

CHP Working Group Meeting

Act 129 CHP Market Potential Assessment

PA PUC Offices

April 16, 2019

Presented by Act 129 Statewide Evaluation Team

Presenter:

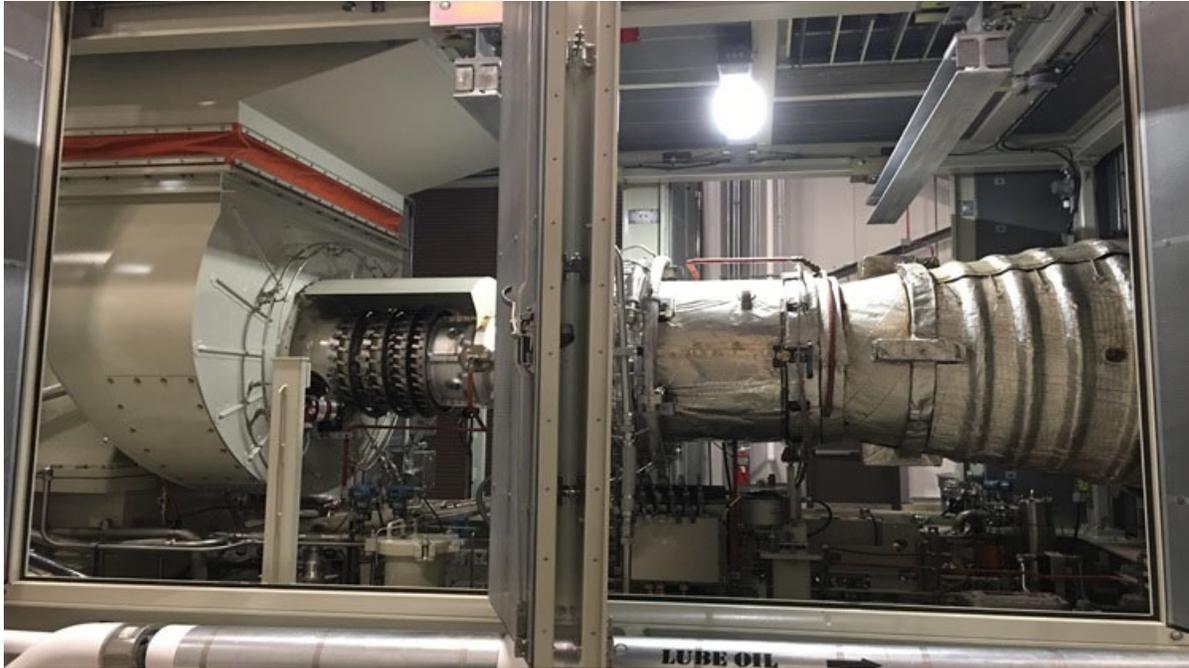
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CHP MARKET POTENTIAL STUDY WORK PLAN

Study Objectives

- Provide a more granular, bottom-up assessment of CHP potential by examining utility data for potential hosts
- SWE will consider only topping cycle CHP systems in the study
- Study will be limited to CHP potential for largest electric and natural gas users in Pennsylvania

Methodology

Technical
Potential

- Estimate of CHP potential constrained only by technological limits

Economic
Potential

- Calculate cost-effectiveness at the measure-level

Achievable
Potential

- Estimate market adoption

Technical Potential

- SWE team will estimate technical potential for each EDC, limited to the largest users and best applications for CHP
- The technical potential estimate will be broken down into commercial versus industrial, and other sub-segments if enough data are available

Technical Potential Steps



Technical Potential: Single Host vs. District Energy

Single Host CHP

- Produces electricity as primary output
- Waste heat from electric generation is recovered to provide useful thermal energy

District Energy CHP

- District energy facilities produce steam/chilled water
- Thermal loads of district energy suited for CHP installations

Technical Potential: Identify and Quantify Target Markets

Identify
large energy
users

- Users most-likely to be cost-effective for CHP

Year-round
thermal and
electric load

- Focus on customers with large & steady thermal load round the year

Quantify
CHP eligible
customers

- SWE needs access to electric and natural gas data from the EDCs and NGDCs

Technical Potential: Estimate CHP Potential



Economic Potential

- SWE Team will adhere to the guidance provided in the Act 129 TRC and Implementation Orders
- TRC will be determined at the measure level, TRC threshold TBD
- Non-Energy Benefits (NEBs) will be limited to water and fossil-fuel benefits
- CHP purchase, installation, fuel and O&M costs will be included in TRC

Achievable Potential

Steps will include -

- calculating measure adoption based on program influence, barriers, and customer and developer views of efficiency measures
- conducting secondary research of larger CHP studies and Act 129 CHP participation
- incorporating the achievable potential along with the other energy efficiency measures to fit within the EDC's legislative budget caps

Calculating Achievable Potential



NGDC Data Request

- SWE will request gas usage data to identify potential CHP candidates
- Large customers usage data from each NGDC
- NAICS/SIC code for market segmentation
- Daily usage data, if available

Questions for the CHP Working Group

- How can we estimate market share for different types of CHP – natural gas, reciprocating engine, steam turbine etc.?
- What's the best way to match CHP type to a facility?
- What's the best source of liquid fuel costs?
- What are the best sources of information to analyze market barriers?