



PG&E's Energy Management Solutions for

COMPRESSED AIR SYSTEMS

Pacific Gas and Electric Company's Energy Management Programs offer cash incentives for compressed air systems that are designed and installed with specific efficient components, as defined below. Incentives are based on whole system performance as modeled by PG&E using the US DOE's Airmaster Program. Be sure to contact PG&E early in your project design to verify eligibility and receive program benefits.

PROJECT ELIGIBILITY

The following compressed air systems are eligible for PG&E's Energy Management Programs:

- New compressed air systems
- Total compressed air system redesigns/gut-rehabilitations
- Partial compressed air system redesigns/gut-rehabilitations
- Air Compressor replacement or retrofit

For nonresidential new construction, new equipment is compared to the following baseline equipment:

- Constant speed rotary screw machines with inlet modulation and unloading
- 100 psi compressor discharge setpoint and 90 psi system distribution pressure
- Non-cycling refrigerated dryer or a heatless dessicant dryer with dewpoint control
- Timed drains
- Equipment that is typically installed in new systems
- For partial system rebuild or redesigns where the load or production are increasing (NRNC), the same baselines apply for the new equipment, but the existing equipment is modeled "as is", using generic compressor efficiencies from AirMaster+.

All old equipment that is being replaced must be removed from the project site.

For more information on PG&E's ENERGY MANAGEMENT SOLUTIONS, call the Business Customer Service Center (800) 468-4743 or visit www.pge.com/business



Pacific Gas and Electric Company

DESIGN ASSISTANCE, REBATES AND INCENTIVES ARE AVAILABLE FOR THE FOLLOWING MEASURES:

EFFICIENT AIR COMPRESSORS – Utilize variable frequency drive (or variable displacement) air compressors. For baseloaded air compressors, use two stage machines. PG&E incentives can cover up to 50% of the extra cost of the more efficient machines.

COMPRESSOR SETPOINT – Compressor pressure setpoint should be set to 100 psi or less.

DISTRIBUTION PRESSURE – Distribution system pressure should be 90 psi or less.

AUTOMATIC DRAINS – To reduce air loss, install automatic traps and drains.

AIR DRYERS – Install a more efficient cycling/thermal mass dryer instead of a standard refrigerated dryer. Install a dessicant dryer that uses less purge air than a standard dryer (such as externally heated or pulse/purge systems).

AUTOMATIC SEQUENCER – Sequence compressor operation is more efficient with an automatic sequencer, by minimizing part-load operation of constant speed machines, and by using the most efficient machines first.

AIR STORAGE, FLOW CONTROL VALVES, PRESSURE REGULATORS – Install equipment that enables the system to operate reliably at a lower pressure.

EFFICIENT NOZZLES AND BLOWERS – Install high efficiency nozzles to help improve end use efficiency, and replace inappropriate use of compressed air with low pressure blowers.

The energy-efficiency measures listed above may contribute individually or interactively to improve the overall energy savings of the compressed air system over the standard industry baseline. Other permanent energy-efficiency measures may be considered, with Utility permission.



PG&E'S ENERGY MANAGEMENT SOLUTIONS can help you control your operating expenses through building energy efficiency and demand response capabilities into your new and existing facilities, and your long-range planning. Services include energy analyses of existing facilities, design assistance for planned projects, equipment rebates, project incentives, and education and training.

PG&E'S Energy Management Solutions



PG&E OFFERS
A WIDE RANGE
OF SOLUTIONS
TO HELP YOU
MANAGE
THE ENERGY
FOR YOUR
COMPRESSED
AIR SYSTEM.
CONTACT
PG&E TO FIND
OUT HOW
YOU CAN TAKE
ADVANTAGE
OF THESE
SERVICES.

Energy Analyses

An energy analysis - also referred to as an "energy audit" - is the first step towards a comprehensive energy management plan and can help you identify no cost, low cost and investment grade opportunities. In addition to on-site, phone-based, or on-line audits, PG&E also offers larger customers the on-site Integrated Energy Audit, which identifies opportunities in demand response and self-generation as well as energy efficiency.

Energy Efficiency Rebates for Your Business

Rebates are the quickest and simplest way for you to get cash back for your eligible energy efficient purchases. PG&E offers rebates for hundreds of energy-efficient technologies in multiple categories: Agricultural Products, Appliances and General Improvements, Boilers and Water Heating, Food Service, Heating Ventilation and Air Conditioning (HVAC), Lighting, and Refrigeration. To find out if a product qualifies under the rebate program, go to http://www.pge.com/biz/rebates/rebates_assistance/index.html or contact the Business Customer Service Center at (800) 468-4743 to request an application and one or more technology catalogs.

Customized Energy Efficiency/Demand Response Incentive Application

For more customized energy efficiency projects or projects with a demand response component, PG&E offers design assistance, calculation support and standardized incentive rates through Customized Energy Efficiency/Demand Response Incentives.

Lighting05 per kWh saved
Process08 per kWh saved
HVAC and Refrigeration*.....	.14 per kWh saved
Natural Gas80 per therm saved

**Please note that some refrigeration-related equipment is considered Process.*

Total incentive payments are based on actual reductions in energy usage. Customers and/or their consultants may sponsor projects under this approach. Be sure to contact PG&E early in the design process, before you start your project, so that you can schedule optional technical support and the required pre-inspection of your existing equipment.

New Construction Design Assistance and Cash Incentives

PG&E's new construction program - also referred to as Savings By Design - provides owner and design team cash incentives, technical design assistance, and education to support the design and construction of energy efficient new facilities and process systems. Incentives are based on exceeding 2005 Title 24 requirements by at least 10% for standard building systems, and on exceeding industry standard practice baselines for process systems. Through both the simple Systems Approach and the more integrated Whole Building Approach, customers can now receive up to \$150,000 in cash incentives per project.

Energy Management Education and Training

You can learn about the latest and best energy-efficiency practices, technologies, tools and more through the hundreds of free classes offered by PG&E every year. To search by market sector, technology, class location (including Web-based classes) or target audience, use the Pacific Energy Center's class search tool at www.pge.com/education_training/classes/energy_efficiency/index.jsp

Additional Resources on Energy Efficiency for Compressed Air Systems

- Consortium for Energy Efficiency - www.cee1.org/ind/cac/cac-main.php3
- Compressed Air Challenge - www.compressedairchallenge.org/
- Industrial Technologies Program - www1.eere.energy.gov/industry/bestpractices/compressed_air.html

