

MARYLAND ENERGY ADMINISTRATION

**2017 Annual State Agency Report – Efforts to Reduce Greenhouse
Gas Emissions or Address Climate Change**

December 14, 2017

Program Description

The mission of the Maryland Energy Administration (MEA) is to promote affordable, reliable and cleaner energy for the benefit of all Marylanders. To that end, MEA manages a portfolio of energy efficiency, renewable energy, and transportation programs that reduce energy consumption and produce cleaner energy for Maryland residents and businesses. A number of these programs also directly reduce greenhouse gas emissions.

MEA's portfolio of programs includes:

Energy Efficiency

Kathleen A. P. Mathias Agriculture Energy Efficiency Program

Provides incentives on a competitive basis to farms/businesses in the agriculture sector to cover up to 50% of the cost of eligible energy efficiency upgrades and up to 25% of the cost of eligible renewable energy upgrades.

Combined Heat and Power Grant Program

Provides incentives on a competitive basis to encourage the implementation of CHP, also known as cogeneration, technologies in Maryland.

Commercial and Industrial Grant Program

Provides incentives on a competitive basis to implement and showcase upgrades to commercial and industrial buildings that reduce electricity usage by 15% or more with at least two measures.

Clean Energy Communities Low-to-Moderate Income Grant Program

Designed to support energy efficiency and conservation programs, projects, or activities and demand response programs for low-to-moderate income Marylanders.

Jane E. Lawton Conservation Loan Program

Provides low-interest loans for energy efficiency and conservation improvements to structures. Local governments, non-profit organizations, and businesses are eligible to apply.

State Agency Loan Program

Provides loans to state agencies for cost-effective energy efficiency improvements in state facilities.

Next Generation Energy Efficiency Gains

Provides funds, training, and consulting efforts that help Maryland manufacturers in the BGE service territory implement energy efficiency.

Maryland Smart Energy Community

Program incents Maryland local governments to adopt energy policies and commit to them for the long term, leading to sustained energy savings and additional opportunities for renewable energy development.

Data Center Energy Efficiency Grant Program

Designed to support the robust and growing information technology sector in Maryland by providing grants on a competitive basis to encourage the implementation of cost-effective energy efficiency measures in data centers around the State.

Renewable Energy

Animal Waste to Energy Grant Program

Provides incentives to Maryland agriculture producers on a competitive basis for the installation of anaerobic digesters. This initiative produces energy and encourages alternative strategies for managing animal manure.

Game Changers Grant Program

Offers energy businesses in Maryland an opportunity to pilot innovative energy technologies and projects on a competitive basis that have the potential to reduce energy costs, save customers money, and create jobs in the State.

Parking Lot Solar PV Canopy with EV Charger Grant Program

Combines Maryland's Renewable Portfolio Standard goal for solar with the State's ongoing support of electric vehicle infrastructure by providing incentives for the installation of solar PV canopies in combination with EV charging stations at Maryland parking lots.

Clean Energy Grant Program

Program offers incentives to Maryland homeowners, businesses, nonprofits, State departments and agencies, and local governments for the installation of qualifying clean energy technologies to support the State RPS.

Animal Waste Technology Fund

Program provides funds to the Maryland Department of Agriculture to fund and operate the Animal Waste Technology Fund, which in turn provides incentives to companies that demonstrate new technologies on farms and provide alternative strategies for managing animal manure and produce energy.

Offshore Wind Business Development Grant Program and Offshore Wind Workforce Development Grant Program

These programs assist business owners, workers, researchers, and developers prepare for the potential development of an Offshore Wind Industry in Maryland.

Transportation

Alternative Fuel Infrastructure Program

Provides incentives on a competitive basis for the purchase and installation of public access alternative refueling stations.

Maryland Freedom Fleet Voucher Program

Provides incentives to Maryland businesses and governments for the purchase of alternative fueled vehicles.

Electric Vehicle Infrastructure Program

Provides funds, training, and education efforts that assist Marylanders with electric vehicle infrastructure installation best practices and general electric vehicle awareness.

Electric Vehicle Supply Equipment Rebate Program

Offers Maryland residents, businesses non-profits and governments rebates for the purchase and installation of EV charging equipment.

Electric Vehicle Excise Tax Credit

Provides a credit against the vehicle excise tax for the purchase of electric vehicles registered in Maryland.

Program Objectives

MEA provides grants and low interest loans to encourage the purchase and installation of technologies that reduce energy consumption, produce renewable energy, or utilize a cleaner burning fuel. Additionally, MEA program are designed to benefit all sectors of the State's economy. Accordingly, the programs are being undertaken to support the State's efforts to:

- 1) Reduce energy consumption
- 2) Produce cleaner energy
- 3) Reduce energy bills
- 4) Stimulate job growth
- 5) Enhance the resiliency of Maryland's electrical grid
- 6) Address climate change

Implementation Milestones

MEA programs are separated into six sectors; Residential, Low-to-Moderate Income, Commercial & Industrial, Agriculture, Public, and Transportation.

In fiscal year 2017, MEA programs achieved the following program milestones:

- Issued more than 3,000 awards
- Provided \$24.8 million in awards
- Leveraged \$213 million

- Annual savings of 112,762,362 kWh
- Annual savings of 167,922 MMBTU
- Installation of 41.8 MW of generation (Solar, Wind, CHP)
- Installation of 3,756 sq. ft. solar hot water capacity
- Installation of 1,614 tons of geothermal capacity
- Installation of 21.7 million BTU/hour generation (wood/pellet stoves)
- Installation of 655 kWh battery storage capacity
- Annual savings of 5,124,529 gallons of gasoline equivalent

Estimated Emission Reductions for Fiscal Year 2017

In fiscal year 2017, MEA’s energy programs reduced greenhouse gas emissions in the state by an estimated 0.1166 million metric tons of carbon dioxide equivalent (MMtCO_{2e}). This value is based on projects funded in the fiscal year.

Sector	Energy	Metric Tons CO_{2e}
Agriculture	125,490 kWh 5,976 MMBTU 500 kW (AWE)	471.8
Residential	29,966 kW (solar) 280 sq. ft (SHW) 1,571 Tons (geothermal) 21.7 million BTU/hour	25,963.0
Low-to-Moderate Income	5,300,000 kWh 18,000 MMBTU	3,635.5
Commercial & Industrial	7,197 kW (solar) 5,000 kW (CHP) 655 kW (battery) 58,760,728 kWh 143,946 MMBTU 3,476 sq. ft (SHW)	40,566.3
Public	823,159 kWh	415.3
Transportation	5,124,529 gallons	45,557.1

Greenhouse gas emissions were calculated using estimated project energy reductions and energy production. Emission calculations were derived from the following sources; factors from the Department of Environment eGRID sub-regional estimates¹, EPA voluntary reporting of Greenhouse Gases Program Fuel Carbon Dioxide Emissions Coefficients² and the Combined Heat and Power Partnership.³

¹ [Department of Energy’s eGRID sub-regional estimates](#)

² [EPA voluntary reporting of Greenhouse Gases Program Fuel Carbon Dioxide Emissions Coefficients](#)

³ [Combined Heat and Power Partnership](#)

Enhancement Opportunities

MEA continually collaborates with program stakeholders in addition to the Department of Energy and other States to improve the MEA program mix and offer the most efficient and effective programs for the citizen of Maryland.

Funding

MEA does not receive general funds for operational purposes. MEA programs are funded through a combination of Regional Greenhouse Gas Initiative auctions, Renewable Portfolio Standard alternative compliance fees, funds associated with Exelon mergers, Department of Energy funding and any Special Funds deposited into the Strategic Energy Investment Fund. It should be noted that all funding sources are variable in nature and beholden to fluctuations.

Challenges

Program challenges include, but not necessarily limited to:

- 1) Marketing and communication
- 2) Developing new program strategies
- 3) Market forces (e.g. energy and technology costs)
- 4) Fluctuations in funding