



EmPOWER Maryland CHP Program

Program Description

In enacting the EmPOWER Maryland Energy Efficiency Act in 2008 (Annotated Code of Maryland, Public Utilities § 7-211), the Maryland General Assembly noted that “energy efficiency is among the least expensive ways to meet the growing electricity demands of the State” (Id. § 7-211(b)). EmPOWER Maryland is the state’s energy efficiency program, with an original goal of a 15% reduction in energy use and 15% reduction in peak demand per capita by the year 2015 (based on 2007 levels). Beginning in 2016, the Maryland Public Service Commission (PSC) established a new goal structure, which requires electric utilities to achieve annual incremental cost-effective energy savings equal to 2% of their retail electric sales.

As part of the EmPOWER Maryland program, the following utilities manage combined heat and power (CHP) grant programs: Baltimore Gas and Electric Company (BGE), Delmarva Power & Light (Delmarva), Potomac Edison Company (PE), Potomac Electric Power Company (PEPCO), and Southern Maryland Electric Cooperative (SMECO). The primary objective of these CHP programs is to encourage CHP’s use to support the aggressive EmPOWER Maryland goals by reducing grid-sourced electricity use. The incentive structure is designed to reward those systems that maximize the kilowatt-hours produced by the CHP system and used onsite. Incentives are intended for projects that would not otherwise have a payback of 1.5 years or less.



**The Montgomery County Correctional Facility
200 kW CHP and 2.8 MW PV microgrid**

PHOTO COURTESY OF MONTGOMERY COUNTY

In 2016, BGE’s commercial and industrial portfolio achieved the state’s highest energy and demand savings to date: a 10% increase in net energy savings (from 169,856 MWh in 2015 to 186,711 MWh in 2016) and a 6% increase in net demand savings (from 30.702 MW in 2015 to 32.620 MW in 2016). This notable overall portfolio performance was driven largely by the success of the CHP program, which realized its best performance to date across the savings metrics.

Program Requirements

All Maryland electric utility incentive programs for CHP systems have the same eligibility requirements and program structure, as detailed below:

- Eligible CHP projects may be driven by either a reciprocating engine or a gas turbine and must operate at a minimum of 65% efficiency (higher heating value) annually.
- Eligible CHP projects must be sized to meet all or a portion of the customer's on-site load, not to exceed 100% of the most recent historical annual consumption or peak demand. Incentives are not available for CHP systems that serve off-site customers, export to the grid, or are not located on the customer’s property.
- Incentives levels are \$1,200/kW up to and including 1 MW and \$900/kW over 1 MW. The first 1 MW of any system is incentivized at \$1,200/kW. Incentives are disbursed at three stages: during the project design/development stage, after commissioning, and after 12 months of operation:
 - Design Incentive: 10% of total incentive at project approval, subsequent to a signed commitment letter and acceptance of minimum requirements document

- **Commissioning Incentive:** 30% of total incentive after installation is complete, subsequent to commissioning of the CHP system and utility inspection
- **Production Incentive:** 60% of total incentive after receiving 12 contiguous months of actual kilowatt-hour generation received within 24 months of project installation, subsequent to review of metering data; payment based on actual kilowatt-hour generation and capped at 60% of total incentive
- o Design and commissioning incentives are capped at \$1.25 million, and production incentives are capped at \$1.25 million. There is a limit of one project per customer per site every three years.

Partnerships and Collaboration

On October 27, 2010, the U.S. Department of Energy's (DOE's) CHP Technical Assistance Partnership (TAP) issued a Maryland Combined Heat and Power Market Assessment, at the PSC's request.*

This served as the foundation for the PSC's inclusion of CHP in the EmPOWER program.

CHP systems make sense, from both a fiscal and an environmental perspective, given that this approach captures wasted energy and redirects the heat for maximized efficiency.

- MEA Director Mary Beth Tung

The Maryland Energy Administration (MEA) was charged with constructing the first CHP program design. MEA formed a working group consisting of DOE CHP TAP personnel and BGE and PEPCO energy efficiency groups. Over the course of about six months, the MEA CHP Working Group crafted the initial program design using lessons learned from other state programs and adapted them to suit the unique Maryland energy landscape. The first three-year program was announced in 2012 and covered BGE, Delmarva, and PEPCO service territories. The 2010 DOE CHP TAP report for the Maryland PSC was further used in a report to the state Senate Finance Committee and House Economic Matters Committee to develop modifications to EmPOWER targets beyond 2015. In 2017, the state legislature extended the EmPOWER Maryland program.

Technical Review

The DOE Mid-Atlantic CHP TAP performs a technical review of each incentive request application submission and provides the review to the MEA and utility program managers. A technical review meeting is held between the CHP TAP and the program managers to discuss the findings. Follow-up meetings and reviews are conducted with applicants whose applications are of interest but may require more information and/or refinement.

Notable Highlights

- o Having best practices from other state programs helped EmPOWER Maryland formulate its program based on lessons learned.
- o EmPOWER Maryland can rely on the CHP TAP to provide technical expertise in the evaluation of program applications.
- o The PSC views CHP as an important tool for reducing electricity demand and consumption.

For More Information

U.S. DOE MID-ATLANTIC CHP TECHNICAL ASSISTANCE PARTNERSHIP (CHP TAP)

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Date produced: 2019

* <https://energy.maryland.gov/Documents/MarylandCHPMarketAnalysis.pdf>