Maryland Energy Administration

FY20 Combined Heat & Power Grant Program Informational Webinar

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www.Energy.Maryland.gov

Introduction & Agenda

Welcome!

Agenda

- CHP Overview
- FY20 CHP Program Overview
- Program Requirements
- Application Procedure
- Award Timeframes
- Q&A

CHP OVERVIEW

What is CHP?

- **C**ombined **H**eat and **P**ower
- Also known as “cogeneration” or “cogen”
- Produces power on-site via burning fuel and uses waste heat for thermal load (known as a “topping-cycle” CHP), OR
- Uses waste heat from thermal processes to generate power (known as a “bottoming-cycle” CHP)
- Most common CHP types
  - Reciprocating engine
  - Gas turbine/Steam turbine
  - Fuel Cell (non-combusting)
- U.S. Department of Energy CHP Basics

Why CHP?

- Reduce energy costs and improve bottom line
  - “2 for 1” energy solution – buy fuel to serve two purposes
- Produce more efficient power
  - Avoids line losses from transmission and distribution
- Cleaner generation than coal-fired
  - Natural gas and biogas/biofuel
  - Biogas/landfill gas utilization reduces methane output
- Adds resiliency and redundancy to operations
  - Supplies power/thermal load during grid interruptions
  - Ensures continued operations in the face of uncertain grid outage times

Good Candidates for CHP

- Facilities with high thermal load
  - E.g. steam, hot water, space conditioning, industrial process-specific
- Commercial
  - E.g. hotels, shopping centers, office buildings, data centers, farms, nurseries, etc.
- Industrial
  - E.g. manufacturers, chemical companies, etc.
- Institutional
  - Colleges, universities, trade schools, etc.
- Critical Infrastructure
  - Facilities which meet the U.S. Dept. of Homeland Security's definition, list can be found at https://www.dhs.gov/critical-infrastructure-sectors (E.g. hospitals, emergency operations centers, wastewater treatment plants, etc.)
- Others
  - Correctional facilities, community centers, etc.

FY20 CHP PROGRAM OVERVIEW

CHP Program Basics

- First-come, first served Grant Program
- Accepting applications through **February 12, 2020 OR until funding is expended,** whichever comes first
- Awards made as projects are approved
- Up to $4.1 Million available
  - $3.5 Million is restricted to PEPCO and Delmarva service territories[1]
  - Three Areas of Interest (AOIs)
    - AOI 1: Up to $2.5 Million initially reserved for commercial, industrial, & institutional
    - AOI 2: Up to $1.6 Million initially reserved for critical infrastructure
    - AOI 3: Up to $500,000 of overall budget initially reserved for biogas/biomass systems

[1] As a condition of the PHI-Exelon Merger, MD PSC Order No. 88128

CHP Program Basics

- Awards made on a $/kW basis, ranging from $575 - $425/kW
  - Larger $/kW for smaller-capacity systems, decreasing as capacity increases (economies of scale)
  - Incentive tiers available in Notice of Availability (found on MEA CHP webpage)
- Maximum Grant award may not exceed $500,000
- MICRO-CHP projects (those less than 60 kW) in PEPCO/DPL territories eligible for up to 50% of total cost, not to exceed $75,000
  - All others will be calculated on $575/kW basis

CHP Program Basics

- Grant funds paid out in two phases
- **Groundbreaking Payment:** Up to 30% of total award paid upon completion of project groundbreaking
  - Defined as when site prep begins and materials are delivered on site
- **Commissioning Payment:** Remaining funds are paid out upon completion of project commissioning

PROGRAM REQURIEMENTS

Applicant Requirements

- Project site must be located within Maryland
- Must be commercial, industrial, institutional, agricultural, or critical infrastructure
- Applicant must own the facility
- Applicant must be incorporated or registered to do business in Maryland
- Must be in Good Standing with the Maryland State Department of Assessments and Taxation ("SDAT")

System Requirements

- CHP system must achieve at least 60% HHV ("higher heating value") efficiency
  - Fuel cells must achieve at least 50% HHV efficiency
  - LHV ("lower heating value") figures **will not be accepted**
- **Must be able to operate during grid interruptions**
- Can be topping or bottoming cycle systems
- Can be custom or packaged CHP systems

System Requirements

- HHV should be calculated as follows:

E = Annual Net CHP Electricity provided to the site (Btu HHV);
T = Annual Useful Thermal Energy Recovered (Btu HHV);
F = Annual CHP Fuel Consumption (Btu HHV)

$$Efficiency = \frac{(E + T)}{F}$$

- CHP systems must achieve **minimum** system efficiency of 60% (with the exception of fuel cells, which must achieve at least 50%)

CHP eCatalog

- Applicants strongly encouraged to use the U.S. Department of Energy CHP eCatalog
- Database of packaged CHP systems technically-vetted by the U.S. DOE
- Search, filter, and compare systems based on facility energy needs and site specifics
- Excellent resource for entities not as experienced with CHP systems
- Packaged CHP systems have shorter lead times and engineering costs

Financial Requirements

- AOI 1 projects must generate enough energy savings to repay total cost (**without incentives**) of CHP within its expected useful life ("EUL")
- Applicants must apply for utility CHP rebates where available
- Applicants can purchase and own CHP systems or contract with developers and enter into PPAs or leasing/service agreements, etc.

Additional Financial Assistance

- Projects may also qualify for low-interest financing (up to 2.0% APR) through MEA's Jane E. Lawton Conservation Loan Program

- Facilities implementing energy efficiency retrofits may also qualify for non-CHP grant funding under MEA's commercial efficiency programs:
  - Commercial, Industrial & Agricultural Program
  - Data Center Energy Efficiency Grant Program

Restrictions

- MEA cannot issue grant funds to projects which sign work and/or materials orders prior to the execution of a Grant Agreement

- MEA cannot issue grant funds to projects at historic properties which are deemed to create an adverse impact to the historical significance, as deemed by the Maryland Historical Trust

  - Historic properties are those listed in the Maryland Inventory of Historic Properties and/or National Register of Historic Places, or which have a Maryland Historical Trust Preservation Easement.
  - Applicants can check the historical status of their facilities using Maryland's MEDUSA cultural information database.
  - MEA will run each property under consideration through a historical preservation screening prior to notifying Applicants of approval/denial.

Restrictions

- Eligible projects must break ground **no later than** July 1, 2021
- Commissioning must occur **no later than** July 1, 2022
- Extensions may be issued by MEA on a case-by-case basis for good cause shown, such as circumstances outside of Grantee control
- Applicants must be able to document and verify energy savings and performance data for the CHP system for up to three (3) years after commissioning
- MEA representatives must be allowed to visit and document progress on the system

Restrictions

- **American Manufactured Goods:** Awarded projects must comply with §14-416 and §17-303 of the State Finance and Procurement Article
  - Affects only “public bodies” (a unit; a county; a municipality in the State; a school district in the State; or a special district in the State)
  - Requires contractors and subcontractors to “use or supply American manufactured goods in the performance of a contract for (1) constructing or maintaining a public work; or (2) buying or manufacturing machinery or equipment that is to be installed at a public work site.”
  - Includes steel products (17-303)
  - Exceptions allowed when cost of these goods are unreasonably high compared to foreign-sourced goods, as well as with quality (see statutes for details)

Restrictions

- **Workforce Requirement:** 80% of workers participating in CHP project construction and installation **must reside within 50 miles of Maryland State boundaries**, per Chapter 757 of the 2019 Acts of the General Assembly of Maryland. Engineering, design, procurement, and other non-construction or non-installation staff **are not subject to this requirement**.

- **Performance Verification:** Grantees are required to submit a report to MEA one year after CHP system commissioning outlining actual system performance data.

- Projects must comply with all other rules and restrictions listed in the Notice of Availability, available on the MEA CHP website.

APPLICATION PROCEDURE

Review Requirements

- Visit and read the information on the MEA CHP webpage.
- Download and review the Notice of Availability.
- Download and review the Frequently Asked Questions.
- MEA **strongly encourages** Applicants to review all information prior to beginning an application to reduce possibility of rejection.

Application Forms

- Download and complete the FY20 CHP Application
- Download and complete the FY20 CHP Supplemental Workbook
- These forms are available for download in the “How to Apply” section of the MEA CHP webpage.

Required Supporting Documents

- CHP Feasibility Study
- Copy of the Utility CHP Incentive Application (if applicable)
  - If not applicable, a copy of the five (5) year all-inclusive warranty/service contract
- All Utility CHP Application Supplemental Documents (if applicable)
- Utility CHP Incentive Pre-Approval Letter (if applicable)
- Most recent (12) consecutive months of electricity bills
- Most recent (12) consecutive months of natural gas/other fuel bills concurrent with electric bill (if applicable)
- Current Certificate of Status from the Maryland SDAT indicating Good Standing

FY20 CHP Supplemental Workbook

- Be sure to fill out all tabs in the workbook (there are 4):
  - Basic Information
  - Utility Data (should **match** 12 months of utility bills exactly)
  - CHP System Performance Data
    - This information should come from manufacturer/feasibility study
  - CHP System Financial Data

- Workbook is meant to supplement the data contained in the feasibility study (think of it as a "summary" of the core information)

Submitting the Application

- Navigate to the FY20 CHP Application Portal
  - Link also available under the “How to Apply” section of the MEA CHP webpage
- Follow the prompts and submit **all requested information.**
- Applicants are **strongly encouraged** to submit online, but may request to submit their Application packages via mail. Contact MEA at 410-537-4086 or via email at CHP.MEA@Maryland.gov for more information.

AWARD TIMEFRAMES

Review Timeframe

- Allow thirty (30) days for Application Review by MEA.
  - Additional time may be needed based upon project complexity.
- MEA will issue a Letter of Approval or Letter of Denial to the Applicant.
- **Incomplete Applications:** MEA will notify Applicants with Incomplete Applications (found to have missing or inadequate information) in writing. Applicants will have **thirty (30) calendar days (including weekends) from date of notification** to supply the requested information. Failure to do so will result in rejection of the Application package. Applicants may then reapply, but will be treated as new and lose their place in queue.

Grant Execution Timeframe

- Approved Applicants must enter into a Grant Agreement with MEA to receive funding.
- Upon Approval, allow thirty (30) to forty-five (45) days for MEA to draft and deliver the Grant Agreement (two (2) wet ink signature copies).
- Grantees must sign and return both Grant Agreement copies by the deadline specified in the Grant Agreement.
- Once MEA receives both signed copies, the Grant Agreement is considered executed and MEA will encumber the funds.
- Grant Agreements must be executed **no later than** April 30, 2020.

Post-Execution Timeframe

- Grantees must submit a project timeline (Gantt chart) within **thirty (30) days** of Grant Agreement execution.
- Status Reports must be submitted **each quarter** throughout the life of the project (Grant execution through commissioning).
- Groundbreaking and commissioning must be complete by July 1, 2021 and July 1, 2022, respectively.
- Grantees must submit a performance report one (1) year after commissioning.

QUESTION & ANSWER SESSION

Resources

- MEA CHP Website
- U.S. DOE CHP eCatalog
- MEA CHP Application Portal
- Questions about MEA CHP Program:
  - Email CHP.MEA@Maryland.gov
  - Call MEA at (410) 537-4000 (or toll free at 1-800-72-ENERGY)
  - MEA Offices Located at:

    1800 Washington Blvd, Ste 755
    Baltimore, MD 21230

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