



Maryland
Energy
Administration

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**A Report on the Status of Programs
Implemented by the Maryland Energy Administration
that Support Maryland's
Greenhouse Gas Reduction Efforts
or Address Climate Change**

Citation: § 2-1305(c) of the Environmental Article

MSAR#: 10684

Description of Maryland Energy Administration Energy Programs

The Maryland Energy Administration (MEA) manages a portfolio of energy efficiency, renewable energy, and transportation programs that reduce energy consumption and produce cleaner energy. In this way, MEA program offerings help reduce greenhouse gas emissions.

The MEA mission is to promote affordable, reliable, and cleaner energy for the benefit of all Marylanders. Programs in MEA's portfolio with greenhouse gas emission reduction impacts include:

Energy Efficiency

- **Low-to-Moderate Income:** This program enables eligible non-profit organizations and local governments to implement energy efficiency projects benefiting low-to-moderate income Marylanders.
- **Maryland Smart Energy Communities:** The program helps incentivize Maryland county and local governments to adopt energy policies and implement eligible energy efficiency projects.
- **Commercial, Industrial, and Agriculture:** Program provides incentives to eligible commercial, industrial, and agricultural entities to reduce energy usage.
- **Data Center:** This program incentivizes energy efficiency upgrades in Maryland-based data centers.
- **Combined Heat and Power (CHP):** Program provides incentives to encourage the implementation of CHP technology in Maryland, allowing facilities to redeploy waste heat for on-site thermal loads.
- **Street and Outdoor Lighting** - Offered as a pilot program in FY22 to assist local governments and other organizations with street lighting, parking lot lighting, athletic field lighting and similar fixtures mounted on poles adopt energy efficient alternatives.
- **Jane E. Lawton Conservation Loan:** Low-interest loans for energy efficiency and conservation improvements by local governments, non-profit organizations, businesses, and state agencies.

Renewable Energy

- **Solar Canopy:** Program provides incentives for the installation of solar photovoltaic canopies in combination with electric vehicle charging stations at Maryland parking lots.
- **Clean Energy Rebate Program:** Program offers incentives to Maryland homeowners, businesses, nonprofit organizations, and local governments for the installation of qualifying solar photovoltaic, solar thermal, and geothermal.
- **Low-to-Moderate Income Community Solar:** Through this program, incentives are offered to help make subscriptions for community solar arrays more accessible to low-to-moderate income Marylanders.
- **Low Income Solar:** Provides grant funding to non-profit organizations to enable the design and installation of solar energy systems on single family homes owned by low-income residents that have already received weatherization-type energy efficiency upgrades.
- **Public Facility Solar Grant Program:** Offered for the first time in fiscal year 2021, this program provides grant funding to state, county, and municipal government entities to support planning and installation of solar arrays on existing infrastructure of public facilities.
- **Resiliency Hubs:** Incentives are provided to help with the development of a solar plus energy storage system in neighborhoods with significant numbers of low-to-moderate income residents, enabling increased resilience during a time of emergency by providing electricity for critical needs.
- **Maryland Smart Energy Communities:** The program helps incentivize Maryland county and local governments to adopt energy policies and implement renewable energy projects.

Transportation

- **Clean Fuel Incentive Program:** Program provides financial assistance for the purchase of alternative fuel fleet vehicles by school districts, municipal authorities, local governments, businesses, and nonprofit organizations.
- **Maryland Smart Energy Communities:** The program helps incentivize Maryland county and local governments to adopt energy policies and implement petroleum-fuel reduction projects.

MEA offers several other programs that provide technical support, funds for feasibility, or spur industry investment.

- Offered for the first time in FY22, the **Decarbonizing Public Schools Program** makes grants available to expand the capacity of local education agencies (i.e., public school systems) to manage energy data, reduce operating costs, and incorporate energy performance criteria into capital improvement planning. The Program's overall intent is to enhance energy efficiency and reduce lifecycle costs of school facilities, while reducing greenhouse gas emissions, on a portfolio-wide basis.
- The **Resilient Maryland Program** offers funding to help organizations plan and assess the feasibility of distributed energy resources (DER), including those DER that would result in greenhouse gas reductions, that can enhance resilience from power disruptions and support the overall resilience of the grid by bolstering local generation.

While these programs do not directly provide greenhouse gas reductions, these initiatives help participants overcome barriers and may lead to the implementation of future projects. These programs are feeders to enhance participation in future MEA programs, federal funding opportunities, and private financial support.

Program Objectives

MEA programs provide grants, rebates and loans to encourage the purchase and installation of technologies that reduce energy consumption, produce renewable energy, or utilize a cleaner transportation fuel.

Implementation Milestones

In fiscal year 2022, MEA made more than 6,400 awards across the agency's portfolio of energy programs. Larger fiscal year 2022 projects are still in the process of being installed and implemented. Greenhouse gas reduction savings for these projects are therefore being estimated based on anticipated energy savings and generation estimates.

Highlights from FY22 programs include the following anticipated outcomes:

- Annual anticipated avoidance of over 84 million kilowatt-hours (kWh) of electricity, through efficiency or renewable energy generation projects
- Over 56,000 kilowatts (kW) of new solar capacity, including 3,800 residential solar projects
- Incentivized more than 2,000 electric vehicle charging stations and 127 alternative fuel vehicles, including electric concrete mixer trucks and Class 8 electric tractors that are expected to be the first such deployments in Maryland
- Installation of more than 780 tons of geothermal heat pump capacity
- 1886 metric tons of GHG saved through the CFIP program¹

¹ These savings are derived from Argonne National Lab's AFLEET Tool – estimates in GHG, not CO₂.

Estimated Emission Reductions for FY2022

Fiscal year 2022 energy programs implemented by MEA are estimated to reduce greenhouse gas emissions in the state by more than 32,000 metric tons of carbon dioxide per year.² This value is based on the following estimates by program:

<u>Program</u>³	<u>Metric Tons CO₂</u>
Low-to-Moderate Income Energy Efficiency	2,825
Maryland Smart Energy Communities	1,667
Commercial, Industrial, and Agriculture	4,917
Streetlight and Outdoor Lighting Energy Efficiency	688
Combined Heat and Power (CHP)	1,938
Clean Energy Rebate Program	15,736
Solar Canopy	1,321
Community Solar	3,870
Public Facility Solar	138
Resiliency Hubs	95
Low Income Solar Grant Program	103
Total	32,868

Anticipated greenhouse gas emission benefits were calculated using estimated energy reductions and energy production for projects receiving FY21 awards from MEA. Assumptions were based on the U.S. Environmental Protection Agency (EPA) eGrid output emissions rates, EPA greenhouse gas equivalency information, the EPA CHP Energy and Emissions Savings Calculator, U.S. Energy Information Administration (EIA) carbon dioxide emission coefficients, and U.S Department of Energy (DOE) Alternative Fuel Data Center (AFCD) petroleum reduction resources.

² This value assumes all projects receiving an award proceed to completion. Should a project selected for an award ultimately not move forward, the overall greenhouse gas emission reduction will be lower.

³ CO₂ avoidance from the Jane E. Lawton program is not being reported to avoid double counting, as several projects received both a Commercial, Industrial, and Agriculture Program grant award and a Jane E. Lawton Conservation loan.

Enhancement Opportunities

MEA continually works to improve the mix of MEA program offerings to offer efficient and effective energy programs in support of Maryland's goals.

Funding

MEA does not receive general funds. The majority of MEA's funding comes from the Strategic Energy Investment Fund (SEIF). The SEIF is funded through the Regional Greenhouse Gas Initiative (RGGI) proceeds, along with any Renewable Portfolio Standard alternative compliance fees and prescriptive funds resulting from utility merger proceedings that may have accrued. It should be noted that all SEIF funding sources are variable in nature and fluctuate from year to year.

The Jane E. Lawton Conservation Loan program is a revolving loan fund, and the only program listed in this report that is not funded by SEIF.

Challenges

The energy landscape is dynamic and multifaceted. In this way, MEA's energy programs need to continue to evolve to be responsive to changes that occur in the energy sector and the needs of Maryland residents, businesses and organizations.

Relevant Information [Optional]

Much of the information in this report is sourced from the annual SEIF report for fiscal year 2022.