FY 2020

ANNUAL REPORT

MARYLAND
CLEAN ENERGY CENTER

TABLE OF CONTENTS

MARYLAND
CLEAN ENERGY CENTER

The **Maryland Clean Energy Center (MCEC)** was created as an instrumentality of state by the Maryland General Assembly in 2008, with an economic development mission to advance the adoption of clean energy and energy efficiency products, services, and technologies. MCEC also supports innovation and technology deployment to help achieve state renewable energy generation, energy conservation, and greenhouse gas emission reduction goals. MCEC uses statute enabled financing authority to leverage private capital investments and provide financing to assist residential, commercial, municipal, and not-for-profit consumers.

*MD-PACE Map on p. 22 updated to reflect correction to original MCEC FY 2020 Annual Report.

FY 2020 ANNUAL REPORT
Message from the Chairman

Working in partnership with energy sector business leaders, policy makers, inventors, and public officials, the Maryland Clean Energy Center (MCEC) carefully invests available resources to achieve its statute-directed mission to advance clean energy and energy efficiency products, services, and technologies as part of a statewide economic development strategy.

On behalf of the MCEC Board of Directors and staff, I am pleased to present the FY 2020 Annual Report.

With the creation and launch of the Maryland Energy Innovation Accelerator (MEIA) as a subsidiary of MCEC in FY 2019, MCEC made a targeted investment to support innovation advancement and to move exciting new energy technologies to the marketplace. This cutting-edge approach to tech commercialization graduated its first cohort in 2020 and generated new start-up companies.

MCEC continued to facilitate access to capital in FY 2020. MCEC manages Maryland Clean Energy Capital Program (MCAP) bond funded construction projects. Since MCEC's inception, bond proceeds and additional sources of capital have been used to fund over $40 million in energy efficiency capital projects. In the past year, MCEC assisted partners with pre- construction project development and procurement to move energy projects to contract more expeditiously. The Maryland Property Assessed Clean Energy (MD-PACE) loan program is now adopted widely in the state, financing millions of dollars in energy improvements through this program to commercial and industrial buildings in the state. MCEC is currently developing a new lending product to provide convenient affordable loans to residential property owners are currently in the works.

On the education front, MCEC continued to convene advanced energy industry leaders and brought experts to unlock opportunities. In response to the pandemic, MCEC shifted its communication activity from live to a virtual platform, hosting the annual Advisory Council meeting and a successful multi-session webinar series entitled; "Seeing the Forest for the Trees: Future Potential for Biomass Energy in Maryland". The programs were well attended, with participants from across the state and around the world.

During this timeframe MCEC board and staff completed a strategic study to map a path forward for MCEC to continue our growth, success and, most importantly, service to the residents and businesses in our state. The report demonstrated the impact created by and value of MCEC to leverage a predictable and stable public funding investments. The investment Maryland makes in MCEC is paying off. We are building the clean energy ecosystem and reaping the environmental, economic, employment and community benefits for our state well into the future.

Sincerely,

GEOFF OXNAM | Founder & CEO, American Microgrid Solutions

FY 2020 MCEC Board of Directors

GEOFF OXNAM
Board Chairman
Founder & CEO
American Microgrid Solutions

MICHELE MITCH-PETERSON
Board Vice Chair
Ingenuity Consultant
Siemens Smart Infrastructure

ANDREA PELLETIER
Board Treasurer
Senior Vice President of
Commercial Banking
Sandy Spring Bank

R. MICHAEL GILL
Board Member
Portfolio Manager
Cornerstone Advisory

JOSHUA GREENE
Board Member
Term Ended 03.16.2020
Vice President
A.O. Smith Company

DR. ALEX PAVLAK
Board Member
Chairman
Future of Energy Initiative

DEB RISHER
Board Member
President, Owner
Belair Engineering

DR. ERIC WACHSMAN
Board Member
Director - Maryland Energy
Innovation Institute,
University of Maryland

DR. SAMUEL I. WILLIAMS
Board Member
Term Began 03.16.2020
Professor of Government,

Ex-Officio
DR. MARY BETH TUNG, ESQ.
Director
Maryland Energy Administration

FY 2020 MCEC Administrative Team

I. KATHERINE MAGRUDER
Executive Director

WYATT A. SHIFLETT
Director of Financing Programs

SABRINA L. BACHMAN
Communications Director

DANTE M. MONAKIL
Bond Finance Manager
Resigned 03.20.2020

PAMELA R. POWERS
Legislative Affairs
& Administrative Manager

DOROTHY KOLB*
Controller

JENISE WRAY
Marketing Program Assistant
Jan - March 2020

BRIAN TOLL*
Director - Maryland Energy
Innovation Accelerator

BEN MARGOLIS*
Commercialization Program
Manager - Maryland Energy
Innovation Accelerator

Counsel
W. DAVID RAWLE
Assistant Attorney General,
Office of the Attorney General
Department of Commerce

Policy Intern
MEGAN FORTE
University of Maryland
College Park, c/o 2020

Comms & Marketing Intern
MONIQUE MANN
University of Maryland
College Park, c/o 2022

* *Contractual Team Members*

EXECUTIVE SUMMARY
"Investing in the Future"

The Maryland Clean Energy Center (MCEC) was created as an instrumentality of state by the Maryland General Assembly in 2008, with an economic development mission to advance the adoption of clean energy and energy efficiency products, services, and technologies. MCEC also supports innovation and technology deployment to help achieve state renewable energy generation, energy conservation, and greenhouse gas emission reduction goals. MCEC uses statute enabled financing authority to leverage private capital investments and provide financing to assist residential, commercial, municipal, and not-for-profit consumers.

MCEC makes strategic investments to support impactful programs focused on innovation advancement, access to capital, and educational outreach.

MCEC is primarily funded by grants, transaction fees, registration fees, and sponsorship donations. In FY 2020 MCEC received approximately $885,000 in operational grant funding from Regional Greenhouse Gas Initiative (RGGi) auction proceeds, through the Maryland Energy Administration to the Maryland Energy Innovation Fund held at the University of Maryland College Park. This revenue is year three of a five-year statutory commitment that sunsets at the beginning of FY 2023.

During FY 2020, MCEC generated $1,498,997 in operating revenue and of $1,500,542 in total operating expenses, with salaries and wages as the largest share of costs.

MCEC supports advancement of innovative energy technologies from discovery to deployment.

In FY 2020 MCEC also made direct investment of resources to facilitate the commercialization of innovative licensable energy technologies, with the creation and launch of the Maryland Energy Innovation Accelerator (MEIA). The program pairs executive expertise and tech to market knowledge to pull exciting new technologies into the market and create new companies. By wrapping qualified expertise and resources around these technologies, MEIA helps bridge the commercialization gap to encourage related job creation and manufacturing in Maryland. As this report is being released, MEIA has already graduated its first cohort and looking forward to the next.

MCEC leverages more than a 10 to 1 return of private capital dollars for state funds invested.

MCEC continues to leverage public funding with private capital to offer project financing solutions conducive for consumers in the institutional, municipal, commercial, and industrial space. The investment of public funds in MCEC, to date, has resulted in a 10 to 1 return, with over $76 M leveraged to finance cost saving energy generation and demand reduction measures.

The Maryland Clean Energy Capital Program (MCAP), which brings statute enabled bond issuance capacity to large scale project financing. In FY 2020, MCEC was focused on managing existing transactions. As an added service, MCEC now provides fee for service technical support for pre-construction project development.

MCEC continues to support the MD-PACE program to assist commercial property owners. At the close of FY 2020, over $17.6 M in commercial PACE project financing has occurred in Maryland, with $9.2 M in MD-PACE administered jurisdictions specifically and millions more in the development pipeline projected to close in the future. During FY 2020, almost $4 M in PACE transactions closed in the state. Looking ahead, the current project pipeline of transactions closed and projected to close in FY 2021 could exceed $10 M.

MCEC also continued its relationship with the Mid-Atlantic PACE Alliance (MAPA) through FY 2020. With the assistance of partners, MCEC launched MAPA 501c3 to further the voluntary adoption, advancement, development, and implementation of Property Assessed Clean Energy (PACE) activities, in the region.

Working partnership with the Montgomery County Green Bank over this year, MCEC staff and consultants were engaged in building new programmatic solutions for the residential consumer market, with hopes to launch in FY 2021.

MCEC facilitates business development and consumer awareness.

In terms of outreach efforts, the organization continues to engage with a variety of stakeholders, gathering input to accomplish the MCEC mission. In FY 2019, the Board of Directors appointed the 2020 MCEC Advisory Council. The Council provided a diverse range of industry sector perspectives to help MCEC identify priority initiatives and develop future programming. External stakeholders were also engaged in educational offerings and research to shape financing programs.

Outreach and education activities are one of the priority efforts undertaken by MCEC to build consumer awareness and promote business growth in the sector. During FY 2020 MCEC hosted the 2019 Maryland Clean Energy Summit, a regional conference attended by hundreds of stakeholders from all sectors of the energy economy. MCEC and sponsoring partners hosted an annual Legislative Reception during the 2020 General Assembly session, in order to inform its audience about current and future energy-related policy matters being considered by lawmakers.

MCEC also participated in a grant funded partnership with forestry and environmental advocates to offer a webinar series focused specifically on the potential advancement of biomass energy solutions in Maryland.

MCEC is growing jobs & wages in the energy sector for Maryland.

From 2018 to 2019 total sector-wide employment increased from 141,860 to 142,752 jobs- an increase of 892 jobs- while overall sector annual earnings increased by a collective $64,833,028.

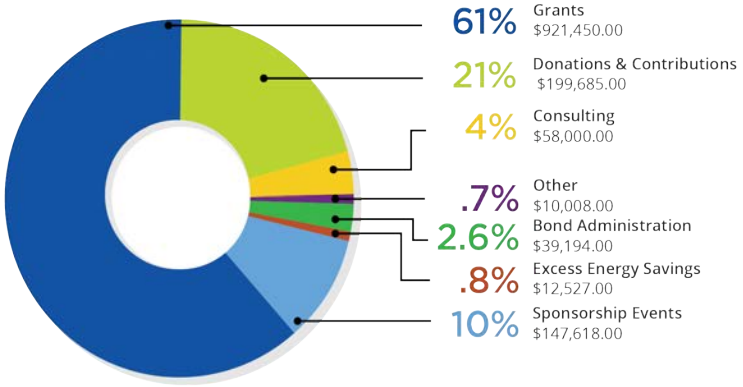
MCEC OPERATIONS

Funding Support and Budget

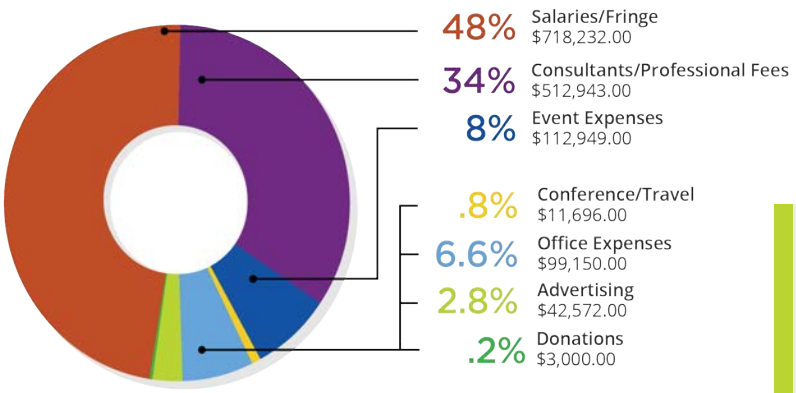
The Maryland Clean Energy Center continues to operate with a lean budget to accomplish its mission. The budget for MCEC in FY 2020 called for $1,277,190 in overall operating revenue and $1,273,655 in total operating expenses. Sources of revenue for MCEC in FY 2020 included: grants, excess energy savings revenue, project fees, sponsor and event revenue, bond administration revenue, and miscellaneous earned interest income.

In FY 2020, a total of $1,500,542 was incurred in operating expenses, with funds invested to support general administration, board activities, and operation of the Maryland Clean Energy Capital (MCAP) and Maryland Property Assessed Clean Energy (MD-PACE) programs, along with targeted education and outreach.

MCEC FY 2020 Revenue



MCEC FY 2020 Expenses



A copy of the "FY 2020 Maryland Clean Energy Center Financial Statements June 30, 2020" can be found online at www.mdcleanenergy.org/about-mcec/enabling-statute/financial-statements.

2020 Advisory Council

The Maryland Clean Energy Center is required by statute to appoint an Advisory Council to help develop a work plan for the Maryland Clean Energy Center (MCEC), set the framework for activity of the organization, advise the Executive Director, and inform the Board of Directors. The Council evaluates issues, reviews proposed policy and regulatory matters, facilitates relationship building, and builds awareness of MCEC to encourage the adoption of its mission. In addition, the group identifies and works to remove barriers to success in the energy sector.

Forty-six industry leaders were appointed by the board of MCEC to serve on the 2020 Advisory Council for a year long term from January to December 2020.

The Council is comprised of individuals representing twelve sectors of the clean energy industry, eight Maryland jurisdictions, Washington, DC, Northern Virginia, and Southern Pennsylvania.

MCEC's 2020 Advisory Council Roster

GARRY AIME
Energy Program Manager- Biomass,
Maryland Energy Administration

ALFRED BARTLETT
Board Member and Energy Sector Lead,
Chesapeake Physicians for Social Responsibility

CHRISTOPHER BLANCHET
Vice President, Chesapeake Geosystems, Inc.

DANIEL BRESETTE
Executive Director,
Environmental and Energy Study Institute

KEVIN BROWN
Senior Partner/ Owner, Hobbs & Towne, Inc.

PAULA CARMODY
People's Counsel, Maryland Office of People's Counsel

JESSA COLEMAN
Senior Manager of Programs, PACE Financial Servicing

MUSA COLLIDGE-ASAD
Vice President (outgoing), Quantified Ventures

KENNETH CONNOLLY
Managing Director, Goldman Sachs

ALBERT DELLAPENNA, JR.
Sales Manager, SMO Energy

Keith Derrington
CEO, Recurrent Innovative Solutions LLC

MICHAEL ECKHART
Clinical Professor,
University of Maryland School of Public Policy

WILLIAM ELLIS
Sr. Portfolio Manager- Energy Efficiency,
Pepco Holdings- An Exelon Company

R. ALLAN GORSUCH
Trust Manager, ESMEC- Energy Trust

NICK HENNER
Policy Analyst- Clean Energy Finance,
American Council for an Energy Efficient Economy

CHARLES HERNICK
VP of Policy and Advocacy,
Citizens for Responsible Energy Solutions Forum

TODD HOUSE
Manager- Economic Development, Washington Gas

JOANNE IVANCIC
Executive Director, Advanced Biofuels USA

LEN JORNLIN
CEO, Optimize Renewables

PARI KASOTIA
Mid-Atlantic Director, Vote Solar

ANDREW KAYS
Deputy Director, NMWDA

DAVID KEELAN
Controls Accounts Manager, Trane Maryland

GEORGE KERVITSKY, JR.
President, KEE Consulting

RICHARD KILBOURNE
Senior Manager- Solar Business Development,
Constellation

ALEX KRAGIE
Director, American Green Bank Consortium

JOSHUA KURTZ
Policy and Government Relations Director,
The Nature Conservancy

KEVIN LUCAS
Director of Rate Design,
Solar Energy Industries Association

ARJUN MAKHIJANI
President, IEER

SHANNON MOORE
Manager, Frederick County OSER

NANDINI MOULI
President/ Founder, eSai LLC

DAVID NAVARI
President, Quantum Technology Consulting LLC

JOSEPH NORMANDY
Executive Director,
Maryland Building Performance Association (MDBPA)

CHRISTOPHER PEOPLES
Managing Partner, Peoples Partners and Associates

YVONNE PORTER
Electric Vehicle Operations Manager,
Nissan North America

JOHN QUINN
Director of Energy Policy, BGE

KEVIN QUINN
President, Wye River Group

BENJAMIN ROUSH
Principal, FSi Engineers

CHERISE SEALS
Senior Account Executive, NORESCO

JOE SEEHUSEN
Director- Housing & Building Energy Programs,
MD Dept of Housing & Community Development

ALISON SHEA
Sales Manager, Siemens Industry, Inc.

GRANT SHMELZER
Executive Director, IEC Chesapeake

THOMAS SIMCHAK
Energy Consultant, Taucher International

ANDRE SLONOPAS
Project Lead, Army Futures Command

DAVID ST. JEAN
Director- Office of Energy and Sustainability (OES),
MD Dept of General Services

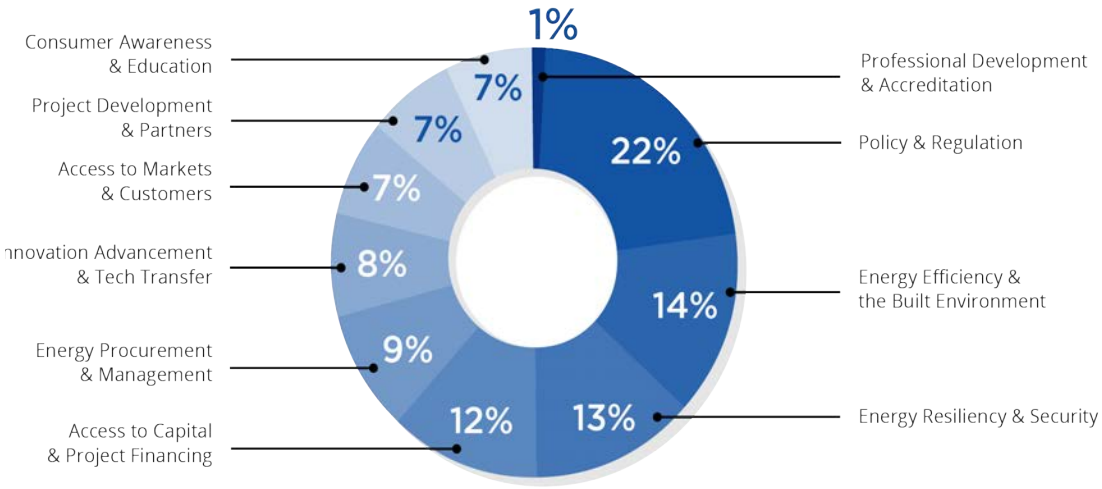
BARBARA TYRAN
President,
Women's Council on Energy & the Environment

ALEXANDRA WYATT
Policy & Regulatory Manager,
GRID Alternatives Mid-Atlantic

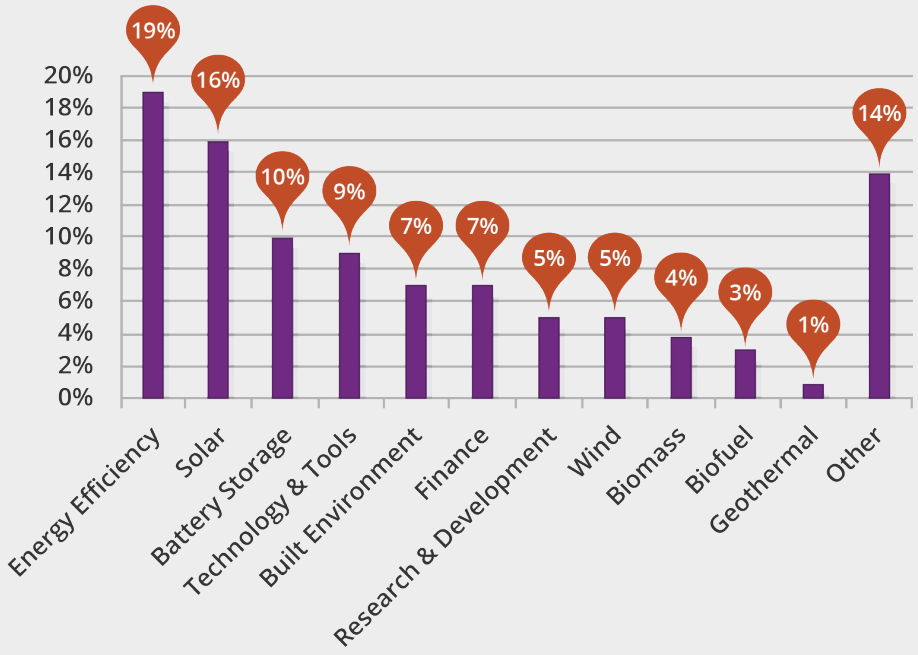
MCEC hosted a virtual meeting for the 2020 Advisory Council on May 21, 2020. Thirty-six council members participated with guest speakers and a panel of legislators.

Thirty-two members responded to a survey with questions focused on company/ organization overviews regarding trends in operations, business priorities, and impacts related to COVID-19. The survey included additional questions on the topics of finance, workforce, policy & regulation, innovation advancement, and outreach & education. When polled, those members expressed interest in or concern about specific topics, represented in the following chart.

Advisory Council Concerns



2020 Advisory Council Industry Sector Representation



STRATEGY FOR SUSTAINABILITY

The Maryland Clean Energy Center completed the strategic and planning process during FY 2020, to define its value in the marketplace, identify strategies for implementation to ensure future efforts are impactful and to determine the investment needed for the organization to become sustainable.

MCEC Strategy for Impact and Sustainability Report Cover Letter

Governor Hogan & Members of the General Assembly:

The Maryland Clean Energy Center (MCEC) Board of Directors and staff are pleased to submit the following *Maryland Clean Energy Center Strategy for Impact and Sustainability* in response to Senate Bill 0313 (Chapter 365). Two years ago, the General Assembly asked MCEC to produce this report as a look ahead both for this organization and, far more importantly, the growing clean energy impact MCEC generates for Maryland citizens and businesses.

As an instrumentality, MCEC provides significant value through innovative finance and technical expertise. MCEC has the capability and flexibility to do what the public sector cannot and the private sector will not. This makes MCEC critical in the transition of the clean energy industry, from the early days of pump priming, through public subsidies to its rapidly emerging, market-driven future. With a small staff and modest budget, we have an outsized impact.

Since inception, MCEC has:

- Leveraged more than $73M in private capital for energy project financing
- Generated more than 500 clean energy jobs
- Launched an innovative technology accelerator to move clean energy technology developed in Maryland university labs to the marketplace
- Facilitated financing for over $38 million in energy efficiency improvement upgrades at state institutions; including: The University of Maryland College Park, UMBC, Coppin State, and the Institute for Bioscience and Biotechnology Research at Shady Grove
- Provided access to over $30M in low-cost loans to over 4,000 homeowners to improve the energy efficiency of their home with new HVAC systems and weatherization measures
- Enabled access over $5M to convenient Property Assessed Clean Energy (PACE) financing for commercial property owners in 15 jurisdictions in the state with the MDPACE program
- Connected numerous innovative clean energy businesses across the country with project development opportunities and partners in Maryland

Looking ahead, our strategic plan significantly expands this effort, targeting multi-fold returns on each dollar invested across a growing portfolio. As the nation upgrades aging 19th and 20th Century energy infrastructure with cleaner, more efficient, lower cost and more reliable systems to support 21st Century needs, Maryland will both benefit from and lead the transition.

The attached report answers a specific charge from the General Assembly requesting a workplan for MCEC to become self-sustaining within 5 years, and offers a path to achieve that outcome. Respectfully, however, we believe that this is the wrong question to ask. Our focus should be on how to cost-effectively increase value by expanding Advanced Energy projects, companies, jobs, resilience and innovation, while reducing cost, carbon and risk. Focusing on the organization's self-sustainability over an arbitrary window limits the range and scope of the value that MCEC delivers.

Specifically, the report suggests efforts in the following five areas.

1. **Support Advanced Energy**: Expand the MCEC mission mandate to include not just clean energy but Advanced Energy including resilience, grid modernization, energy storage, clean fuels and biotechnology, carbon capture, transportation electrification and new concepts in nuclear power.
2. **Improve Finance for State Facilities**: Establish MCEC as the exclusive conduit bond issuer for Advanced Energy projects for state-owned facilities. MCEC can deliver lower-cost, lower friction capital for improving the efficiency of State facilities. Buildings and facilities under state ownership and operation spend approximately $210 million annually on energy. State agencies need an estimated $140 million over the

next twenty years for energy efficiency projects. Governor Hogan, by Executive Order, has called for a "lead by example" 10% demand reduction in that energy consumption which may require certain building improvements and deployment of energy technologies.

3. **Connect Maryland Experts & Opportunities**: Expand MCEC educational programming for industry and consumers to further establish the instrumentality as a trusted third-party, Advanced Energy Advisor. MCEC will connect prospective project developers with prospective clients, solution providers and capital providers to expand the scale of Advanced Energy projects.
4. **Launch Maryland Green Infrastructure Fund**: As other states have done successfully, create a fund of sufficient scale to support Maryland's Advanced Energy projects. MCEC's finance professionals will manage and deploy the funds to the highest underwriting standards. This fund would earn a return both to increase the benefit MCEC can provide and to sustain operations necessary to maintain it. However, it must start at a large enough to scale to be successful.
5. **Fund the Transition:** As MCEC continues to provide a growing portfolio of services, dedicate the operating funds necessary to sustain that growth. Since inception, MCEC has been handicapped by a lack of stable definitive revenue to support its operation, and necessary to signal to project partners and capital providers that they can predictably count on MCEC for investment transactions. Without a regular and dependable commitment of funding, MCEC must focus on projects of shorter tenure with impacts that fail to achieve critical mass.

As Maryland and the nation strive to mitigate the impacts of greenhouse gas emissions and transition to a new, advanced energy paradigm, public funds will not be sufficient to achieve the results that would be possible combined with private sector investment. MCEC's role at this stage is to help engage private markets to invest in the transition in ways that are not already occurring.

MCEC's Board appreciates the many financial constraints our State faces. Fortunately, several sources of funding exist to support the mission for which the legislature created MCEC including the Regional Greenhouse Gas Initiative (RGGI) auction proceeds that flow to the Strategic Energy Investment Fund (SEIF). Since 2017, Governor Hogan committed an appropriation of $1.5M per year through FY22 to the Maryland Energy Innovation Institute (MEII), with approximately $900K flowing to MCEC. The MCEC Board requests that the commitment continues, and be increased modestly to support the recently launched Maryland Energy Innovation Accelerator (MEIA).

To provide the stability and predictability necessary for MCEC while it works to achieve self-sustainability, the Board also requests that the funds requested be specified as a requirement in the SEIF use distribution formula.

The MCEC Board respectfully requests the opportunity to discuss prioritizing an investment in a Maryland Green Infrastructure Fund (MDGIF), and that any statutory requirement for MCEC to be self-sustainable be removed until such an investment can be put in place.

The MCEC Board is excited about the future of MCEC and is committed to its further success as our staff and partners work together to build jobs in the advanced energy economy for Maryland. We encourage anyone with related questions or comments they would like MCEC to address, to contact the office directly at 301-314-6061 or via email at info@mdcleanenergy.org.

Sincerely,

Geoff Oxnam
MCEC Board Chairman
CEO, American Microgrid Solution

MCEC Strategy for Impact and Sustainability Report

MCEC retained Sustainable Capital Advisors to develop recommendations and a business plan in response to the General Assembly report directive in Senate Bill 331/Chapter 365, enacted July 1, 2017.

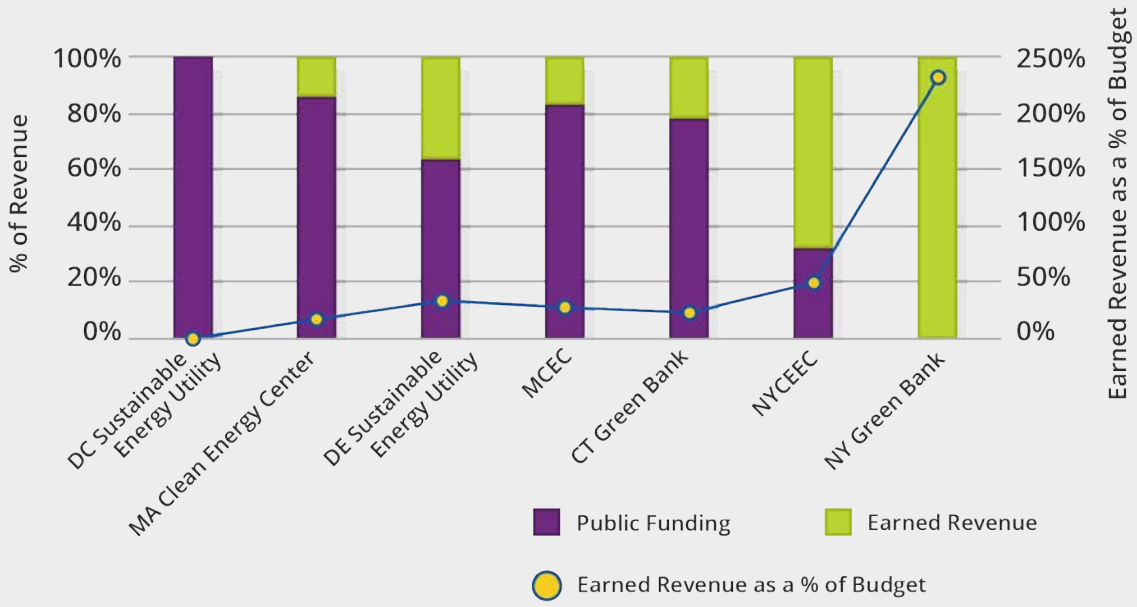
> The ***Strategy for Impact and Sustainability Report*** focuses on outlining current MCEC activities and projecting activities forward over the next five years. It identifies a set of recommendations to become self-sustaining within the same time period.

Findings

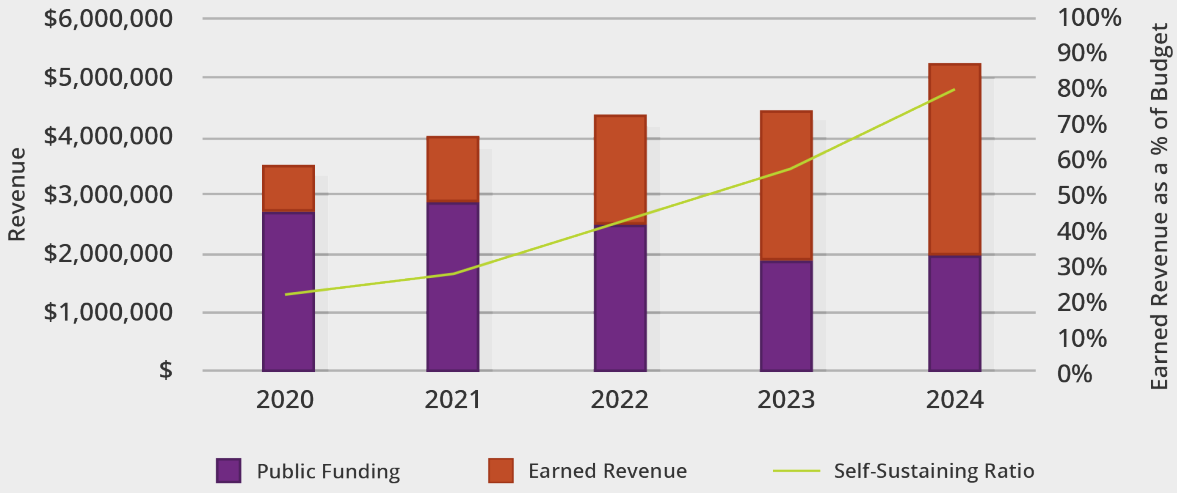
- Since the enactment of SB 313, MCEC worked to be impactful and self-sustaining through bond issuance fees, grants, event-related revenue, and development of new revenue-generating programs. MCEC leveraged over $73 M in private capital to fund energy measures and projects, serving institutional, commercial, residential, and entrepreneurial audiences. MCEC implemented revenue and non-revenue generating initiatives to grow the Maryland clean energy ecosystem.
- Industry stakeholders perceive MCEC as a valuable resource to industry stakeholders for business development, outreach and education, but its financing capabilities are underutilized. MCEC competes with 18 other state financing entities and agencies in the energy market space but offers a unique value proposition as an independent, neutral third party.
- MCEC is well-positioned to fill gaps in the financing marketplace that are otherwise not being addressed but does not have lending resources to crowd in capital effectively.
- Lack of a stable source of funding creates a disadvantage for MCEC sustainability. Currently, two not-for-profit quasi-government clean energy organizations nationally have achieved sustainability, a result of significant public investment to leverage financing models.
- Self-sustainability by MCEC can only be achieved through the deployment of significant investment capital. MCEC evaluated multiple financial scenarios and found sustainability could be achieved through bond issuance for state facility energy measures combined with a commitment of $55 M in funds over 5 years to be repurposed in the marketplace.

Self- Sustainability is achieved through the deployment of significant investment capital. Definition of "self-sustaining" for purposes of the analysis is a target achieved when the annual budget meets or exceeds 75% of total operating budget.

Summary of Revenue by Source



Earned Revenue Projections for MCEC to Reach Self-sustaining Target in Five Years: Summary of Financial Projections: Sustained Impact

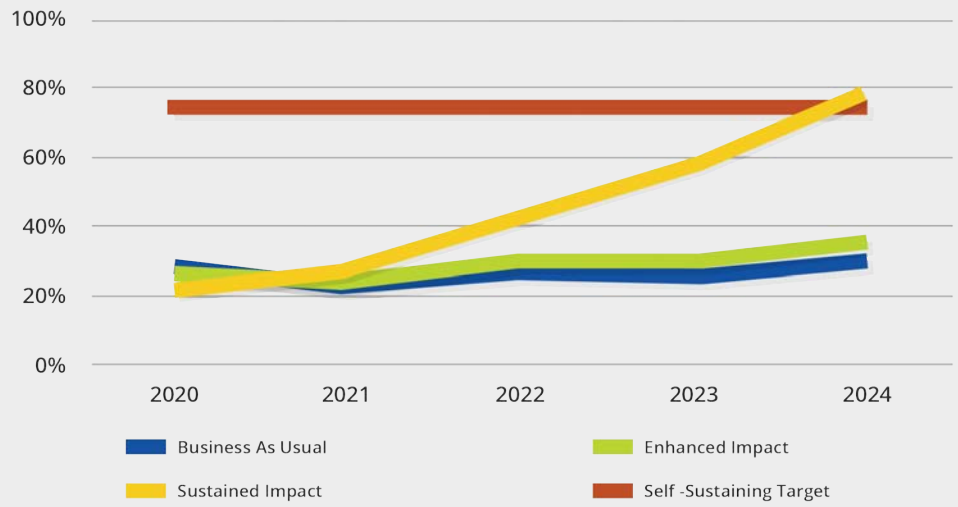


States receiving definitive public funding achieve success.

Strategy for Impact and Sustainability Report Recommendations

> MCEC can be impactful and self-sustaining with appropriate and predictable investment.

Summary of Projected Financial Performance (Self-Sustaining Ratio)



- Expand the MCEC mission mandate to include advanced clean energy.
- Establish MCEC in statute as the exclusive bond issuer for advanced energy projects in association with state-owned facilities.MCEC is well-positioned to fill gaps in the financing marketplace that are otherwise not being addressed but does not have lending resources to crowd in capital effectively.
- Create a dedicated funding source for MCEC to stabilize operations and build momentum.
- Launch a Maryland Green Infrastructure Fund (MDGIF) to crowd in private capital, facilitate leveraging, and generate fee income for MCEC.
- Focus on Impact versus Self Sustainability through the expansion of educational programming for industry and consumers to further establish MCEC as a trusted energy advisor.

View the Strategy for Impact and Sustainability Report online at www.bit.ly/MCECImpactSustainabilityReport.

INNOVATION ADVANCEMENT & TECH COMMERCIALIZATION

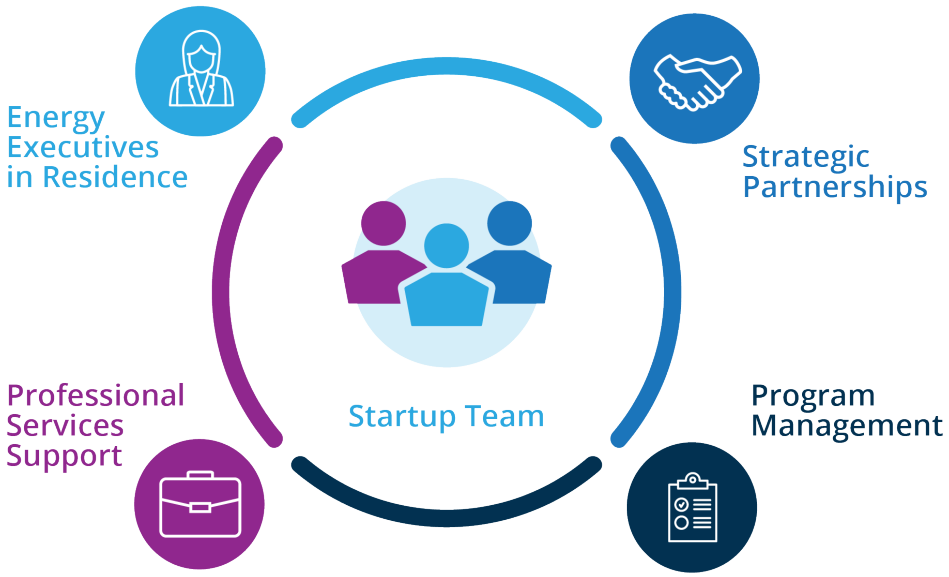
To better achieve its mission to advance energy-related research and technology commercialization, MCEC founded the Maryland Energy Innovation Accelerator (MEIA) in November of FY 2019.

MEIA operates as a subsidiary of MCEC and is managed by Director, Brian Toll along with Commercialization Program Manager, Ben Margolis.

MARYLAND ENERGY INNOVATION ACCELERATOR

MEIA strives to achieve the objective of creating investible clean energy businesses that have the momentum and credibility to obtain third party investment, grow their operations, and launch their business. MEIA identifies inventors with licensable energy-related technologies and intellectual property and pairs them with appropriate executive expertise to investigate marketability and support business formation. MEIA also provides fee for service technology to market support for federal and state research grant awardees and to startup companies working in the energy sector.

MEIA Surrounds Inventors with Maryland's Advanced Energy Ecosystem



MEIA launched its inaugural cohort on January 28, 2020, with five companies that included technologies from a wide range of clean energy industries, demonstrating the diversity of Maryland's clean energy research and development activities.

The first cohort received support from MEIA's venture development approach, matching researchers with business executives, strategic partners, professional services support, and program management to execute on clear commercial milestones and move technologies to market.

Technologies Included:

- Non-flammable Battery that Operates at Extreme Temperatures
- Membrane and Catalyst Technologies for Methane Upgrading to Mitigate Natural Gas Flaring
- Self-Powered Sensor for Wind Turbines to Enhance Wind Turbine Performance
- Tidal Turbine Variable Transmission for Electricity Generation
- Energy Efficiency for Master-Metered Multifamily Buildings

Meet Cohort 1

ACTIVECHARGE

ACTIVECharge offers an innovative approach to monitoring wind turbine blade health. This technology converts vibrational and rotational energy into electrical energy so that the sensors and data transmitters mounted hundreds of feet inside the blade do not need batteries or any additional electrical equipment to power the sensors. This reduces the long-term blade monitoring part of operation and maintenance (O&M) cost by 80%. Additionally, this eliminates the need for battery replacement and costly turbine shutdowns, increasing owner profits by approximately 1.5%/year. The technology is currently in prototype stage and looking to deploy a pilot with a turbine over the next 12 months.

ALCHEMITY

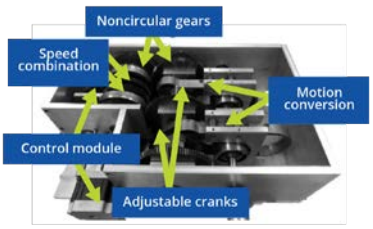
ALCHEMITY technology takes methane and converts it to fuel and other carbon products via a single- step reactor. It is an H2-permeable membrane reactor technology that integrates reaction and separation into one operation unit to achieve high efficiency, low cost and one-step process for natural gas conversion, other greenhouse gas conversion or ammonia (fertilizer) production. This technology has achieved >10% methane conversion and >905 product selectivity without catalyst deactivation in > 50 hours of continuous operation in direct non-oxidative conversation in the H2-permeable membrane reactor. The technology offers significant market potential in cases of methane flaring during oil extraction or in cases of chemical refinement. It turns waste product into viable potential resources and decreases methane flaring, a large contributor to climate change.

PULSEIQ!

PulseIQ! offers unique and innovative energy management and information services. It delivers significant energy efficiency and cost savings by utilizing the power of big data and analytics from their proprietary networked thermostats combined with a state-of-the-art suite of HVAC sensors, controls, automation and optimization. They also offer intelligent system monitoring and alarms allowing them to identify issues before they become larger problems. With rising energy costs and aging infrastructure, this service presents an opportunity for older buildings to improve their physical and financial health while also improving their social and environmental impact.

Infinitely Variable Speed Transmission

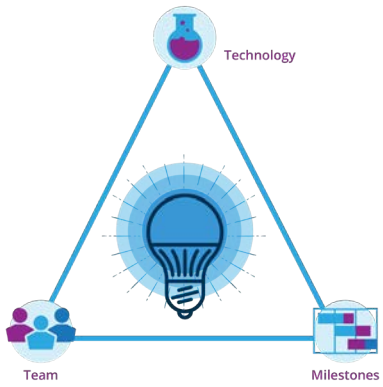
The transmission technology, called infinitely variable transmission or IVT, mechanically converts a changing tidal current input speed to fixed output speed. The IVT improves tidal current energy harvesting, reducing the cut-in speed of a tidal energy device to accommodate low tidal current speeds, converting variable low-rotation speeds of turbines to constant high-rotation speeds of generators, and eliminating impacts of tidal current speed fluctuations on generators. This technology also applies to high torque, low speed heavy duty vehicle engines where typical gear systems are susceptible to slipping or stripping. Infinitely Variable Speed Transmission did not present at the Cohort 1 Finale.



WISEBATTERY

This technology is a novel battery system based on a water in salt electrolyte, nicknamed WiSE. This electrolyte, used in combination with a LiCl-LiBr-Graphite cathode and Li or Al anodes, could double storage capacity. The technology increases safety dramatically (it is non-flammable), allowing for applications where the battery gets physically damaged such as defense applications. Additionally, the Zn battery using water-in-salt electrolytes can operate at extremely low temperatures, allowing for aerospace applications. The safety and cost profile may also make this battery a good candidate for utility and home energy storage, for electronics applications in polar or desert environments, or for electric vehicles. The use of safe, inexpensive materials could also reduce the cost of battery management and improve reliability. WiSE Battery did not present at the Cohort 1 Finale.

MEIA: Creating Investible Clean Energy Businesses



More information about MEIA is available online at www.mdeia.org.

Meet MEIA's Energy Executives in Residence (EEIR)

GREG COOPER, PHD
Founder and former CTO pixelligent
Startup Veteran EEIR
Strategy Lead
WiSE Battery

ERIK DESROSIERS
Founder, Merkaba Group
Strategy Lead EEIR
PusleIQ! And ACTIVECharge

PARI KARASOTIA
Mid-Atlantic Director, Vote Solar
Business Development Lead EEIR
PulseIQ!

MICHAEL LEIFMAN
Founding Principal, Tenley Consulting
Strategy Lead EEIR
Infinitely Variable Speed Transmission

NIKKI MEHTA
Founder, Mehta Consulting Services
Marketing Lead EEIR
Infinitely Variable Speed Transmission
and Pulse IQ!

MIKE PETERSEN
Regional Planning & Effectiveness
Manager, Shell
Strategy Lead EEIR
ALCHEMITY

MEIA Cohort 1 Finale

MEIA hosted the Cohort 1 Pitch Event Finale virtually on June 23, 2020, with three of five teams participating in the pitch event. ACTIVE Charge, PulseIQ!, and Alchemity pitched their innovative clean energy product or service to a panel of judges from Constellation Technology Ventures, Maryland Momentum Fund, and Prime Impact Fund. The Maryland Department of Commerce sponsored the $1,000 prize awarded to Alchemity that also won the audience vote for "Investible Startup."

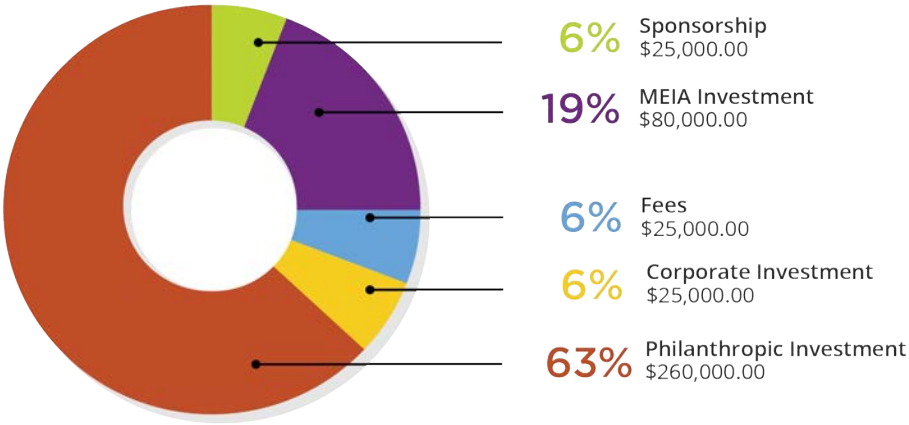
Exelon Corporation awarded a $25,000 Strategic Sponsorship to MEIA Cohort 1 participant ACTIVEcharge. These funds, along with mentorship from Exelon's wind energy generation team, will accelerate ACTIVEcharge's business launch into the commercial market.

View the MEIA 2020 Capstone Event: https://bit.ly/2020MEIACapstoneEvent.

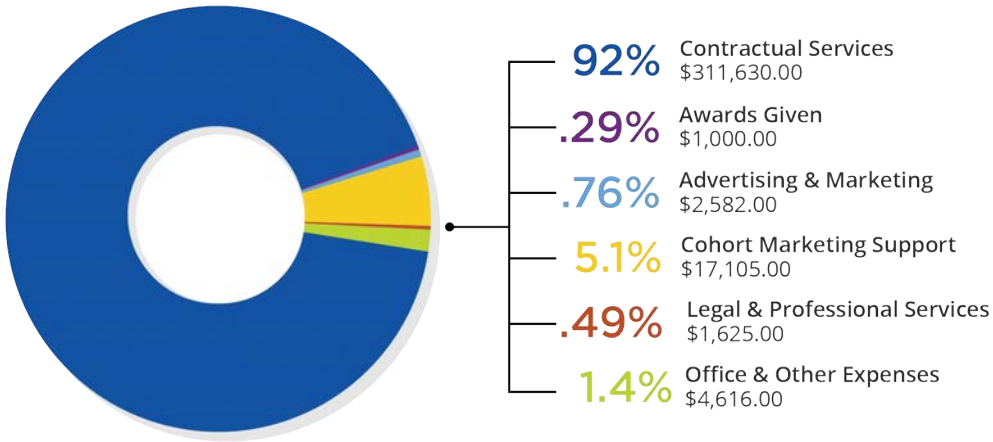
MEIA Operations

MEIA generated $415,000 during FY 2020 through Corporate Investment, Philanthropic Investment, Sponsorships, Donations, and Fees. MEIA spent $336,000 on staff compensation, events, marketing, and software to support the teams and events.

MEIA FY 2020 Revenue



MEIA FY 2020 Expenses



2020 MEIASponsors

Exelon. BANNER WITCOFF NELSON MULLINS

PALEY ROTHMAN ATTORNEYS AT LAW points NORTH small studio. big design. SNYDERCOHN CPAs and Trusted Advisors

ACCESS TO CAPITAL & FINANCE ACTIVITY

Maryland Clean Energy Capital Program

The Maryland Clean Energy Capital Program (MCAP) provides access to private capital through the issuance of tax-exempt and taxable bonds. As a public instrumentality of the State of Maryland, MCEC is authorized by its enabling statue to be an issuer of tax-exempt debt for projects that support the advancement of clean energy, economic development, energy innovation and related jobs creation in the State.

MCEC works with both public and private project development partners to provide advantageous financed using its authority to issue tax-exempt and taxable bonds as well as own, operate and lease assets.

In FY 2020, MCEC identified the need for it offer consultative services to customers earlier on in the project development cycle to accelerate project development and the need for project financing.

MCEC has demonstrated it can add value to customers well before a project gets to the point where it needs financing. In FY 2020, MCEC entered into contractual agreements to provide consultative service to both Baltimore City Public Schools and Morgan State University.

MCEC continued to oversee the construction of two large scale energy efficiency projects funded in part with proceeds from MCEC bond issuances and the energy savings performance of two projects that are several years into their respective post-construction performance periods.

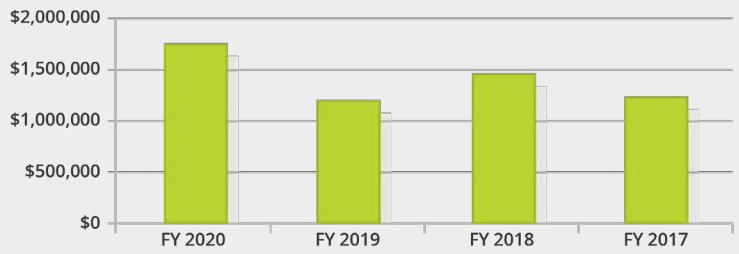
Since MCEC's inception bond proceeds and additional sources of capital have been used to fund over $40,000,000 in energy efficiency capital projects.

Cumulative MCAP bond issuance through the period ending June 30, 2020 is $33,015,456 for tax-exempt bonds and $5,090,243 for taxable bonds.

Proceeds from the seven bonds and notes issued under MCAP were used to fund energy efficiency, mechanical equipment upgrades, and renewable energy production including capital improvements for lighting, HVAC, solar hot water heaters, boilers, chillers, building envelope renovations, water conservation measures, combined heat and power systems, demand response systems, construction management, capitalized interest and cost of issuance.

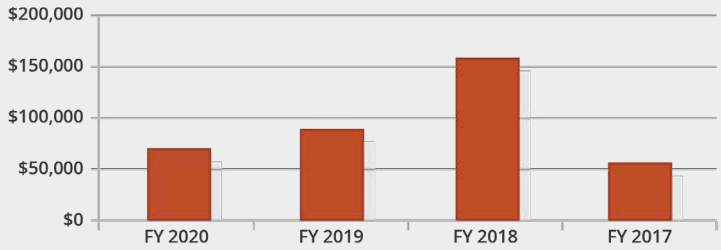
Energy savings revenue collected by MCEC for the management of projects owned by MCEC is the largest component of MCEC revenue. This non-operating income is used to service project debt and pay vendors for service delivered to projects.

Annual Energy Savings Revenue

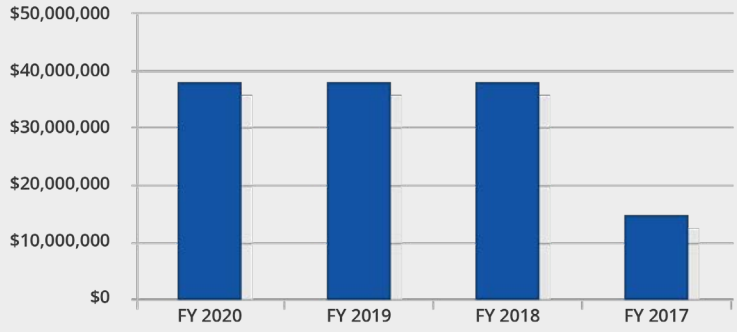


MCEC earns administrative fees for its role in managing the annual project cash flows to ensure timely debt services and vendor payments in addition to IRS post-issuance compliance measures and where applicable, energy savings measurement and valuation analysis. MCEC earns performance payments specifically for Energy Performance Contract financings where MCEC owns project assets that achieve energy savings in excess of the annual guaranteed savings amount. MCEC also earns project development fees and consultative service fees.

Additional Revenue



MCAP Cumulative Bond Issuance



Maryland Property Assessed Clean Energy (MD-PACE) Commercial Lending Program

During FY 2020, almost $4 M in PACE transactions closed in the state. The current project pipeline of transactions closed and projected to close in FY 2021 could exceed $10 M.

MCEC continued to enable access to affordable, 100% up-front capital to assist retail, commercial, industrial, agricultural, and not-for-profit property owners, through the MD-PACE (Property Assessed Clean Energy) Loan Program.

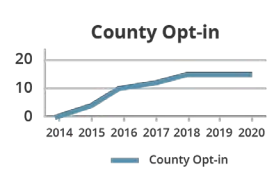
MD-PACE is administered through a partnership with Pace Financial Servicing, LLC. Eighteen major jurisdictions in Maryland passed enabling ordinances. Sixteen of those had program administration capability in place in FY 2020. Dorchester County enabled a MD-PACE ordinance during FY 2020. Montgomery and Prince George's Counties enabled C-PACE programs are self-administered.

Since 2014, $17.6 MM in C-PACE projects have been financed statewide, overall.

MD-PACE Overall Program Participation

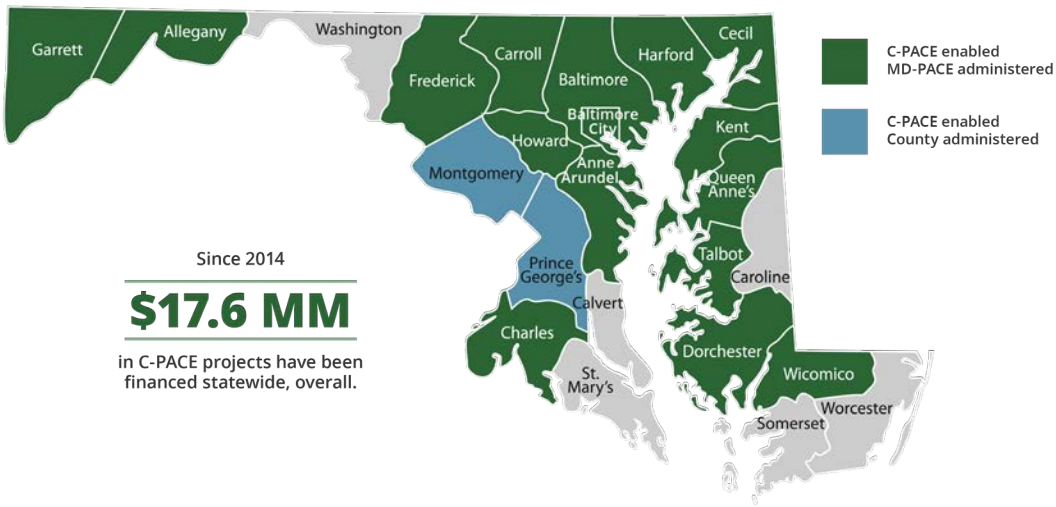
58 (+7)

16 (+/-0)



17 (+/-0)

MD-PACE Map of County Program Status



MD-PACE Map updated to reflect correction to original MCEC FY 2020 Annual Report.

MARYLAND COMMERCIAL PACE

CASE STUDY:

MICROTEL BY WYNDHAM

SETS STANDARD FOR HOSPITALITY INDUSTRY

PROJECT OVERVIEW

PROPERTY TYPE:
Hotel

INSTALLED MEASURES:
HVAC, LED Lighting, Low Flow Water Fixtures, Exterior Improvements

$1,932,000
Approved PACE Financing

20 years
Term

Counterpointe
Lender

Edison Energy
Project Partner - Contractor

MID-ATLANTIC PACE ALLIANCE
pacealliance.org

THE CHALLENGE:

The developer of a new hotel in Anne Arundel County was looking for a way to improve the energy efficiency of each individual room, as well as the overall sustainability of the property, without ballooning capital expenses.

THE SOLUTION:

The hotel's owners used C-PACE to finance the ground-up construction of walls, windows, plumbing, HVAC, and LED lighting that is estimated to save over $1.64M in life cycle cost savings. These improvements will allow the property developer to reduce energy and water use while offering the highest caliber of comfort to its guests, all while increasing liquidity that can be used to invest in other opportunities for the benefits of brand and guest welfare.

MARYLAND CLEAN ENERGY CENTER

PACE Financial SERVICING

To learn more about MD PACE:
md-pace.com
info@md-pace.com

ABOUT MD-PACE

MD-PACE is a statewide partnership between PACE Financial Servicing and the Maryland Clean Energy Center to build a statewide commercial Property Assessed Clean Energy (C-PACE) program.

MARYLAND COMMERCIAL PACE

CASE STUDY:

SOLAR POWERED SOCCER

OFFSETTING 100% OF ELECTRICITY CONSUMPTION

PROJECT OVERVIEW

PROPERTY TYPE:
Sports Facility

INSTALLED MEASURES:
443kW Solar Array

$881,429
Approved PACE Financing

20 years
Term

LordCap PACE
Lender

Dividend Finance & Sustainable Energy Systems
Project Partners

MID-ATLANTIC PACE ALLIANCE
pacealliance.org

THE CHALLENGE:

The Frederick Indoor Sports Center (FISC) is a 65,000 sq. ft. indoor sports and training venue. Its owners are outspoken proponents of renewable energy in the community, looking for a way to fund a large solar project without tapping into financial resources that could be used to otherwise develop FISC.

THE SOLUTION:

FISC's owners used PACE to finance the installation of over 1,300 solar panels on the roof of the sports facility. The solar array is designed to offset the property's electricity consumption by 100%, meaning that FISC will no longer purchase electricity from the electrical grid. This is an unusual achievement for commercial properties, which are frequently able to offset only a portion of their actual electricity consumption through the installation of solar energy generation.

MARYLAND CLEAN ENERGY CENTER

PACE Financial SERVICING

To learn more about MD PACE:
md-pace.com
info@md-pace.com

ABOUT MD-PACE

MD-PACE is a statewide partnership between PACE Financial Servicing and the Maryland Clean Energy Center to build a statewide commercial Property Assessed Clean Energy (C-PACE) program.

Mid-Atlantic PACE Alliance

MCEC continued to represent Maryland as a partner in the Mid-Atlantic PACE Alliance (MAPA) throughout FY 2020, along with the Virginia Department on Mines, Minerals and Energy (DMME) and the District of Columbia Department of Sustainable Energy & Environment. The three-year grant, scheduled to end December 31, 2019, was extended with additional funds provided through December 31, 2020.

The group strives to advance the development of standardized programs and ramp up the use of PACE financing in the region.

Mid-Atlantic Alliance, Inc. Mission

- Further the adoption, advancement, development, and implementation of Property Assessed Clean Energy (PACE) activities
- Serve as a Regional, District, State, and Local Solutions Center to provide services
- Research, assess, compile, and share lessons in PACE leadership and execution as they are identified throughout the Mid-Atlantic Region
- Provide tools, training, and educational materials to reduce barriers to PACE adoption, and increase utilization of PACE in Mid-Atlantic Communities
- Convene and create peer exchanges to showcase successful leadership roles and public-private partnerships
- Ensure fair and open access to administrative, professional, technical, and financial services that support PACE program development and adoption

As part of the strategy to maintain MAPA beyond the grant from the U.S. Department of Energy, the partners created a 501(c)3 organization with engagement from current members and the involvement of additional regional stakeholders. The organization will be funded by membership dues and managed as a separate entity from MCEC to continue the work of the grant funded partnership in the future.

The Board of Directors governs the organization to carry out the mission of MAPA.

I. KATHERINE MAGRUDER
President of the Board
Executive Director
Maryland Clean Energy Center

BRACKEN HENDRICKS
Vice President
Executive Director
Urban Ingenuity

ABIGAIL JOHNSON
Secretary
President
Abacus Property Solutions, LLC

DANIEL FARRELL
Treasurer
Director, Division of Energy
VA Department of Mines
Minerals and Energy (DMME)

SCOTT DICKE
Board Member
Director, Mid-Atlantic Sales & Support
Sustainable Real Estate Solutions

KENLEY FARMER
Board Member
Associate Director
DC Department of Energy
And Environment (DOEE)

GENEVIEVE SHERMAN
Board Member
Managing Director
PACE Financial Servicing

Residential Lending Program Development

MCEC is dedicated to advancing more low-cost and transparent retail financing options for residential property owners.

In FY 2020, the center dedicated staff resources in efforts to provide access to capital at attractive interest rates to assist Maryland residents in affordably making more holistic energy efficiency home improvements.

Working in partnership with the Montgomery County Green Bank during FY 2019 and FY 2020, MCEC participated in the EmPOWER Finance Work Group of Maryland's Public Service Commission (PSC) tasked with investigating the potential to offer consumers affordable financing for energy-efficient measures. Building on experience gained by MCEC with the operation of the Maryland Home Energy Loan Program (MHELP) from 2011 to 2016, MCEC investigated new sources of capital to reintroduce a leveraged lending program to serve the residential consumer market sector.

The full 2019 Maryland HVAC and Home Performance Contractor Survey Report can be viewed at: www.bit.ly/2019ContractorSurveyMCEC.

As part of the program development process, to validate demand, MCEC surveyed hundreds of HVAC and building performance contractors working in Maryland. Survey results helped inform the EmPOWER Financing Workgroup about demand for residential financing offerings and how financing could impact customer adoption of energy efficiency home improvements.

Contractor Survey Results

- 23% of customers complete the majority of suggested energy conservation measures following an energy audit
- 61% identified lack of access to financing as a barrier for customers when making energy efficiency improvements

To launch a new program, MCEC proposes an off-bill consumer finance solution that combines private capital with EmPOWER rebates. The program has the potential to crowd in capital at an approximate 10:1 leverage ratio with no increase to the current ratepayer surcharge.

On July 11, 2019, in Order No. 89189, the PSC declined to adopt any specific financing program proposals at that time and directed the Finance Work Group to continue investigating financing options, to be considered for the 2021-2023 program cycle and to issue a report to them on or before September 1, 2020.

STAKEHOLDER OUTREACH & EDUCATION

The Maryland Clean Energy Center continues its investment in outreach and education activities with efforts to build the advanced energy economy in Maryland. MCEC convenes stakeholders and industry leaders at conferences and forums, reports on policy activity that impacts the sector, and offers leadership perspective through participation in industry-related activities.

MCEC hosted the annual Maryland Clean Energy Summit, the Legislative Reception, participated in the MAPA Forum, hosted the Biomass Webinar Series with partners, and attended several Industry Conferences during FY 2020.

Throughout the 2020 Legislative Session of the Maryland General Assembly, MCEC coordinated Policy Watch activities and weekly reports, informing interested stakeholders.

2019 Maryland Clean Energy Summit

Approximately 250 individuals, representing 158 companies and organizations attended the 2019 Maryland Clean Energy Summit, generating $42,692.98 for the Maryland Clean Energy Center.

2019 MARYLAND CLEAN ENERGY SUMMIT

INVESTING IN THE FUTURE
Building the Advanced Energy Economy
INNOVATION ▪ INFRASTRUCTURE ▪ PARTNERSHIPS

OCTOBER 22, 2019
College Park Marriott Hotel & Conference Center
mcecsummit.org

Attendees included energy industry experts, policymakers, regulators, utility representatives, innovators, and business leaders.

The event showcased innovation in clean energy technologies and policies, highlighted evolving infrastructure, and demonstrated the value of public-private partnerships as Maryland works towards meeting goals set in Maryland's Renewable Portfolio Standard (RPS).

The majority of event attendees traveled from the Greater Baltimore-Washington Metro Area, with the remainder from Delaware, Florida, Illinois, Massachusetts, New York, North Carolina, Pennsylvania, South Carolina, Texas, and Vermont.

The one-day conference showcased regulatory perspectives, strategies for innovation advancement, industry perspectives, and an introduction to the Maryland Energy Innovation Accelerator.

US Senator, Chris Van Hollen addresses attendees during Morning Buzz at the 2019 Maryland Clean Energy Summit.

Partnerships Breakout B: Aligning Interests for Solar Siting featured (L-R): Cyrus Tashakkori- President, Open Road Renewables; Joshua Kurtz- Director of Policy Development, The Nature Conservancy; David Murray- Executive Director, MDV-SEIA; Maryland Senator Paul Pinsky- Legislative District 21; Bill Parsons- Chief Operating Officer, American Council of Renewable Energy (ACORE).

2019 Maryland Clean Energy Summit Sponsors

American Vertical Solar, Inc.
Maryland Department of Housing & Community Development
Baltimore Gas & Electric
Bioenergy DevCo
CRES Forum
Delmarva Power
Hannon Armstrong
Maryland Energy Innovation Institute
Nissan North America, Inc.
OPEN ROAD RENEWABLES
Pepco
Prince George's County Economic Development Corporation
Ernst Pollinator Service
amidus
BankUnited
eSai LLC
Hobbs & Towne
Maryland Department of Commerce
McGuireWoods LLP
Noresco

Policy Focus

During Session 2020 MCEC staff tracked 98 pieces of legislation introduced during this abbreviated session pertaining to Clean Energy. In summary, 15 bills relating to the Clean Energy Sector were returned passed. At the same time, 83 failed through withdrawal by the sponsor, receiving an unfavorable report, or failing to make it out of committee and cross over.

The 2020 Legislative Session of the Maryland General Assembly began with new presiding officers manning the gavels. Legislators focused on ambitious agendas to implement and fund the Kirwan Commission recommendations, address School Construction, Public Safety, and Environmental Issues including a number of policy proposals related to the energy sector. After passing the FY 2021 budget, including a continued funding commitment for MCEC, the Assembly adjourned early which has occurred only once since the Civil War.

Of the 15 bills tracked that passed, 10 passed the last day of the session. Several bills that failed made it through the chamber of origination and crossed to the opposing chamber. However, they had little or no time to be heard before an assigned committee.

Climate Crisis and Resilience legislation accounted for the majority of energy-related bills introduced. Other legislation pending this session focused on:

- Proposed RPS Alterations
- Retail Supply and Consumer Protection
- Workforce Development
- Electric Vehicle Regulation
- Utility Regulation
- Energy Efficiency and Building Performance
- School Construction

View the MCEC Policy Watch Report for the 2020 MD Legislative Session: www.bit.ly/MCECPolicyWatch2020.

MCEC Staff distributed weekly Policy Watch reports with hearing alerts shared through social media. Stakeholders joined the MCEC legislative committee on weekly conference calls to share information and the status of pending legislation.

MCEC 2020 Legislative Reception

MCEC welcomed 128 attendees to the 2020 Legislative Reception at the Lowe House Office Building in Annapolis on February 5, 2020, generating $4,748 in sponsorship revenue, after costs.

The event theme, ***Solving the Advanced Energy Puzzle: Solutions for Maryland*** focused on the importance of energy sector stakeholders paying close attention as the policy pieces came together during the 2020 Legislative Session.

The Maryland Clean Energy Clean thanks the legislators, key policymakers, and industry leaders who attended including the following guest speakers.

- Senator Brian J. Feldman, District 15
- Delegate Benjamin Brooks, District 10
- Delegate Alfred C. Carr, Jr., District 18
- Delegate Lorig Charkoudian, District 20
- Delegate Marc Korman, District 16 Delegate
- Lily Qi, District 15
- Secretary Ben Grumbles - MD Department of the Environment
- Mason Emmett - Vice President of Wholesale Market Development, Exelon Corporation
- I. Katherine Magruder- Executive Director, MCEC
- Geoff Oxnam - Founder & CEO, American Microgrid Solutions and Board Chair, MCEC

Above: Left to right- Wyatt Shiflett-Director of Finance Programs at MCEC; Jessa Coleman- Programs Manager at PACE Financial Servicing; Rudolph Dahl- Global Holding Companies, and Sabine Rogers- AnnDyl Policy Group, LLC. Below: Delegate Lorig Charkoudian discusses Clean Energy Policy Issues during her remarks, and Dr. Alex Pavlak- MCEC Board Member with Delegate Benjamin Brooks.

Legislative Reception Sponsors

BGE An Exelon Company

Exelon

pepco An Exelon Company

URBAN GRID

Washington Gas A WGL Company

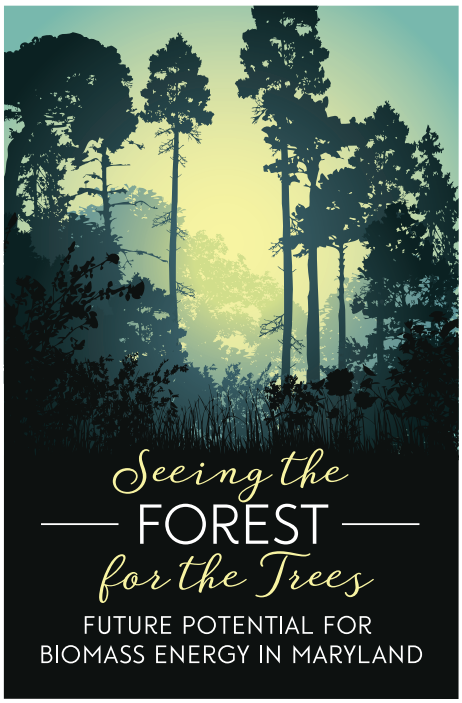
Antares Group Incorporated
Chesapeake Physicians for Social Responsibility
Greenworks Lending
Siemens
SolarGaines
Solar United Neighbors

Biomass Energy Webinar Series

MCEC received $13,400 in grant funding to assist in the Biomass Energy Webinar Series.

The Center partnered with the Maryland Forestry Foundation, the Maryland Department of Natural Resources, the Sustainable Forestry Council, and the Maryland Agricultural Education and Rural Development Assistant Fund in offering Seeing the Forest for the Trees: Future Potential for Biomass Energy in Maryland.

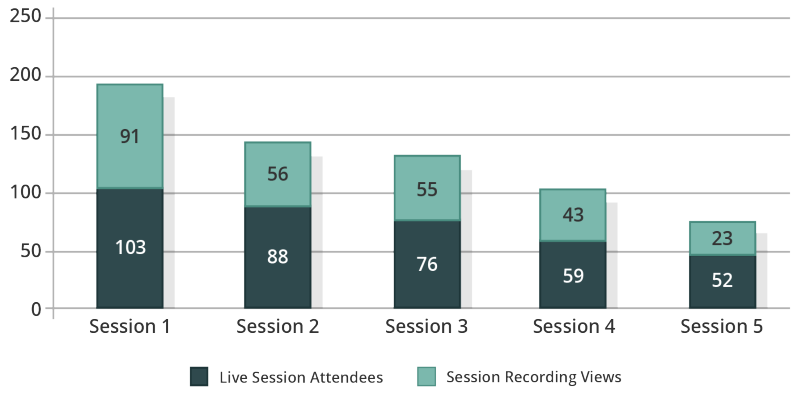
The five-part webinar series highlights how Maryland commercial and institutional consumers can benefit from the adoption of thermal biomass energy solutions, through case study examples of successful projects and discussions covering a range of economic, operational, environmental, policy, and regulatory considerations.



Live sessions were held from June 2 – July 7, 2020, with up to 103 attendees per session. The majority of participants viewed the series from Maryland with registrants from 21 of the United States, Washington, DC, and three countries.

Recordings for each session, and related materials are available online at www.mdcleanenergy.org/biomass.

Biomass Energy Webinar Participant Overview



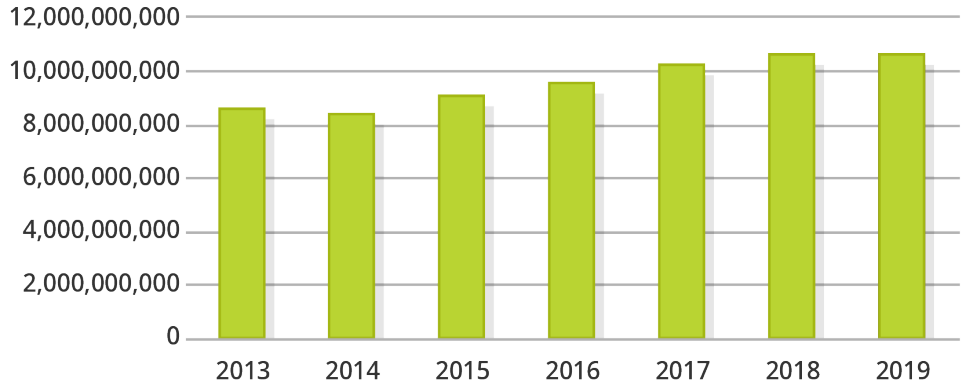
The Society of American Foresters approved the sessions for one continuing forestry education credit. Thirty-four individuals used the live sessions to meet continuing education requirements for the following credentials: Certified Climate Change Professional, Maryland Licensed Forester, Master Naturalist, Maryland-Delaware Master Logger, Society of American Foresters Candidate Certified Forester, and Society of American Foresters Certified Forester.

ENERGY SECTOR JOBS & WAGES

In keeping with its mission, MCEC collects and reports on data indicative of the health of the energy sector in the state. Jobs data collected this period demonstrates a vibrant advanced energy economy has been growing in Maryland.

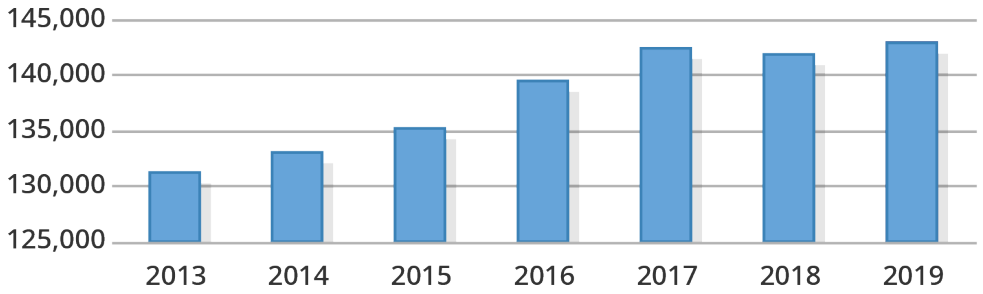
The 2019 MCEC Comparison Report shows that the collective annual earnings of all workers in the clean energy sector increased from $8,645,594,320 in 2013 to $10,704,862,604 in 2019, amounting to an estimated total increase of $2,059,268,284 through 2019.

Total Sector Annual Earnings



From 2018 to 2019 total sector-wide employment grew from 141,860 to 142,752 a growth of 892 jobs, while overall sector annual earnings increased by a collective $64,833,028. This growth is likely due to the increased use of solar and geothermal technologies.

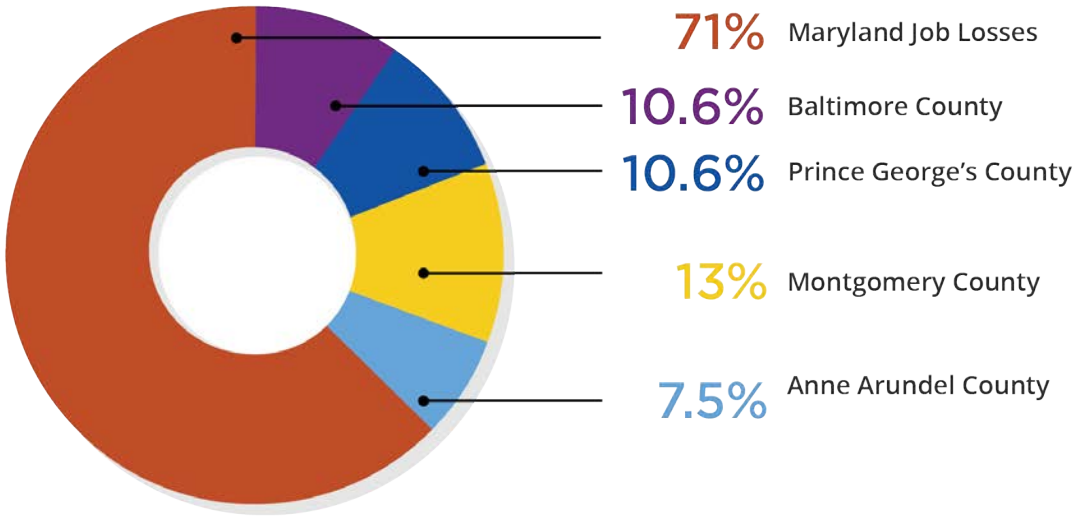
Total Sector Employment



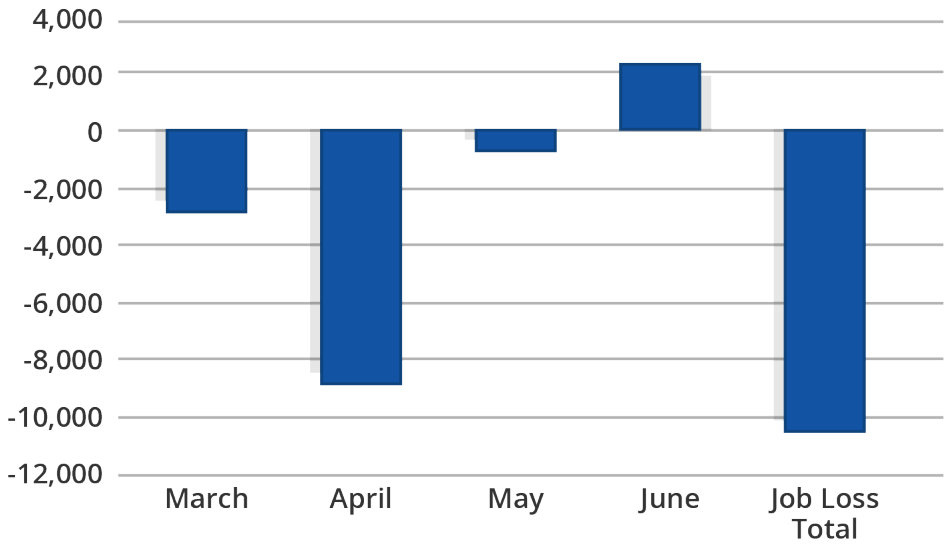
Maryland witnessed significant unemployment in the Clean Energy Sector in March, April, May, and June 2020, due to the public health crisis.

The more substantial amount of job losses occurred in April, with employment growth occurring in June as restrictions were lifted. Four of the largest jurisdictions in Maryland reported 41.7% of unemployment recorded in the sector.

Cummulative County Clean Energy Job Losses Since Pre-COVID



Maryland Monthly Clean Energy Job Losses



Source: www.bit.ly/BWResearchReport BW Research Data analysed in report does not include employees suffering reduced hours or job loss after the end of June.

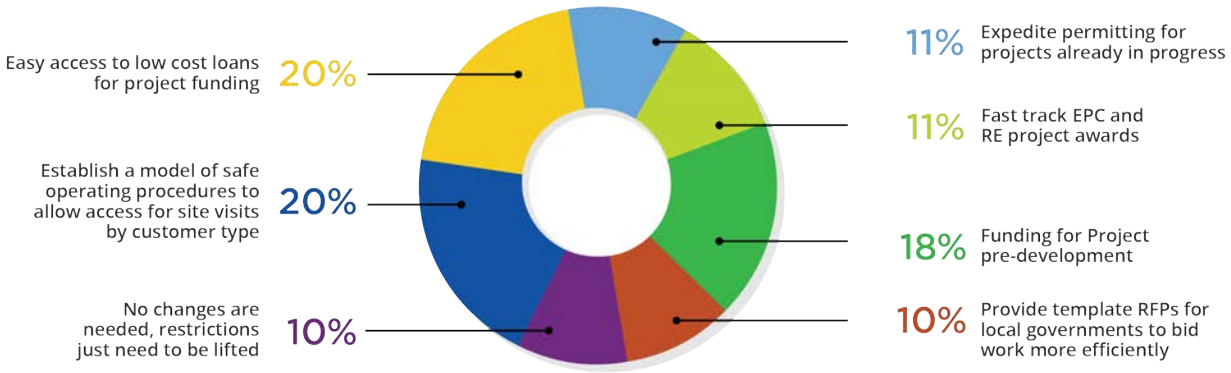
COVID-19 IMPACTS

The Maryland Clean Energy Center staff responded to National, State, and Local restrictions due to the COVID-19 pandemic by telecommuting, adjusting meeting formats, and planning virtual events rather than in-person conferences. Staff began telecommuting on March 16, 2020, when students at the University of Maryland left campus for Spring Break and continued working from home at the time of this report. To follow social distancing guidelines, MCEC Board Members met virtually on Zoom to conduct business and voted electronically on several essential issues between March and the end of FY 2020. MCEC Staff and partners also shifted gears to modify the multiday in-person Biomass event to weekly webinars covering the topics planned.

Responding to changes in the local, national, and global economy, and the impacts to business operations and social interactions due to COVID-19, MCEC also altered plans for the 2020 Maryland Clean Energy Summit, scheduled for Tuesday, October 20, 2020, at the College Park Marriott Hotel & Conference Center. Staff postponed the one-day in-person conference to 2021, and is instead hosting a series of weekly webinars between September 5, 2020, and November 5, 2020.

The Annual Advisory Council Meeting, originally scheduled on May 21, 2020, was held virtually via Zoom. Before the meeting, Council Members took part in a survey compiled with questions regarding the Impact of COVID-19. As the quarantine period in Maryland had only recently begun at the time of the survey, many respondents reported minimal impacts but, a similar survey planned to be released in FY 2021 will likely show different results.

Advisory Council Response to "What needs to occur to expedite business resumption following the relaxation/end of COVID-19 restrictions?"



MCEC FY 2021: PROJECTIONS

Maryland is currently recognized for strong policies and incentives to support the adoption of solar and wind energy generation, and MCEC anticipates the evolving clean energy economy in the state calls for more deliberate focus on transportation electrification, adoption of energy storage, and ensuring grid resilience will be prevalent in the fiscal year ahead.

Overall, MCEC plans to continue investing in the future through innovation, infrastructure, and partnerships in FY 2021. The center will also continue to play its role as a unique funding authority and be engaged in building relationships with industry stakeholders.

In FY 2021 MCEC will:

Pursue establishment of predictable and stable funding for MCEC in the Future

MCEC was created with the ability and the intent to use public investment to attract private capital to achieve the goals associated with its mission, but since its inception has existed with uncertainty about operational funding, which hampers the potential leverage of private capital in an effective manner. In FY 2021, MCEC will work proactively to increase leveraged investment in the deployment of energy technologies and to better position the State to take advantage of funding currently proposed in federal legislation to create a National Climate Bank.

Lead efforts to provide access to capital for deployment of market ready clean energy technologies statewide

Using bonding authority, MCEC has demonstrated success in leveraging through public-private partnership transactions valued in excess of $48 M.

In FY 2021, the center will continue to manage previous transactions and projects under development. In the coming fiscal year, MCEC intends to create new funding solutions focused on residential and small business energy-related project financing, and further expand on its capacity to provide technical support to pull more projects into the financing pipeline and marketplace.

Build on success of innovation advancement activity with continued support for MEIA

MCEC dedicated funding to support MEIA in FY 2021, and MEIA is seeking federal grant funds to continue related activity in FY 2021, while expanding the MEIA Advisory Council. MEIA intends to work with one or two new cohorts and increase its roster of EEIRS in FY 2021.

Enhance outreach & education initiatives

MCEC intends to update and improve its website, while hosting a ten-session webinar speaker series, as part of outreach and education efforts in FY 2021. At the time of this report, with COVID health and safety precautions still in play, hosting in-person conference events are of concern.

Foster Diversity & Inclusivity

MCEC will work to ensure diversity and inclusivity on boards, committees, and with presenters associated with the operation and programming of the instrumentality in the coming fiscal year and beyond.

A digital version of the FY 2020 Maryland Clean Energy Center Annual Report is available for download at www.mdcleanenergy.org/about-mcec/enabling-statute/annual-reports.

MARYLAND
CLEAN ENERGY CENTER

Maryland Clean Energy Center
www.mdcleanenergy.org
info@mdcleanenergy.org
301-314-6061
5000 College Ave., Suite 31010
College Park, MD 20740