

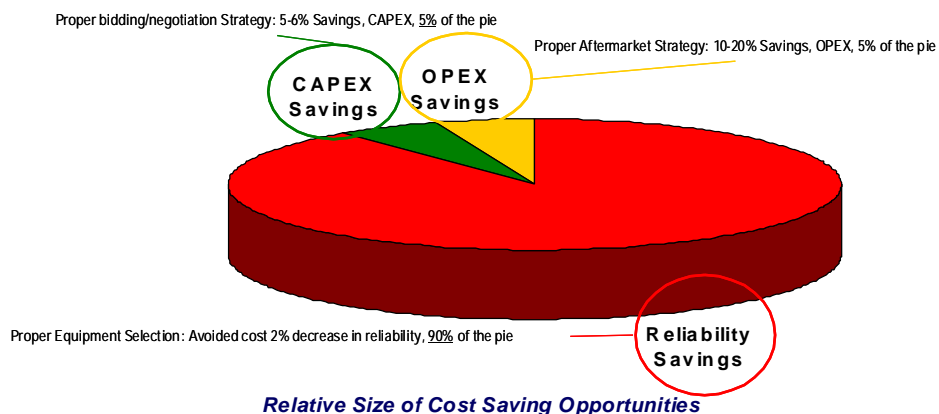
# UPSTREAM GAS COMPRESSION FORUM

## A program of the *GAS/ELECTRIC PARTNERSHIP*

The compression of natural gas at the wellhead requires almost 11 million horsepower just in the USA, about one quarter of the compression used for the entire gas supply chain from wellhead to consumer which includes storage, processing, transmission, and distribution. Since effective management of this significant activity is critical, we have established the UPSTREAM GAS COMPRESSION FORUM, a program for management and engineering staff of gas producing firms to develop ideas and compare best practices to improve efficiency in gas compression facilities.

Producers of gas seek to bring production on fast, keep facilities on line, and continuously improve efficiency. They employ a rental business model for much of their wellhead compression, featuring many units less than 500 horsepower in size, but with a total installed base even greater than that within the transmission industry (where units can exceed 20,000 hp). The UPSTREAM GAS COMPRESSION FORUM provides a discussion forum to deal with the compression contracting topics that are important to the producer, including industry utilization and cost trends, equipment optimization, reliability tracking, service and contracting options, and total cost of ownership.

Programs are aimed at helping members reduce their total cost of ownership, recognizing that reliability can represent 90% of costs.



The UPSTREAM GAS COMPRESSION FORUM is an integral part of the Gas/Electric Partnership, an organization of users of compression facilities representing all gas sectors from the wellhead to transmission. A conference is planned for February 10-11, 2010. Issues which are important to upstream gas companies are described below:

## Environmental Compliance

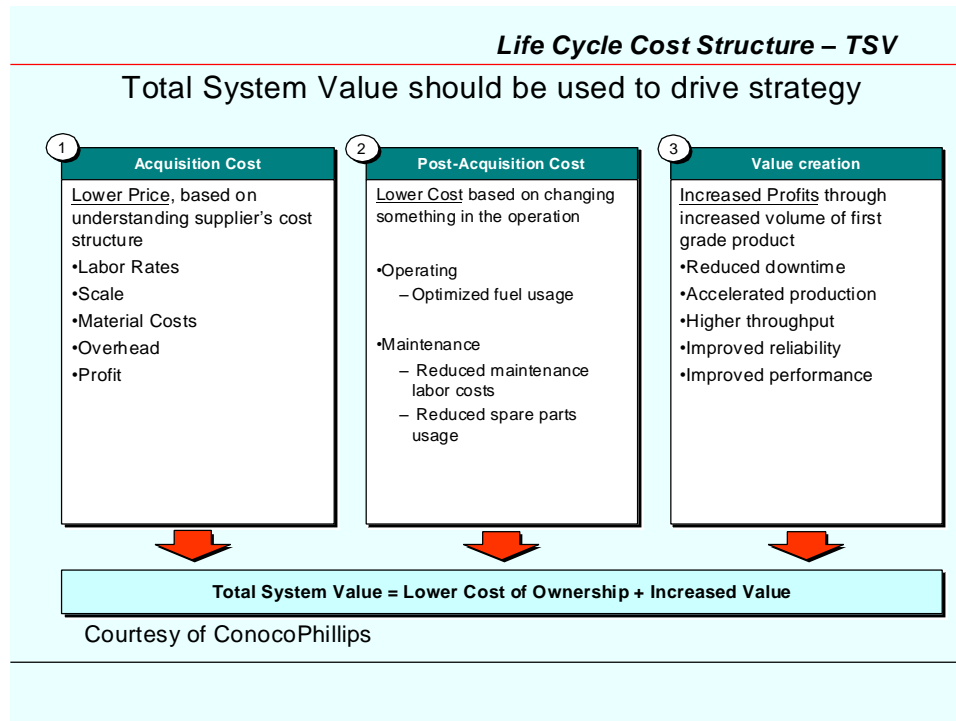
Gas producers face challenges to meet regulatory requirements and to minimize the carbon footprint. Among these are:

- Exhaust emissions regulations , permits and compliance requirements
- Fugitive emissions regulations
- Greenhouse gases
- Ground water protection
- Noise regulations

The latest Gas/Electric Partnership Conference focused on greenhouse gas impacts, state level implementation of federal rules for HAP's & criteria pollutants, and new source performance standards for stationary IC engines. Topics for the February, 2010, conference are currently being discussed by the planning group.

## Compression Management & Procurement

The rental business model serves the industry well but there can be contracting challenges. Some important issues for gas producers include compression configurations, whether to outsource compression, operation at the wellhead or at a central location, and maintenance and performance monitoring, as well as whether to outsource all or parts of these functions. Producers must consider not just compressor costs, but issues relative to strategic objectives. Materials cost trends and their drivers which are of interest to procurement management also are addressed in industry overview sessions.



The recent Gas/Electric Partnership conference addressed production compression fleet optimization, compression contracting from

the perspective of the gas producer, and responsibilities of owners and fleet operators to comply with New Source Performance Standards.

### Technology Best Practices

Compression is used at the wellhead as well as in gas transportation well unloading, gas injection, and gas lift. Bringing production on stream fast, reliability, and efficiency is of utmost importance. Producers must be able to deal with high CO<sub>2</sub> and H<sub>2</sub>S, wet systems, and low BTU gas stranded from processing facilities. Supply/demand trends and future availability for small hp (<500 hp) compression equipment, and ways to track compression performance are subjects of interest for the next conference.



Courtesy of Caterpillar Global Petroleum

### The Gas/Electric Partnership

The Upstream Gas Compression Forum is an integral part of the Gas/Electric Partnership. Noting that there are many common issues in the various gas industry sectors, the Partnership provides benefits to gas firms in all of these sectors. The Partnership produces an annual conference in Houston for gas producers and pipeline companies, equipment suppliers, power providers, and consulting companies. Smaller, more intimate planning sessions are held throughout the year.

The 2010 conference will focus on the future of the industry, Clean Air impacts, compression applications in both upstream and transmission, and new technology. Presentations from the February 2009 Conference may be downloaded from [www.GasElectricPartnership.com](http://www.GasElectricPartnership.com).

# **2010 Gas/Electric Partnership Conference**

**Houston, TX**

**February 10-11, 2010**

**Northwest Forest Convention Center**

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