



Office of Performance Management Oversight (OPMO)

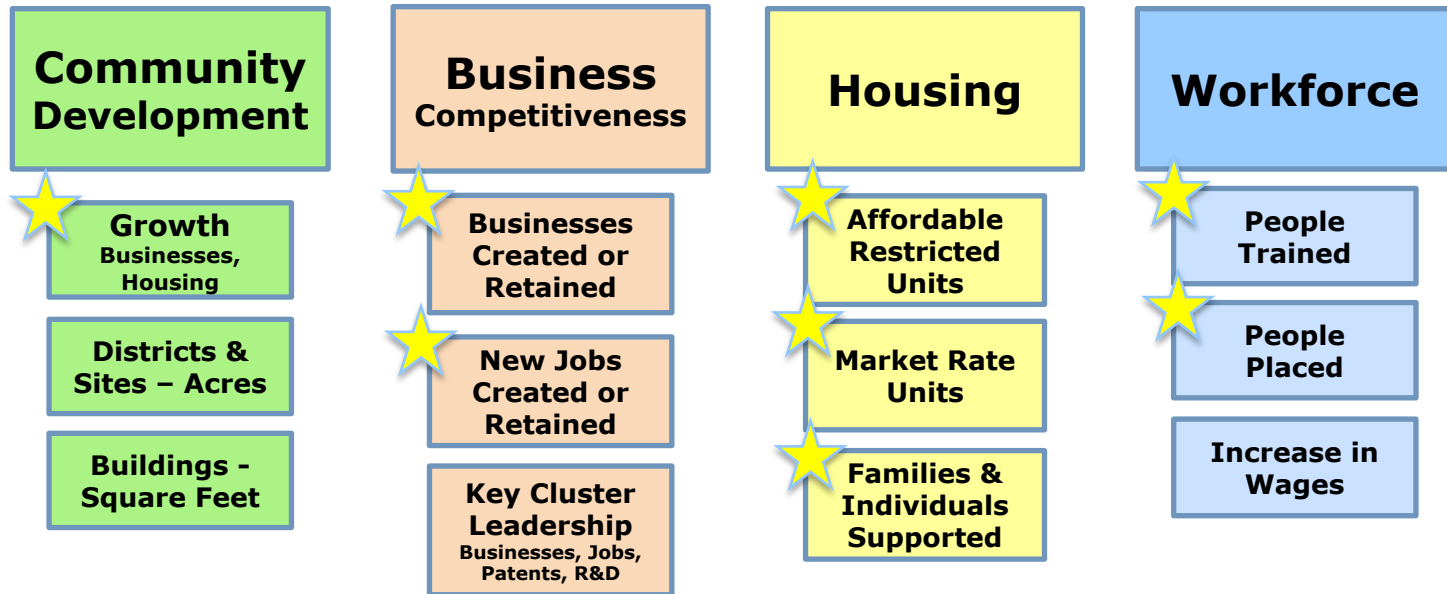
Massachusetts Clean Energy Center
FY2021 Report



Economic Development Plan

Key Outcome Metrics

Economic Development Plan Pillars & Principals



Investment Leveraged from Other Sources - \$

Engagement & Technical Assistance – Contact with Individuals & Companies



Agency Mission

- **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

- **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 get to 2030 and 2050 in an accelerated, equitable and cost-effective manner in all areas of the Massachusetts energy economy. (Includes High Performance Buildings programs, ACT Now, Offshore Wind programs, Technology Development programs, Investments and ReHeat)
- **Agency Target for Goal 1:** 1) Metric Tons (MT) of Avoided Carbon Dioxide (CO2) (2,493); 2) Million Metric Tons (MMT) of Addressable CO2 (4,200)
- **Results of Goal 1:** 1) Metric Tons (MT) of Avoided Carbon Dioxide (CO2) (4,009); 2) Million Metric Tons (MMT) of Addressable CO2 (4,232)



Agency Goals

- **Agency Goal 2: Drive Clean Energy Innovation:** Innovation is a key driver that will enable the clean 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 that 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, Accelerator Funding Program, Clean Energy Innovation Network, Resilience/Microgrids, InnovateMass, IncubateMass, Catalyst, AmplifyMass, ACT Now, Triple Decker Challenge)
- **Agency Target for Goal 2:** 1) Funding Leveraged (\$29 million); 2) Number of Private Entities Impacted (95); 3) Number of Public Entities Impacted (16)
- **Results of Goal 2:** 1) Funding Leveraged (\$87.3 million); 2) Number of Private Entities Impacted (116); 3) Number of Public Entities Impacted (34)



Agency Goals

- **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. (Workforce Development programs)
- **Agency Target for Goal 3:** 1) Number of interns supported (525); 2) Number of women and minority interns supported (340); 3) Number of interns supported from Gateway Communities (50); 4) Number of community college participants (20); 5) Number of companies supported through workforce programs (205); 6) Number of companies in Gateway Communities through workforce programs (15)
- **Results of Goal 3:** 1) Number of interns supported (547); 2) Number of women and minority interns supported (374); 3) Number of interns supported from Gateway Communities (94); 4) Number of community college participants (14); 5) Number of companies supported through workforce programs (225); 6) Number of companies in Gateway Communities through workforce programs (22)



Agency Goals

- **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 the 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 before COVID-19 losses; 2) Analysis of clean energy job losses due to COVID-19; 3) Analysis of clean energy jobs by region before COVID-19 losses; 4) Increase in clean energy gross state product before COVID-19 losses; 5) Analysis of clean energy industry economic contribution before COVID-19 losses
- **Results of Goal 4:** 1) Increase in clean energy jobs before COVID-19 losses (2,132); 2) Analysis of clean energy job losses due to COVID-19 (13,890 net job losses between March-September 2020); 3) Analysis of clean energy jobs by region before COVID-19 losses (Northeast – 1,296 jobs gained, Southeast – 706 jobs gained, Central – 85 jobs gain, and Western – 45 jobs gained); 4) Increase in clean energy gross state product before COVID-19 losses (increase of over \$177 million between 2018-2019); 5) Analysis of clean energy industry economic contribution before COVID-19 losses (113,968 direct clean energy jobs supported 49,737 indirect jobs and 125,500 induced jobs, for a combined MA GSP of \$39.1B, \$1.77B in state and local taxes paid, and \$447M in federal taxes on production and imports paid)



Mass Solar Loan

- **Program Description:** Program to promote affordable lending to lower-income residents for solar electricity projects.
- **Program Budget:** \$2,250,000
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** Conduct a webinar on virtual permitting and virtual inspection best practices for solar installation companies and municipalities
- **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:** 1) MT CO2 Avoided (1,588); 2) MMT Addressable CO2 Solutions Supported (648); 3) Financial Lenders Participating Across the State (10); 4) Loans Facilitated to Low-Income Individuals (198); 5) Loans Facilitated to Low-Income Individuals in All Regions of the State; 6) Leveraged Funds (\$8.2 million)
- **Results of Goal 1:** 1) MT CO2 Avoided (1,715); 2) MMT Addressable CO2 Solutions Supported (648); 3) Financial Lenders Participating Across the State (12); 4) Loans Facilitated to Low-Income Individuals (202); 5) Loans Facilitated to Low-Income Individuals in All Regions of the State; 6) Leveraged Funds (\$8.7 million)



Offshore Energy Workforce

- **Program Description:** Investments, technical support, and engagement to increase Massachusetts' workforce capacity to participate in offshore wind deployment and operations.
- **Program Budget:** \$1,000,000
- **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:** 1) New/Expanded Offshore Wind Workforce Training Programs (9); 2) Universities Supported (2); 3) Community Colleges Supported (1); 4) Community Development Organizations Supported (3); 5) Private Businesses Supported (4); 6) Labor Unions Supported (1)
- **Results of Goal 1:** 1) New/Expanded Offshore Wind Workforce Training Programs (9); 2) Universities Supported (2); 3) Community Colleges Supported (1); 4) Community Development Organizations Supported (3); 5) Private Businesses Supported (4); 6) Labor Unions Supported (1)



InnovateMass

- **Program Description:** InnovateMass awards demonstration project grants of up to \$250k each to startups seeking to accelerate commercialization of innovative clean energy technologies and business models.
- **Program Budget:** \$1,585,000
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** At the end of FY20 MassCEC developed the BRIDGES Program, providing loans to clean energy startups that have participated in this program and been adversely affected by COVID-19.
- **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:** 1) MMT Addressable CO2 Supported (3,000); 2) Businesses Impacted (7); 3) Public Entities Impacted (2); 4) Leveraged Funds (\$700,000)
- **Results of Goal 1:** 1) MMT Addressable CO2 Supported (2,928); 2) Businesses Impacted (16); 3) Public Entities Impacted (5); 4) Leveraged Funds (\$2.45 million)



Catalyst Program

- **Program Description:** The Catalyst Program provides prototyping grants of up to \$65k to Massachusetts-based startups and researchers to seed commercial development of promising clean energy technologies.
- **Program Budget:** \$1,060,000
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** At the end of FY20 MassCEC developed the BRIDGES Program, providing loans to clean energy startups that have participated in this program and been adversely affected by COVID-19.
- **Fiscal Year Goal 1:** Support researchers and early-stage companies looking to demonstrate initial prototypes of their clean energy technologies
- **Fiscal Year Target 1:** 1) MMT Addressable CO2 Supported (3,000); 2) Private Entities Impacted (10); 3) Public Entities Impacted (4)
- **Results of Goal 1:** 1) MMT Addressable CO2 Supported (3,362); 2) Private Entities Impacted (16); 3) Public Entities Impacted (1)



AmplifyMass

- **Program Description:** AmplifyMass provides cost share and adder funding grants of up to \$500k to Massachusetts-based startups and researchers who are engaged in a relevant clean energy project receiving primary funding from outside of the Commonwealth (e.g., from US DOE, NSF, or other federal funding agencies).
- **Program Budget:** \$2,000,000
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** At the end of FY20 MassCEC developed the BRIDGES Program, providing loans to clean energy startups that have participated in this program and been adversely affected by COVID-19.
- **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:** 1) MMT Addressable CO2 Supported (2,000); 2) Private Entities Impacted (6); 3) Public Entity Impacted (4); Leveraged Funds (\$10 million)
- **Results of Goal 1:** 1) MMT Addressable CO2 Supported (2,589); 2) Private Entities Impacted (61); 3) Public Entity Impacted (26); Leveraged Funds (\$36.5 million)



Investments

- **Program Description:** Supports early-stage and growth companies in development and commercialization through seed investment funding, convertible note and equity investments, and follow-on investments.
- **Program Budget:** \$2,300,000
- **Partnerships for Growth Goal Alignment:** Business
- **COVID – 19 Response:** At the end of FY20 MassCEC developed the BRIDGES Program, providing loans to clean energy startups that have participated in this program and been adversely affected by COVID-19.
- **Fiscal Year Goal 1:** Support early stage and growth stage clean tech companies in development and commercialization stages.
- **Fiscal Year Target 1:** 1) MMT Addressable CO2 Supported (3,500); 2) Businesses Impacted (14); Leveraged Funds (\$4.8 million)
- **Results of Goal 1:** 1) MMT Addressable CO2 Supported (3,705); 2) Businesses Impacted (5); Leveraged Funds (\$32.7 million).



On-the-Job Training (aka Internship Program)

- **Program Description:** Workforce development initiative that enhances the talent pipeline for Massachusetts clean energy companies. 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 those interns.
- **Program Budget:** \$3,000,000
- **Partnerships for Growth Goal Alignment:** Business, Workforce
- **COVID – 19 Response:** The program offered pre-funding of intern reimbursements to companies when COVID-19 began, helping the companies with cashflow constraints.
- **Fiscal Year Goal 1:** Facilitate the placement of Massachusetts college students and recent graduates in paid clean energy internships across the state.
- **Fiscal Year Target 1:** 1) Students Supported (500); 2) Companies Supported (190); 3) Women and Minority Participants (330); 4) Community College Participants (20); 5) Interns Supported from Gateway Communities (15); 6) Companies Supported in Gateway Communities (15)
- **Results of Goal 1:** 1) Students Supported (530); 2) Companies Supported (214); 3) Women and Minority Participants (370); 4) Community College Participants (14); 5) Interns Supported from Gateway Communities (94); 6) Companies Supported in Gateway Communities (19)



Vocational Internship Program

- **Program Description:** Workforce development initiative that enhances the talent pipeline for Massachusetts clean energy companies. The program helps place skilled labor comprised of vocational high school students into paid clean energy internships during the academic year.
- **Program Budget:** \$250,000
- **Partnerships for Growth Goal Alignment:** Community, Business, Workforce
- **COVID – 19 Response:** The program provides opportunity for young workers looking for internships and provides clean energy companies with talented individuals, overall helping to support recovery of the workforce following COVID-19 impacts.
- **Fiscal Year Goal 1:** Facilitate the placement of Massachusetts vocational high school students in paid clean energy internships across the state.
- **Fiscal Year Target 1:** 1) Students Supported (25); 2) Companies Supported (15); 3) Women and Minority Participants (10)
- **Results of Goal 1:** 1) Students Supported (17); 2) Companies Supported (11); 3) Women and Minority Participants (4). *Note: Fewer than anticipated schools and students participated in the Vocational Internship Program due to COVID-19 restrictions.*



Accelerator and Incubator Support

- **Program Description:** Provide operational grant funding to Massachusetts accelerators and incubators that support cleantech startups and provide scholarships for some participating cleantech startup companies.
- **Program Budget:** \$900,000
- **Partnerships for Growth Goal Alignment: Business**
- **COVID – 19 Response:** MassCEC is working with accelerators and incubators to evaluate the impact of COVID-19 on their business directly and that of their startup companies. At the end of FY20 MassCEC developed the BRIDGES Program, providing loans to clean energy startups that have participated in this program and been adversely affected by COVID-19.
- **Fiscal Year Goal 1:** Support accelerators directly and the companies that graduate from accelerator programs.
- **Fiscal Year Target 1:** 1) Private Entities Impacted (7); 2) Cleantech Startups Participating in the accelerators and incubators (85); 3) Leveraged Funds (\$12 million)
- **Results of Goal 1:** 1) Private Entities Impacted (8); 2) Cleantech Startups Participating in the accelerators and incubators (133); 3) Leveraged Funds (\$15 million)