

Case Study

ConocoPhillips Pump-Off Controllers

Background

ConocoPhillips operates a natural gas field at Drunkard's Wash near Price, Utah. The facility includes around 500 well pumps and produces 130 million standard cubic feet per day (MMSCFD) of natural gas.

The Drunkard's Wash Unit is a coal bed methane gas field, in which water is pumped up from coal beds located 1,000 to 4,000 feet below the surface. As the water is removed, the gas flows to the surface, where it is compressed and sent to sales. The well pumps are standard sucker rod pumps.



Gas Well Pump

Baseline versus Upgrade

At ConocoPhillips most of the wells were controlled by manually adjustable time clocks. These clocks were set to maximize gas production, which often caused the pumps to run more than necessary.

Pump-Off Controllers (POCs) automate shutdown of the pumps based on pump load, maintaining a minimum water level in the well. The POCs save energy by reducing the operating time of the pumps while maximizing gas production.



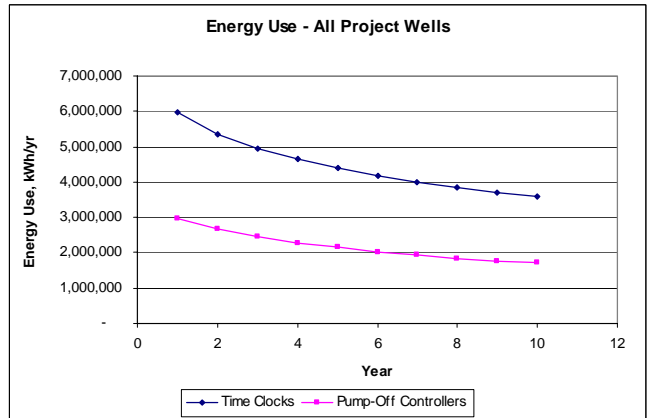
Pump-Off Controller

Energy Analysis

Cascade Energy Engineering worked with ConocoPhillips to establish the baseline energy use and potential energy savings for each well at the field. Based on these results, 200 wells were chosen for the project. Cascade produced a detailed energy analysis report for facility personnel, which was used to obtain corporate funding for the project. ConocoPhillips began installing the POCs in the summer of 2005 and completed the installation in early 2006.

Project Highlights

Project Cost:	\$353,613
Energy Savings:	2,293,595 kWh/yr
Reduction in energy use:	50%
Cost Savings:	\$78,284
Rocky Mountain Power Credit:	\$282,890
Final project cost:	\$70,723
Project Payback:	0.9 years



Baseline and Improved Energy Use

Other Benefits

- Reduced maintenance and labor costs
- Maximized production

POC Supplier

eProduction Solutions

Consulting Engineer

Cascade Energy Engineering, Inc.

Services Provided by Cascade

Project scoping, detailed energy study, commissioning, and final inspection.