

I. Background

The Maryland Energy Administration's (MEA) mission is to provide affordable, reliable and resilient energy to all Marylanders. MEA provides technical assistance, grant and loan funds, and financial assistance to municipalities, counties, State units, local public agencies, nonprofit organizations, and private entities in order to establish or carry out sound energy policies and practices and maximize economic development opportunities for businesses in Maryland. See Maryland Code, Sections 9-2003 and 9-20B-01 *et seq.* of the State Government Article. Based on this responsibility, in fiscal year 2017, MEA will make available grant funds for innovative "game changing" renewable energy systems. In this round, MEA will consider applications in two Areas of Interest:

- **Area of Interest 1 (AOI 1):** Innovative technologies that are expected to reduce the cost or increase the efficiency of traditional Tier 1 renewable energy systems¹ while driving economic development opportunities; and
- **Area of Interest 2 (AOI 2):** Customer-sited electric storage systems that are integrated with a Tier 1 renewable energy source.² MEA will only consider systems that provide a quantifiable reliability or resiliency benefit, demonstrate an innovative use case for storage, and drive economic development opportunities. Examples of innovative use cases may include the potential for storage to mitigate intermittency from on-site renewable generation, to manage on-site demand during times of highest need, or to provide another benefit to the host customer or electric system more generally, including utility distribution systems and wholesale markets.

Through the Game Changers Program MEA aims to mitigate the additional costs and risks of installing game changing energy systems, evaluate the effectiveness of those systems through performance data collection and analysis, and assess the costs and benefits of those systems. MEA's objective through the program is to demonstrate innovative, replicable technologies and strategies that will help the State meet its aggressive renewable energy goals and spur local economic development.

For more information please visit: <http://energy.maryland.gov>

II. Funding Opportunity 5.0

In fiscal year 2017, MEA is announcing up to \$1,000,000, subject to funding availability, for round 5.0 of the Game Changers Program. MEA may award all, some, or none of the funds for this program. MEA expects award amounts to be in the range of \$50,000–\$250,000 per project and the applicant's cost share to be at least 70 percent. As noted above, MEA will consider applications in two areas of interest: Area of Interest 1 for innovative systems that are expected to reduce the cost or increase the efficiency of traditional renewable energy systems, and Area of Interest 2 for systems that integrate storage with a renewable energy system, described further below. Generally, MEA expects to allocate \$500,000 to each Area of Interest. However, if MEA does not receive sufficient eligible applications in one Area of Interest, remaining funds may be used to fund additional eligible projects in the other Area of Interest.

Area of Interest 1 (AOI 1): Innovative renewable energy technologies.

- This Area of Interest is for commercially-available technology that has not been widely adopted in Maryland. AOI 1 is open to any innovative, but commercially-available, technology that has the potential to significantly advance the deployment of Tier 1 renewable energy in Maryland and drive economic development opportunities. MEA does not seek to fund technologies that require ongoing subsidies to be competitive with existing technologies.

¹ Tier 1 renewable sources are defined in Maryland Public Utilities Article § 7-701

² Tier 1 renewable sources are defined in Maryland Public Utilities Article § 7-701

- Examples of past Game Changers Program projects that would fall in AOI 1 include an innovative solar water heating system, a device to interconnect residential solar more efficiently, and an innovative solar racking technology expected to reduce the cost of installing solar canopies.
- AOI 1 is open to technologies for residential or commercial systems. Successful applicants are expected to use Game Changers Program funds primarily to offset the additional cost of using innovative technologies.

Area of Interest 2 (AOI 2): Storage projects.

- This Area of Interest is for innovative customer-sited electric storage systems that are integrated with a Tier 1 renewable energy source.³ MEA will only consider systems that provide a quantifiable reliability or resiliency benefit, demonstrate an innovative use case for storage, and drive economic development opportunities. Examples of innovative use cases may include the potential for storage to mitigate intermittency from on-site renewable generation, to manage on-site demand during times of highest need, or to provide another benefit to the host customer or electric system more generally, including utility distribution systems and wholesale markets.
- Examples of past projects that would fall in this Area of Interest and that received Game Changers Program grants include a commercial-scale solar microgrid, and a solar project with electric-vehicle integrated storage. Each of these past projects specified how the project would provide additional benefits to the electric grid through PJM Interconnection LLC.
- AOI 2 is open to customer-sited projects that meet the goals described above.

Successful applicants will be expected to provide data and information on the performance of the system, including its costs and benefits, for one year after project installation.

The Game Changers Program (AOI 1 and AOI 2) is structured such that each grant award is reimbursed in increments, based upon the grantee meeting certain milestones as described below:

Milestone 1: Interconnection agreement approved – No funding released

Milestone 2: Equipment delivered to site – 40% of grant award released

Milestone 3: Project installed and commissioned – 50% of grant award released

Milestone 4: One-year post-installation final report due – 10% of grant award released

Milestone deadlines are listed in the “Anticipated Timeline” section below. The one year deadline for having projects installed and commissioned is non-negotiable. The deadlines for the first two milestones, the interconnection agreement and delivery of equipment, will be negotiated with each awardee and tailored to the nature of the grant project.

Final Report

The one-year final report is an important program component because the objective of the program is to demonstrate replicable technologies and strategies. MEA expects the final report to include data such as monthly energy production, actual installed capacity, final cost information, customer experience and feedback, and other data and information to be agreed upon by MEA and the applicant. The grantee’s final report will be a public document; however, subject to the Maryland Public Information Act, certain information may be protected from disclosure. This includes trade secrets and confidential commercial or financial information. MEA will work with grantees to determine which items from the final report can be made public.

³ Tier 1 renewable sources are defined in Maryland Public Utilities Article § 7-701

III. Anticipated Timeline

The following timeline applies to the Game Changers Program:

September 2016:	Fiscal Year 2017 program is announced.
November 4, 2016:	Deadline for written questions at 5 p.m.
December 1, 2016:	Applications due by noon to gamechangers.mea@maryland.gov
January 2017:	Individual applicants deemed eligible for further consideration may be invited for in-person presentations.
March 2017:	Target for announcement of awards.*
May 2017:	Target for having grant agreements signed (projects begin).
May 2018:	Projects installed and commissioned (one year after grant agreement is signed).
June 2019:	Final report due (one year and one month after project is commissioned).

***Note:** Due to the novel nature of certain storage projects, MEA anticipates that some projects may require coordination with the local utility. In such a case, MEA may make a conditional award until such a time that MEA and the awardee have finalized a scope of work for the project. This scope of work will be informed by a discussion between MEA, the awardee, and the electric utility in whose territory the project will operate to review the technical requirements of the project.

Each grantee will be required to submit quarterly progress reports for the entire grant period to the Game Changers Program manager once a grant agreement is signed. The following quarterly reporting schedule applies to the Game Changers Program.

<u>Quarter</u>	<u>Reporting Period</u>	<u>Report Due</u>
1	January 1 – March 31	by April 30
2	April 1 – June 30	by July 30
3	July 1 – September 30	by October 30
4	October 1 – December 31	by January 30

Once MEA and the grantee agree to a specific scope of work, MEA will provide a Grant Agreement for signature. All grant awards are expressly contingent upon acceptance of all Program Terms and Conditions, execution of the Grant Agreement, and completion of the project in accordance with all Program requirements, Terms, and Conditions.

IV. Eligibility Requirements

The Game Changers Program is open to entities eligible to do business in Maryland, including for-profit businesses, non-profits, and government entities. Businesses must demonstrate that they are in good standing with the State Department of Assessments and Taxation by submitting a copy of their certificate of registration or other evidence with their application. Projects must use commercially available technology and be physically located in Maryland. While not necessary for the application, each applicant should be aware that MEA will require documentation from each successful applicant before beginning the project showing that the proposed project will not adversely affect historic properties. **Businesses and non-profits representing Maryland's diverse minority communities are strongly encouraged to apply to the Game Changers Program.**

V. Application (AOI 1 and AOI 2)

Required Application Materials

1. A completed and signed Game Changers Program FY 2017 application form;
2. A certificate of good standing from the Maryland Department of Assessments and Taxation;
3. Product specification sheets for innovative equipment;
4. Evidence of UL listing and other certifications for equipment required for permitting and installations;
5. Site map with location of the proposed renewable energy system components;
6. System diagram;
7. A financial pro-forma for the project including total project cost, revenue streams, and relevant assumptions. Include a discussion of any values that cannot be quantified. (Note: this pro-forma will remain confidential and should be labeled accordingly by the applicant).
8. Letter of Commitment from project owner indicating that funds are available or financing is secured for completion of the proposed project.
9. Letter(s) of support from all other project partners;
10. A narrative of no more than 10 8½ by 11-inch pages, including the following sections:
 - a. *Project description.* This section should give the review team a broad overview of the project and the technologies to be used. It should help the review team to understand how/why the project is viable and can be completed within the required timeframe. It should include, at a minimum, the following:
 - i. A discussion of the innovative nature of (1) the product, including why the technology is not currently deployed in Maryland (for AOI 1); or (2) the storage use case (for AOI 2);
 - ii. Details about the project location(s) and facility;
 - iii. Details about each project partner, including the nature of commitments made by each project partner, the breakdown of responsibilities among project partners, biographies of key personnel to be involved in the project, and corporate qualifications;
 - iv. Project timeline and key internal milestones;
 - v. A discussion of any relevant permitting, interconnection, or inspection requirements and any anticipated issue that might arise;
 - vi. A discussion of any potential legal or regulatory issue that the project could reveal;
 - vii. A discussion of project replicability and an estimate of the future market potential for the innovative technology or storage system;
 - viii. A discussion of economic development opportunities that stem from the innovative technology or storage system;
 - ix. A discussion of the various value streams for the storage system (AOI 2 only);
 - x. Identification of critical loads for the customer's facility and details on how (and for how long) the system will operate during times of grid outage (AOI 2 only);
 - xi. A general discussion of the reliability and resiliency benefits of the project, including stakeholders who benefit and how (AOI 2 only);
 - xii. Methodology to be used for collecting, verifying and analyzing twelve months of performance data; and
 - xiii. Key metrics and lessons learned that will be collected and analyzed in the final report (this information will be made public).
 - b. *Project budget and grant request.* This section should include details on cost-share, total project costs, and how applicant would like to use grant funds. It should address why grant funding is necessary to implement the project, why grant funds will increase replicability of similar projects, and why grant funds can help move the

market for renewable energy and/or energy storage forward. It should include, at minimum, the following:

- i. A description of how the applicant would like to use grant funds;
- ii. A total project budget with line items for equipment, labor, personnel, permitting/inspections, and administrative expenses (this can reference the pro-forma); and
- iii. Other sources of leveraged funds to be used in the project, including cash or in-kind services.

Confidentiality

Please mark or otherwise indicate any portion of your application that you believe is confidential so that MEA may treat that portion accordingly, subject to the Maryland Public Information Act.

Application Submission

While MEA prefers electronic application submissions, hardcopy applications will be accepted. All electronic files sent to MEA must be less than 10 MB in size. MEA will not consider late applications.

Please Submit Application Packages by **NOON on December 1, 2016** to: gamechangers.mea@maryland.gov

or mail to:

Game Changers Program
Maryland Energy Administration
1800 Washington Boulevard, Suite 755
Baltimore, MD 21230

NO APPLICATIONS WILL BE ACCEPTED AFTER NOON, DECEMBER 1, 2016

VI. Evaluation

Evaluation Process

Qualified staff from MEA and/or other State agencies and institutions will form the evaluation team. MEA reserves the right to contact applicants with questions and requests for additional information about the project during the application review period. After an initial review, an applicant may be invited to present their concepts in person and answer questions from a panel of reviewers. Applicants that meet the Minimum Requirements will be subject to the Competitive Evaluation Criteria.

Evaluation Requirements and Criteria

MEA will assess the applications for both Areas of Interest as described below. However, in order to ensure a diversity of projects, MEA reserves the right to consider project geography and, for AOI 2, the use case for a storage system.

Area of Interest 1 (AOI 1):

AOI 1 Minimum Requirements

Applications in this Area of Interest will be evaluated to determine whether they meet the following requirements. These requirements *must* be met in order for a project to be considered for award:

1. **Innovation**: MEA defines “innovative” as a product that is not widely used in most renewable energy installations in Maryland (less than approximately 10 percent, based on best estimates).
2. **Commercially Available**: MEA defines “commercially available” as a product that can be purchased on the market today. A commercially available product should be listed by the Underwriters Laboratory (UL) and have achieved all applicable environmental, health and safety certifications.
3. **Cost Effective**: MEA will only consider technologies that demonstrate the potential to reduce the cost or increase the efficiency of Tier 1 renewable energy systems. MEA will not consider technologies that would require an ongoing subsidy to be competitive in the future.
4. **Matching Funds**: An applicant must demonstrate that funding has been secured for at least 70 percent of the total project cost.
5. **Project Viability**: An applicant must demonstrate that the project can be completed within a year of executing a grant agreement with MEA. After evaluating the evidence provided in the application, MEA will use its discretion to determine whether the project can be completed within this time frame.

AOI 1 Competitive Evaluation Criteria

If the total amount requested by all the applications meeting the requirements above exceeds the amount budgeted for this track, MEA will apply the following competitive criteria in order to select projects for award:

1. **Installed Capacity**: A project with the greatest renewable capacity, per dollar of MEA investment, will be most competitive.
2. **Market Potential**: A project that demonstrates greater potential to advance the market for renewable energy in Maryland will be more competitive.
3. **Performance Data**: An application with a thoughtful plan for collecting, verifying and disseminating data and information about the project’s successes and challenges will be more competitive.
4. **Partner Commitment**: A project that demonstrates strong commitments from partners, including utilities, funding sources, and/or local jurisdictions, will be more competitive.

Area of Interest 2 (AOI 2):

AOI 2 Minimum Requirements

Applications in this Area of Interest will be evaluated to determine whether they meet the following requirements. These requirements *must* be met in order for a project to receive funding:

1. **Innovation**: A project must demonstrate an innovative use case for the storage system (i.e. a benefit in addition to the customer reliability benefit).
2. **Integrated with Renewables**: A storage system must be integrated with a Tier 1 renewable resource. The resource can be an existing system or a planned system.
3. **Commercially Available**: A system must use commercially available technology.
4. **Ability to Island**: A system must be able to island and power critical loads (to be identified by the applicant).
5. **Electric Storage**: MEA will only consider electric storage systems. Thermal or other storage systems are ineligible.

6. **Matching Funds:** An applicant must demonstrate that funding has been secured for at least 70 percent of the total project cost.
7. **Project Viability:** An applicant must demonstrate that the project can be completed within a year of executing a grant agreement with MEA. After evaluating the evidence provided in the application, MEA will use its discretion to determine whether the project can be completed within this time frame.

AOI 2 Competitive Evaluation Criteria

If the total amount requested by all the applications meeting the requirements above exceeds the amount budgeted for this track, MEA will apply the following competitive criteria in order to select successful projects:

1. **Reliability Benefits:** A project with greater reliability benefits will be given preference. An applicant should quantify the reliability benefits as part of the application. This could be defined as the expected duration of the system's ability to power critical loads, the expected economic benefit during times of grid outage, or another benefit.
2. **Replicability:** A project that demonstrates greater replicability will be given preference. This will be assessed in part based on the financial viability of the project, including how the grantee proposes to monetize the various benefits of the storage system.

VII. Questions

Grant application questions should be submitted via email to gamechangers.mea@maryland.gov. For questions about program design questions and responses will be posted on the Game Changers Program website after identifying information is removed from questions. The postings will be updated on a regular basis, as needed during the application period.