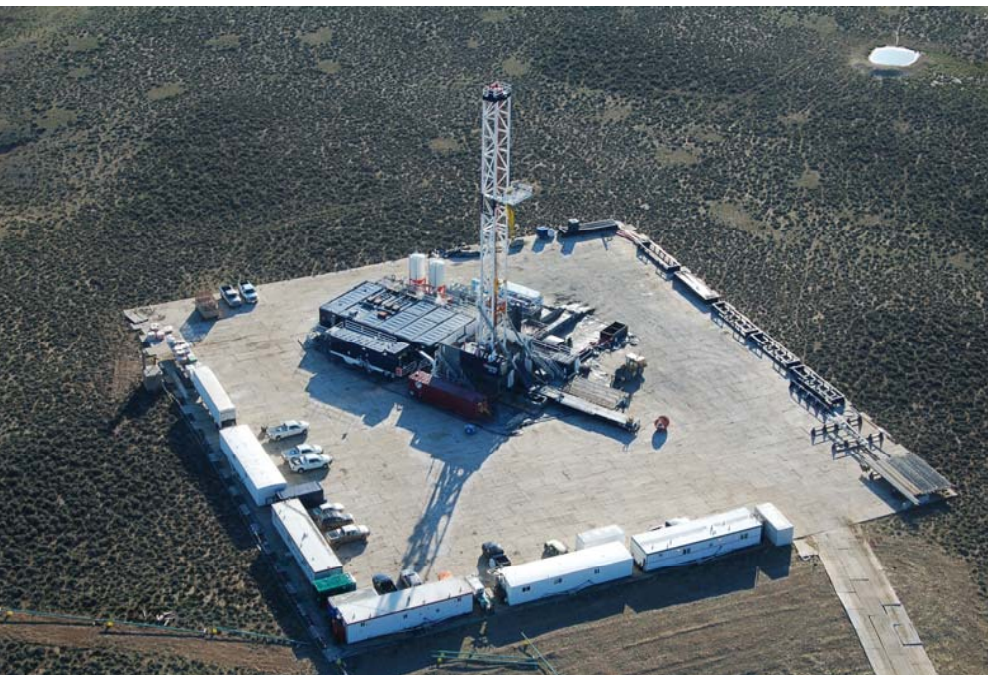
Fuel Substitution:

natural gas vs diesel fuel

- 80% of the CO₂E
- 1/3 the fuel cost
- Reduced NO_x

Projects:

- Jonah rigs ~ 10 running
- Average fuel savings \$45M/Well Drilled
- 63% Lower NO_x rating than Tier II rig engines



*courtesy Jeff Johnson

Vent Reductions

■ Reduce fugitives leaks:



Project: DI&M Program

- Cameras being used in all Divisions
- Total Cost ~ \$700,000
- Estimated benefit: ~ 1 MMscfd
- Estimated CO2E benefit ~ 150,500 T





Solar Powered Chemical Pumps



Projects underway in:

- Midcontinent
- DJ Basin
- Piceance Basin
- Fort Nelson

Typical cost ~ \$ 6000/unit

Benefit ~ .25- .5 mcf/unit



Chemical Injection Pumps

- **Over 100 installations**
- **16 MMscf of gas saved and sold per year**
- **6.6 CO₂ Equivalent tonnes saved per year**
- **5-10% reduction of chemical usage expected**
- **SCADA data reduces number of visits per year**



Production Separator Modifications



Mizer pilot replacements
Reduced leakage
~150 Mcf/yr/valve

FLIR Camera used
For visual inspection



Hi-Flow Sampler used
To quantify volume





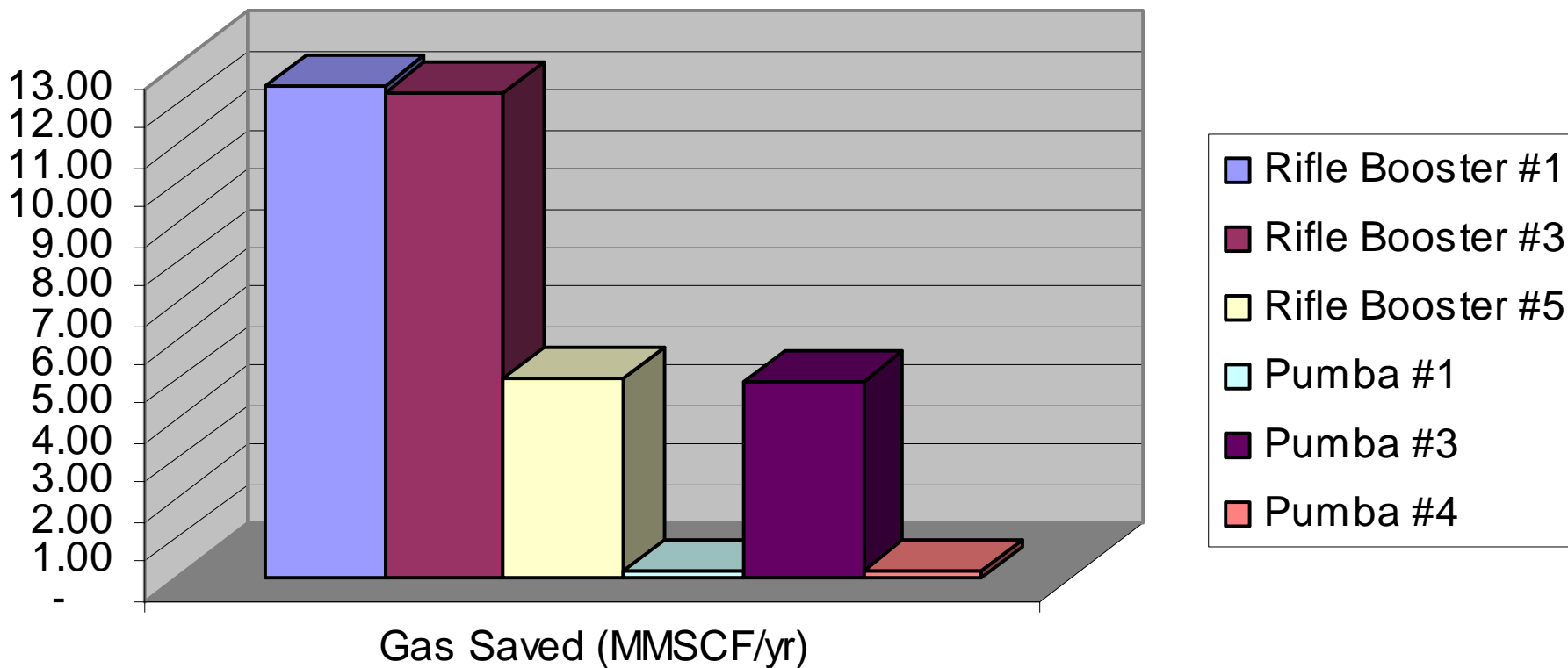
Replace Engine Rod Packing

- **25 compressors total**
- **Estimated gas savings of 24.45 MMscf/yr**
- **8,542 Tonnes/yr CO2 Equivalent**
- **Use high flow sampler to measure leak rate before and after replacement**
- **Project anticipated to be completed early 2009**



Rod Packing Replacement – Initial Results

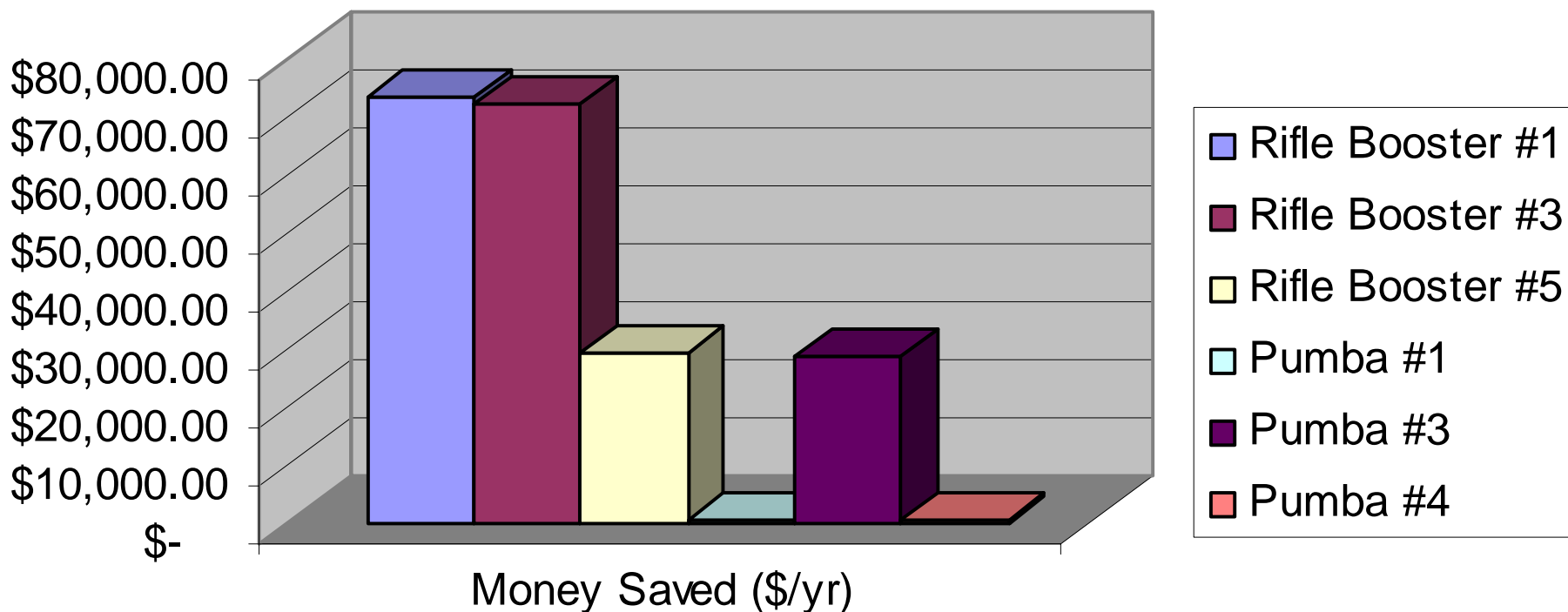
Rod Packing Replacement Initial Results





Rod Packing Replacement – Initial Results

Rod Packing Replacement Initial Results





Energy Efficiency for Employees

Project Rebate

- Internal program to encourage energy efficiency improvements in employees homes
- Up to \$600 annual rebate for purchasing eligible energy star home appliances

Approximate Energy Savings			
kWh	GJ	Liters (water)	Tonnes (CO2)
51,020	339.5	1,030.05	64.76



Conclusions

- **Energy Efficiency Initiative is supported at the top levels of the company**
- **The initiative raises awareness and provides incentive for all levels of the organization to get involved in reducing energy and GHG emissions.**
- **There are lots of good projects that can lower costs, reduce fuel use and emissions, and improve operations.**



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