



# Office of Performance Management Oversight (OPMO)

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**Massachusetts Clean Energy Center**  
FY2020 Report



# Agency Mission

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- **Mission:** The Massachusetts Clean Energy Center's (MassCEC) mission is to accelerate the clean energy and climate solution innovation that is critical to meeting the Commonwealth's climate goals, advancing Massachusetts' position as an international climate leader while growing the state's clean energy economy.
- **Contribution to Partnerships for Growth:** MassCEC contributes to the pillars in many ways, including:
  - Tackling greenhouse gas emissions in the hard to reach areas of the building sector, such as triple-decker residential buildings
  - Increasing access to clean energy and healthy buildings for individuals in affordable housing
  - Supporting clean energy businesses with funding for technology development, demonstrating solutions, and interns
  - Creating jobs and providing workforce training in the clean energy sector
  - Supporting the burgeoning offshore wind industry with a focus on regional supply chain development and workforce training
  - Providing funding for projects that demonstrate solutions to the state's transportation emission barriers



# Agency Goals

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- **Agency Goal 1: Greenhouse Gas Emission Reduction:** Massachusetts has set ambitious energy and climate goals that require dramatic reductions in greenhouse gas (GHG) emissions, building a more resilient Commonwealth, meeting an energy storage deployment target and the state's procurement of additional megawatts of clean energy generation. MassCEC plays a critical role in fostering innovation and the deployment of clean energy and resilient solutions that will drive emissions reductions and help Massachusetts achieve 2030 and 2050 GHG reduction targets in an accelerated, equitable and cost-effective manner in all areas of the Massachusetts energy economy.
- **Agency Target for Goal 1:** This metric is still being developed- we expect targets to be determined in November 2019. There will likely be two metrics that can be used to evaluate the near- and long-term emissions impacts of awards and programs, enabling both assessment of the relevance of different programs and projects and comparison of programs and projects versus one another. For near-term emissions impacts, the proposed metric is Total Avoided Emissions. For long-term emissions impacts, the proposed metric is Average Addressable Emissions.
- **Results of Goal 1:** 1) Metric Tons of Avoided CO<sub>2</sub> (9,064); 2) Million Metric Tons of Addressable CO<sub>2</sub> (4,167)



# Agency Goals

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- **Agency Goal 2: Drive Clean Energy Innovation:** Innovation is a key driver that will enable the energy transition and maintain a successful clean energy sector. The acceleration and expansion of markets and technology adoption will unlock solutions that will lead to a safe, reliable and resilient energy infrastructure. To this end, MassCEC plays a critical role in driving innovation which includes, but is not limited to, catalyzing new business and finance models, mobilizing third-party investments, fostering the demonstration of technologies, accelerating opportunities for the commercialization of next generation technology, supporting the formation and growth of early-stage companies, and informing new policy and regulatory solutions. (Includes Seed Investments, Equity Investments, Follow-on Investments, Venture Debt, Accelerator Funding Program, Clean Energy Innovation Network, Microgrid Challenge, InnovateMass, IncubateMass, Catalyst, AmplifyMass, Wastewater Treatment Pilot Program, Market Development, Advancing Commonwealth Energy Storage. MassVentures, BRIDGES, DeployMass, and Moon Island were included in the results, even though they were not included in the initial targets.)
- **Agency Target for Goal 2:** 1) Funding Leveraged (\$27.9 million); 2) Number of Private Entities Impacted (137); 3) Number of Public Entities Impacted (47)
- **Results of Goal 2:** 1) Funding Leveraged (\$224.7 million); 2) Number of Private Entities Impacted (197); 3) Number of Public Entities Impacted (68)



# Agency Goals

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- **Agency Goal 3: Support the Clean Energy Industry Workforce:** *The strength of Massachusetts' clean energy economy depends on the strength of its workforce. The future of clean energy - one powered by innovation, growth and sustainable companies, policies and technologies- demands employees with various levels of education, skills and on-the-ground experience. MassCEC plays an important role in continuing to implement efforts that prepare workers to meet the needs of the clean energy industry. (Includes Offshore Energy Workforce, Internship Program, Vocational Internship Program, Clean Energy Activity Days, Learn and Earn, Workforce Studies and Programming, and Clean Energy Adoption Initiatives)*
- **Agency Target for Goal 3:** 1) Number of students supported (1,188); 2) Number of companies supported (251); 3) Number of women and minorities participants (622); 4) Number of community college participants (67); 5) Number of elementary schools supported (2); 6) Number of trainings supported (11); 7) Number of training participants (329)
- **Results of Goal 3:** 1) Number of students supported (904); 2) Number of companies supported (251); 3) Number of women and minorities participants (569); 4) Number of community college participants (44); 5) Number of elementary schools supported (0); 6) Number of trainings supported (9); 7) Number of training participants (3,254)



# Agency Goals

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- **Agency Goal 4: Economic Development:** Massachusetts is a national leader in the transition to a clean energy future and boasts a significant local industry as well as a global cleantech sector innovation hub that is launching some of world's top clean energy companies and technologies. It is critical for MassCEC to keep job and business growth on the rise by leveraging the Commonwealth's world-renowned academic & innovation resources to accelerate clean energy development, promoting a pipeline of skilled workers capable of meeting industry needs, creating and expanding clean energy businesses and helping to build supply chains to support emerging industries. Innovation is also one of the hallmarks of the Massachusetts economy and MassCEC must continue to build an integrated ecosystem of support for innovation and entrepreneurship that allows the next generation of clean technology innovation to make its home in Massachusetts.
- **Agency Target for Goal 4:** 1) Increase in clean energy jobs; 2) Increase in full time equivalent clean energy jobs; 3) Increase in clean energy establishments; 4) Increase in clean energy gross state product
- **Results of Goal 4:** 1) Increase in clean energy jobs (1,069); 2) Increase in full time equivalent clean energy jobs (3,730); 3) Increase in clean energy establishments (173); 4) Increase in clean energy gross state product (\$700 million)



# Clean Heating & Cooling (Residential)

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- **Program Description:** The Massachusetts Clean Energy Center's Clean Heating and Cooling Residential programs offer rebates to support the installation of renewable heating, hot water, and cooling technologies at homes across the Commonwealth. The Program includes a number of sub-programs to increase the adoption of clean heating and cooling technologies including, Air-Source Heat Pumps, Modern Wood Heating, Solar Hot Water and Ground-Source Heat Pumps and a Woodstove Changeout Program. Part of the program is focused on serving low and moderate-income customers as well.
- **Program Budget:** \$2,600,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support the installation of renewable heating, hot water, and cooling technologies in residential buildings.



# Clean Heating & Cooling (Residential)

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- **Fiscal Year Target 1:** Number of Private Entities Impacted (201); Number of Public Entities Impacted (1); Leveraged Funds (\$12 million)
- **Results of Goal 1:** Number of Private Entities Impacted (145); Number of Public Entities Impacted (1); Leveraged Funds (\$13.8 million)





# HeatSmart Mass

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- **Program Description:** HeatSmart Mass seeks to increase the adoption of small-scale clean heating and cooling technologies (air-source heat pumps, ground-source heat pumps, central biomass heating and solar hot water) in participating communities through a competitive solicitation process that aggregates homeowner buying power to lower installation prices for participants. The Program aims to help 1) drive down the installation cost and 2) increase deployment of residential and small-scale commercial clean heating and cooling installations through a group purchasing model.
- **Program Budget:** \$450,000.00
- **Partnerships for Growth Goal Alignment:** Community
- **COVID – 19 Response:** Allowed community campaign extensions, assisted efforts to transition campaigns virtually, and required installers to offer information about their COVID-19 safety protocol as part of their applications to work with communities.



# HeatSmart Mass

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- **Fiscal Year Goal 1:** Increase the adoption of small-scale clean heating and cooling technologies (air-source heat pumps, ground-source heat pumps, central biomass heating and solar hot water) in participating communities
- **Fiscal Year Target 1:** Number of Private Entities Impacted (9); Number of Public Entities Impacted (6); Leveraged Funds (\$2.5 million)
- **Results of Goal 1:** Number of Private Entities Impacted (3); Number of Public Entities Impacted (2); Leveraged Funds (\$3.4 million)



# SolarizeMass

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- **Program Description:** The program is a community-based education, outreach and group buying program that allows residents to band together to save money on solar electric systems.
- **Program Budget:** \$150,000.00
- **Partnerships for Growth Goal Alignment:** Community
- **COVID – 19 Response:** Allowed community campaign extensions, assisted efforts to transition campaigns virtually, and required installers to offer information about their COVID-19 safety protocol as part of their applications to work with communities.
- **Fiscal Year Goal 1:** Increase the adoption of solar electric systems in participating communities.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (3); Number of Public Entities Impacted (3); Leveraged Funds (\$1.575 million)
- **Results of Goal 1:** Number of Private Entities Impacted (9); Number of Public Entities Impacted (3); Leveraged Funds (\$6.8 million)



# Mass Solar Loan

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- **Program Description:** Provides incentives to low- and moderate-income Massachusetts residents in the form of subsidized loans provided through a network of local banks and credit unions to make it easier for those residents to obtain low-interest loans to fund the installation of solar electricity systems for their homes.
- **Program Budget:** \$2,270,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Assist residents to obtain low-interest loans, particularly low-income residents, to fund the installation of solar electricity systems for their homes.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (80); Leveraged Funds (\$20.2 million)
- **Results of Goal 1:** Number of Private Entities Impacted (77); Leveraged Funds (\$18.1 million)



# Clean Energy Adoption Initiatives

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- **Program Description:** Multiple initiatives targeted at increasing adoption of residential and commercial-scale clean energy systems through the development of information resources, industry trainings and engagement of market sectors.
- **Program Budget:** \$85,000.00
- **Partnerships for Growth Goal Alignment:** Workforce
- **COVID – 19 Response:** Provided 200 free codes for the online “Selling the Sun: Listing, Marketing and Establishing Value for Solar PV Home” real estate agent training
- **Fiscal Year Goal 1:** Provide trainings and resources to increasing adoption of residential and commercial-scale clean energy systems.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (270); Number of Public Entities Impacted (25); Number of Training Hours Offered (8)
- **Results of Goal 1:** Number of Private Entities Impacted (3,172); Number of Public Entities Impacted (18); Number of Training Hours Offered (19)



# Clean Heating & Cooling (Commercial)

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- **Program Description:** The Massachusetts Clean Energy Center's Clean Heating and Cooling Commercial Programs offers rebates to support the installation of renewable heating, hot water and cooling technologies at facilities across the Commonwealth. The Program includes a number of sub-programs to increase the adoption of clean heating and cooling technologies including Air-Source Heat Pumps, Modern Wood Heating, Ground-Source Heat Pumps, and Solar Hot Water.
- **Program Budget:** \$1,500,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support the installation of renewable heating, hot water and cooling technologies at non-residential facilities across the Commonwealth.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (7); Leveraged Funds (\$300,000)
- **Results of Goal 1:** Number of Private Entities Impacted (29); Leveraged Funds (\$1.5 million)



# Affordable Access to Clean and Efficient Energy

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- **Program Description:** Programs targeted at alleviating the high cost of energy for low-income populations through competitive grants to organizations serving low income residents.
- **Program Budget:** \$500,000.00
- **Partnerships for Growth Goal Alignment:** Community
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Help to alleviate the high cost of energy for low-income populations through clean energy solutions.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (27); Leveraged Funds (\$7.5 million)
- **Results of Goal 1:** Number of Private Entities Impacted (22); Leveraged Funds (\$7.5 million)



# Seed Investments, Equity Investments, Follow-on Investments, and Venture Debt

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- **Program Description:** Supports early stage and growth companies in development and commercialization stages via debt and equity investments to help Massachusetts-based cleantech companies grow, reach key milestones, and create jobs. Provides follow-on investments in existing portfolio companies through transition to later funding stages on way to commercialization.
- **Program Budget:** \$3,301,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** At the end of FY20 MassCEC developed the BRIDGES Program, providing a total of \$800,000, which leveraged an additional \$11 million from other investors, to clean energy startups adversely affected by COVID-19. This program was added to the results below.
- **Fiscal Year Goal 1:** Support early stage and growth clean tech companies in development and commercialization stages.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (9); Leveraged Funds (\$3.803 million)
- **Results of Goal 1:** Number of Private Entities Impacted (18); Leveraged Funds (\$36.6 million)





# Learn and Earn

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- **Program Description:** The program provides grant funding to schools for programs that prepares Massachusetts high school students for clean energy careers and clean energy/science, technology, engineering, and math (STEM) majors in higher education. Through participation in the program, students also make connections to clean energy employers and project sites.
- **Program Budget:** \$370,000.00
- **Partnerships for Growth Goal Alignment:** Workforce
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support school programs that prepare Massachusetts high school students for clean energy careers and clean energy/science, technology, engineering, and math (STEM) majors in higher education.
- **Fiscal Year Target 1:** Number of Public Entities Impacted (2); Leveraged Funds (\$48,000)
- **Results of Goal 1:** Number of Public Entities Impacted (1); Leveraged Funds (\$48,000)



# On-the-Job Training and On-the-Job Training Vocational

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- **Program Description:** The program (also known as the Clean Energy Internship Program) facilitates the placement of Massachusetts community college and four-year college students and recent graduates who are considering career opportunities in clean energy, in paid, full-time summer internships as well as paid, part-time academic year internships across the state. This program also includes a pilot workforce development initiative that helps place skilled labor of vocational high school students in paid clean energy internships during the academic year.
- **Program Budget:** \$3,636,000.00
- **Partnerships for Growth Goal Alignment:** Business, Workforce
- **COVID – 19 Response:** The programs offered pre-funding of intern reimbursements to companies when COVID-19 began, helping with cashflow constraints.
- **Fiscal Year Goal 1:** Facilitate the placement of Massachusetts college students, recent graduates, and vocational high school students in paid clean energy internships across the state.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (320); Number of Public Entities Impacted (25); Leveraged Funds (\$720,000); Number of internships funded (564)
- **Results of Goal 1:** Number of Private Entities Impacted (230); Number of Public Entities Impacted (8); Leveraged Funds (\$520,000); Number of internships funded (563)



# Clean Energy Activity Day

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- **Program Description:** The program funds Clean Energy Activity Days at Massachusetts elementary schools (kindergarten – eighth grade) to participate in the Massachusetts Clean Energy Center's Clean Energy Activity Day. The day offers specialized activities with a hands-on learning opportunity for students either at the students' current place of education or at a clean energy business or organization.
- **Program Budget:** \$100,000.00
- **Partnerships for Growth Goal Alignment:** Community, Workforce
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support specialized activities with a hands-on learning opportunity for students at a school or clean energy organization.
- **Fiscal Year Target 1:** Number of Public Entities Impacted (8)
- **Results of Goal 1:** Number of Public Entities Impacted (2)



# Offshore Energy Workforce

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- **Program Description:** Program designed to increase Massachusetts workforce capacity to participate in offshore wind manufacturing, deployment and operations.
- **Program Budget:** \$1,050,000.00
- **Partnerships for Growth Goal Alignment:** Business, Workforce
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Increase Massachusetts workforce capacity to participate in offshore wind manufacturing, deployment and operations.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (2); Number of Public Entities Impacted (1); Leveraged Funds (\$750,000)
- **Results of Goal 1:** Number of Private Entities Impacted (9); Number of Public Entities Impacted (4); Leveraged Funds (\$970,000)



# InnovateMass

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- **Program Description:** The program provides grants for demonstration projects that offer the most innovative, effective and impactful clean energy solutions, helping companies and their technologies move closer to commercialization.
- **Program Budget:** \$1,585,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support demonstration projects for innovative clean energy solutions, which help companies and their technologies move closer to commercialization.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (8); Number of Public Entities Impacted (1); Average Technology Readiness Level Increase (1)
- **Results of Goal 1:** Number of Private Entities Impacted (12); Number of Public Entities Impacted (3); Average Technology Readiness Level Increase (1)



# Microgrid Challenge

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- **Program Description:** The program seeks to catalyze the development of community microgrids throughout Massachusetts to lower customer energy costs, reduce greenhouse gas (GHG) emissions, and provide increased energy resilience.
- **Program Budget:** \$850,000.00
- **Partnerships for Growth Goal Alignment:** Business, Community
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Facilitate the development of community microgrids throughout Massachusetts.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (3); Number of Public Entities Impacted (9)
- **Results of Goal 1:** Number of Private Entities Impacted (4); Number of Public Entities Impacted (4)



# Catalyst Program

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- **Program Description:** The program provides grants and business mentoring to researchers and early-stage companies looking to demonstrate initial prototypes of their clean energy technologies.
- **Program Budget:** \$1,060,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support researchers and early-stage companies looking to demonstrate initial prototypes of their clean energy technologies
- **Fiscal Year Target 1:** Number of Private Entities Impacted (10); Number of Public Entities Impacted (4); Average Technology Readiness Level Increase (1)
- **Results of Goal 1:** Number of Private Entities Impacted (19); Number of Public Entities Impacted (1); Average Technology Readiness Level Increase (1)



# Accelerator Funding Program

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- **Program Description:** Provides operational grant funding and clean energy start-up company scholarships to accelerators.
- **Program Budget:** \$300,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support accelerators directly and the companies that graduate from accelerator programs.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (3); Leveraged Funds (\$3.4 million)
- **Results of Goal 1:** Number of Private Entities Impacted (4); Leveraged Funds (\$4.5 million)





# Incubate Mass

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- **Program Description:** Provides funding to incubators that are catalyzing and supporting startup companies to create jobs and promote the commercialization of new clean energy technologies.
- **Program Budget:** \$400,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support incubators in Massachusetts that assist clean energy technology companies.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (4); Number of Public Entities Impacted (1); Leveraged Funds (\$9.2 million)
- **Results of Goal 1:** Number of Private Entities Impacted (4); Number of Public Entities Impacted (0); Leveraged Funds (\$9 million)



# ReHeat Mass Program

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- **Program Description:** Supports a public awareness campaign and industry development partnerships to increase the awareness, adoption, and cost-effectiveness of renewable thermal technologies, which includes air-source heat pumps, ground-source heat pumps, biomass heating, and solar hot water.
- **Program Budget:** \$638,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Annual increase in the number of visits to a dedicated renewable thermal website.
- **Fiscal Year Target 1:** Develop a plan of action for the program and seek to increase awareness for the next fiscal year through targeted marketing efforts.
- **Results of Goal 1:** 1) Number of users that visited [goclean.masscec.com](http://goclean.masscec.com) (42,949); 2) Unique pageviews of [goclean.masscec.com](http://goclean.masscec.com) (71,996); 3) Website content includes 4 clean heating and cooling technologies explained in detail



# Wastewater Treatment Pilot Program

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- **Program Description:** Program provides targeted grants for demonstrating innovative wastewater treatment technologies at publicly-owned wastewater treatment facilities. The objective is to reduce energy demand and accelerate innovative technologies to market.
- **Program Budget:** \$500,000.00
- **Partnerships for Growth Goal Alignment:** Business, Community
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support innovative wastewater treatment technology demonstrations at publicly-owned wastewater treatment facilities.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (4); Number of Public Entities Impacted (4); Leveraged Funds (\$125,000)
- **Results of Goal 1:** N/A – Program on Hold



# AmplifyMass

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- **Program Description:** Provides grants to Massachusetts-based companies and university teams receiving federal and other sources of funding for clean energy related efforts. The program supports research and development in the Commonwealth across a broad set of recipients for different clean energy and water technologies and attract federal and other sources of funding into the state.
- **Program Budget:** \$2,000,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Supports research and development in the Commonwealth and attract federal and other sources of funding into the state.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (6); Number of Public Entities Impacted (4); Leveraged Funds (\$10 million)
- **Results of Goal 1:** Number of Private Entities Impacted (29); Number of Public Entities Impacted (5); Leveraged Funds (\$11 million)



# Market Development

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- **Program Description:** Supports the development and commercialization of emerging clean energy technologies that have the potential to greatly benefit the infrastructure and ratepayers in the Commonwealth and/or transform its energy landscape.
- **Program Budget:** \$1,900,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Increase the development and commercialization of emerging clean energy technologies.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (4); Number of Public Entities Impacted (19); Leveraged Funds (\$1.25 million)
- **Results of Goal 1:** Number of Private Entities Impacted (9); Number of Public Entities Impacted (40); Leveraged Funds (\$158.7 million)



# DeployMass

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- **Program Description:** DeployMass facilitates the adoption of clean energy or water innovation technologies at public agencies, public academic institutions and municipalities to support the growth and development of Massachusetts-based companies while saving taxpayer dollars.
- **Program Budget:** \$300,000.00
- **Partnerships for Growth Goal Alignment:** Business, Community
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Increase the adoption of clean energy or water innovation technologies at public agencies, public academic institutions and municipalities.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (1); Number of Public Entities Impacted (1)
- **Results of Goal 1:** Number of Private Entities Impacted (1); Number of Public Entities Impacted (3); Leveraged Funds (\$123,000)



# Clean Energy Innovation Network Conferences, Sponsorships, and Memberships

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- **Program Description:** This program focuses on supporting the key clean energy and innovation entities, as well as events across the Commonwealth.
- **Program Budget:** \$215,500.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** Began supporting ways for the clean energy ecosystem to connect virtually through various events.
- **Fiscal Year Goal 1:** Strategically sponsor, participate, or support clean energy organizations or events.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (39); Number of sponsorships and memberships (partnerships) (49)
- **Results of Goal 1:** Number of Private Entities Impacted (24); Number of sponsorships and memberships (partnerships) (24)



# Clean Energy Innovation Network

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- **Program Description:** Provides grant funding for innovation institutions that complement MassCEC's clean energy industry support efforts such as clean energy R&D institutions and regional business councils.
- **Program Budget:** \$100,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Support clean energy research and development institutions, innovation agencies, and business councils.
- **Fiscal Year Target 1:** Number of Private Entities Impacted (1); Leveraged Funds (\$100,000)
- **Results of Goal 1:** Number of Private Entities Impacted (1); Number of Public Entities Impacted (1); Leveraged Funds (\$2.5 million)





# Production Tracking System

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- **Program Description:** The Renewable Energy Production Tracking System provides owners of renewable energy systems a convenient method for tracking the production of their systems so that they can earn money by participating in certain Massachusetts clean energy incentive programs. The Production Tracking System also provides the renewable energy industry and other stakeholders with data about renewable energy systems installed in the Commonwealth.
- **Program Budget:** \$850,000.00
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** N/A
- **Fiscal Year Goal 1:** Track the clean energy production of systems in Massachusetts and provide high-level data to stakeholders.
- **Fiscal Year Target 1:** Continue to maintain the Production Tracking System so all renewable energy systems in the state can report data free of charge. Continue to report data to the public about the systems installed and their performance to ensure the effectiveness of the state’s renewable energy programs, and to promote growth of the industry in Massachusetts.
- **Results of Goal 1:** Met the fiscal year target.

# Exhibit A



Program	Net Funds Awarded in FY20	Award Count	Program Description
Advanced Commonwealth Energy Storage	\$139,136.00	2	An initiative that aims to advance the energy storage segment of the state's clean energy industry by attracting and supporting local energy storage companies, expanding storage technology markets and demonstrating the value of storage benefits for the state's power grid and customers.
Affordable Access to Clean and Efficient Energy	\$500,000.00	1	Programs targeted at alleviating the high cost of energy for low-income populations through competitive grants to organizations serving low-income residents.
AmplifyMass	\$1,189,915.00	12	Provides grants to Massachusetts-based companies and university teams receiving federal and other sources of funding for clean energy related efforts.
BRIDGES***	\$900,000.00	9	Program created to provide convertible note investments to promising, innovative clean energy technology startup companies adversely impacted by the COVID-19 crisis.
Catalyst Program	\$1,060,000.00	1	Support for university teams and early-stage start-ups to fund targeted proof-of-concept projects.
Clean Energy Activity Day	\$18,510.96	4	Provides funding to K-8 schools to have a hands-on activity day where students can learn about clean energy from employers and build renewable energy projects.
Clean Energy Adoption Initiatives	\$4,000.00	2	Resources targeted at helping Massachusetts residents and business owners make decisions related to choosing solar electricity including financial benefits, siting requirements, ownership models, and installer selection. Additional efforts to improve system installation quality through education of installers and local inspectors.
Clean Energy Innovation Network	\$1,320,000.00	2	MassCEC support for certain clean energy R&D institutions, accelerators, and aligned innovation funding agencies.
Clean Energy Innovation Network Conferences/Sponsorships/Memberships	\$154,945.00	24	Support to key clean energy and innovation entities and events across the Commonwealth.

\*\*\*Newly listed on FY20 report.

# Exhibit A – (continued)



Program	Net Funds Awarded in FY20	Award Count	Program Description
Clean Heating and Cooling Programs	\$1,675,653.00	470**	Funding to support installation of residential and commercial ground-source heat pumps, air-source heat pumps, and efficient biomass heating systems; funding for replacement of older, inefficient woodstoves with cleaner, more efficient models.
Commonwealth Renewable Energy	\$789,378.00	2	Programs to create energy cost-effectively from commercial- and utility-scale renewable energy technologies, including hydroelectric turbines, and organics-to-energy systems
Commonwealth Solar Hot Water	\$1,216,533.85	187	Funding to support installations of residential and commercial-scale solar thermal projects to provide domestic hot water, heating, and/or process heat.
DeployMass	\$150,000.00	2	Provides networking and funding support to Massachusetts companies to facilitate the adoption of innovative clean energy technologies at public agencies, public academic institutions and municipalities, saving taxpayer dollars and supporting the growth and development of Massachusetts-based companies.
Equity Investments	\$600,513.03	2	Support early stage and growth companies in development and commercialization stages via convertible debt and equity investments.
Follow-On Investments	\$725,410.99	7	Provide follow-on investments in existing portfolio companies through transition to later funding stages on way to commercialization.
HeatSmart	\$146,025.50	3	The Heat Smart campaign supports community outreach and bulk purchasing campaigns for clean heating and cooling technologies.
Incubate Mass	\$310,000.00	3	Program provides funding to incubators that are catalyzing and supporting startup companies to create jobs and promote the commercialization of new clean energy technologies.
Industry/Annual Report	\$90,954.00	3	Preparation of MassCEC's annual report and statutorily required clean energy industry report.
Innovate Mass	\$1,710,415.65	8	A competitive program that provides awards to applicant teams that offer the most innovative, effective and impactful clean energy solutions, helping companies and their technologies move closer to commercialization.

\*\*The "number of systems supported" has been used instead of "award count" to more accurately represent work completed under the program.

# Exhibit A – (continued)



Program	Net Funds Awarded in FY20	Award Count	Program Description
On-the-Job and Vocational On-the-Job Training	\$3,465,535.00	378	Helps prepare the next generation of clean energy workers by connecting students and recent graduates with Massachusetts companies in need of interns and providing stipends for internships.
Market Development	\$1,902,586.00	11	Support the development and commercialization of emerging clean energy technologies that have the potential to greatly benefit the infrastructure and ratepayers in the Commonwealth and/or transform its energy landscape.
Mass Solar Loan	\$4,243,643.35	575*	Program to support affordable financing to promote lending to residential owned solar electricity projects including projects for people with lower incomes and credit scores.
Microgrid Challenge	\$72,693.00	3	To accelerate the development of innovative utility-supported multi-user or community microgrids that achieve a broad range of performance objectives including energy cost and greenhouse gas emissions reductions, improved reliability and clean energy integration, and meaningful and strategic interaction with the microgrid.
Offshore Energy & Offshore Energy Workforce	\$4,217,206.00	43	Funding, analysis, and engagement to advance planning, permitting, and supply chain development for offshore energy.
Pre-Seed/Seed Investment	\$50,000.00	1	Provides convertible grant funding to extend runway for early-stage start-ups graduating from qualified accelerator programs.
Production Tracking System	\$1,144,943.00	18	MassCEC tracking and verification of energy production to ensure state incentives (RECs) are accessed appropriately, and the sole Independent Verifier for the SREC Programs.
ReHeat	\$638,000.00	1	Initiative to conduct a statewide public awareness campaign for clean heating and cooling technologies.
Solarize Massachusetts	\$91,551.84	12	Grassroots outreach and education initiatives that allow members of participating communities and non-profits partner with solar installers to access reduce rates for solar installation through volume-based discounts.
The Accelerator Funding Program	\$300,000.00	4	Provides operational funds and innovation startup scholarships to a variety of Accelerators.

\*The "number of loans supported" has been used instead of "award count" to more accurately represent work completed under the program.



## Exhibit A – (continued)

Program	Net Funds Awarded in FY20	Award Count	Program Description
Venture Debt***	\$25,000.00	2	Supports commercialization stage companies via senior and subordinated debt instruments.
Workforce Programming	\$4,738.61	2	Supports symposiums, networking nights and other events to promote clean energy careers and MassCEC's programs.
Workforce Studies***	\$46,325.00	1	Commissions sector specific workforce studies within the clean energy industry that help inform MassCEC's Workforce program design and related funding allocations.

\*\*\*Newly listed on FY20 report.



# Exhibit B – Loans/Guarantees & Investments

## Loans & Guarantees

Company Name	Date of Investment	Security Description	MassCEC Loan/Guarantee
Tessolar, Inc.	9/13/2019	Note Purchase	\$60,000
Voda, Inc.	11/13/2019	Convertible Note	\$350,000
Battery Resourcers	5/26/2020	Convertible Note	\$100,000
Idle Smart	2/6/2020	Promissory Note	\$15,000
Idle Smart	2/27/2020	Promissory Note	\$10,000
Idle Smart	4/29/2020	Convertible Note	\$75,000

## Investments

Company Name	Date of Investment	Security Description	MassCEC Investment
Titan	7/11/2019	Series A	\$50,000
PanelClaw	7/16/2019	Exercise of penny warrants	\$100
1366 Technologies	12/2/2019	Series E	\$ 40,000
Heila Technologies, Inc.	6/23/2020	Series Seed	\$600,000



# Exhibit C

Types of Technical Assistance	Examples of Programs or Efforts
Directly develop technical reports to support the clean energy industry	Massachusetts Clean Energy Industry Report
Provide assistance to projects	Project inspections in Clean Heating and Cooling Programs and Solar PV Programs; Feasibility Studies in for Microgrids
Fund consultants to provide technical support to industry stakeholders	Offshore Energy Program, Energy Storage Stakeholder Series, Commercial Solar "Ask an Advisor" Service
Provide assistance to municipalities and other public entities	SolarizeMass Program, HeatSmart Mass, Offshore Energy Program
Provide assistance to companies	Catalyst Program, Amplify Mass, AccelerateMass Program, Investments Program, InnovateMass Program, Commonwealth Hydro Program, Offshore Energy Program
Provide assistance to manufacturers	Wind Technology Testing Center, New Bedford Marine Commerce Terminal
Serve as a technical judge or reviewer	Cleantech Open Northeast, NSF SBIR, ARPA-E, MIT Water Innovation Prize, MassChallenge, US Offshore Wind Consortium
Provide assistance to local universities/research consortiums	Wind Technology Testing Center, Catalyst Program, University of Massachusetts Lowell - Fraunhofer Center for Sustainable Energy, AmplifyMass
Provide assistance to schools, colleges, or workforce	Internship Program, Vocational Internship Program