Program Description

The State of Arizona has long been a champion of incentivizing energy efficiency programs. In 2007, the Arizona Corporation Commission (ACC) recognized that distributed energy resources (DERs) could be valuable in improving the overall efficiency of the electric grid. As a result, the ACC approved a rebate program, proposed by Southwest Gas, that incentivizes the development of combined heat and power (CHP) systems. As Arizona continues to pursue alternative energy resources, electricity consumers should take advantage of Southwest Gas’s CHP rebate to maximize their energy efficiency benefits and cost saving opportunities.

Regulatory Background

Across the United States, many different criteria have been formulated to assess valid energy efficiency improvements. Because most CHP systems involve some natural gas component, CHP systems are sometimes viewed as new natural gas projects instead of energy efficiency projects that reduce electricity use. However, the ACC recognized CHP systems’ capability to provide efficient onsite power, reduce centralized electricity generation, and avoid losses along transmission lines, thereby improving the net efficiency of the electrical system as a whole. This understanding was instrumental in approving Southwest Gas’s CHP rebate project and improving the economic viability of CHP systems in Arizona.

“Off-site, or system-wide, savings provided by CHP projects should also be taken into account in evaluating CHP projects. Avoided line losses are savings of electricity at the margin, and electric savings at the margin are usually savings of electricity that would have been generated through the burning of natural gas. This means that, on a system-wide basis, on-site generation of electricity through a CHP unit generates natural gas savings as well as electric savings.”

- ACC, Decision No. 69917, 2007
Southwest Gas offers incentives for CHP projects as part of its Smarter Greener Better rebate program for energy efficiency. The value of these incentives varies based on the system’s fuel efficiency, with more efficient systems eligible for greater incentives. This rebate structure is meant to encourage project operators to maximize the efficiency of their systems, which can result in greater cost savings. For example, the University of Arizona has a 12 MW gas turbine CHP system that saves the university nearly $100,000 per month.

How the Southwest Gas CHP Rebate Works
- Rebates for systems with fuel efficiencies of 60%, 65%, and 70% can receive $400/kW, $450/kW, and $500/kW, respectively.
- This rebate program pays for up to 50% of the system installation cost.
- The rebate application must be completed by the project operator and approved by Southwest Gas prior to system installation.
- Once the system is installed, a professional engineer must evaluate the project to verify system efficiency.
- Only commercial and industrial customers in Arizona may apply for the rebate program.
- Eligible facilities include municipal buildings, hotels, educational facilities, convention centers, and retail spaces.

Typical Barriers to CHP Integration
CHP projects can encounter barriers due to Arizona’s regulatory landscape and the complexity of CHP systems themselves. However, these challenges can be overcome given sufficient understanding of the relevant laws, regulations, and permitting issues. Thus, interested stakeholders should seek guidance from technical advisors before planning a CHP installation.

Typical barriers include:
- State policies or regulations that prohibit development of natural gas infrastructure (including the ACC’s current moratorium on new gas plants larger than 150 MW—see Next Steps)
- High standby charges, surcharges, or demand charges that are unfavorable to CHP and other DERs
- Extended or unclear interconnection processes that make it difficult for customers and utilities to integrate new installations onto the electric grid
- State laws, municipal codes, or permitting requirements that make installing CHP or other DERs difficult

Next Steps
The ACC recently voted to maintain a moratorium on construction of new gas plants larger than 150 MW. Currently, the ACC is deciding whether to implement a clean energy rule that would require 80% of the state’s energy to come from renewable sources by 2050. As part of the state’s efforts to reduce gas consumption and deploy clean energy, the ACC may alter incentives or programs that recognize the unique energy efficiency and emissions reduction benefits of CHP systems.

For More Information
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