

# Pennsylvania PUC CHP En Banc Hearing

Craig White

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Philadelphia Gas Works



# Overview

- Tariff and Ratemaking Issues
- Options
- Challenges
- Solutions
- Benefits

## Options

### Can We Afford to Do Nothing?

On-site CHP Plant provides:

- Increased Reliability
  - Reduced exposure to electric grid power outages
- Lower Building Operational Costs = Savings
  - Electric generated on-site with natural gas generator:
    - Customer pays 5 to 7 cents per kWh
    - Compared to 10 to 16 cents per kWh from the electric grid
- Fuel Price Stability
  - Uncertain electric prices
  - Customer in control of fuel purchase and can lock-in long term
- Increased Property Value
- Optimized Energy Efficiency (Waste Heat Recovery)
  - Free btu's
    - Used to replace other equipment fuel by expensive steam, oil or electric (grid)
- Reduced Carbon Footprint

## How Are We Going to Solve Our Growing Need for Electricity?

- Power plant carbon footprint is four times bigger than a site where electric is generated by CHP technology
- Stress on the grid adds to reliability concerns and power outages
- Electric utilities (and their ratepayers) will bear the costs for grid upgrades

# Challenges Impacting CHP Viability

## Customer Challenges

- First cost of CHP equipment is expensive
- Building designers and customers are unfamiliar with CHP technology and equipment – perceived risk
- On-site electric generation stymied by:
  - Electric tariffs
  - Use of free waste heat

## Pennsylvania Lacks

- Dedicated CHP incentives to stimulate market and to help bridge first cost gap
- Specified requirements and training to educate built industry professionals
- Electric tariffs that encourage and/or allow additional generation

# The Future

## Where is CHP Technology Moving?

### Commercial Facilities

- Medium and small applications are moving toward a package (box)
  - Plug in connection to power, hot water and chilled water

### Residential Buildings

- In 5-10 years, expect more Micro-CHP projects
  - Small applications 3 to 10 kW
- Micro grids
- Fuel Cells
- Smaller/Larger Efficient Turbines
- Engines

## Recommendations

- Create dedicated CHP grant/incentive programs
  - Require Full Fuel Cycle be considered in any grant application analysis
- Establish minimum and ongoing energy education requirements for building industry professional certifications
- Create more flexible net-metering rules for debit/credit calculations
- Pennsylvania Gas Utilities should have an Electric Generation Rate

# Why is CHP So Good?

- Economic benefits to customer
  - Business can concentrate spending on core business (spend less on energy bills)
  - Reinvest cost savings into your business
  - Potentially create more jobs
- Economic development benefits to the City and Commonwealth
  - Stimulates the economy
  - Creates jobs (through construction and business growth)
  - Builds and grows end-use market for Pennsylvania's natural gas
- Environmental benefits to customer and ratepayers
  - Reduced carbon footprint
  - Efficient use of scarce resource
- What kind of business could CHP stimulate?
  - Resurgence of the manufacturing industry
  - Businesses where electric reliability translates into money

800 Montgomery Avenue, Philadelphia, PA 19122  
[www.pgworks.com](http://www.pgworks.com)

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