



Commonwealth of Massachusetts  
Office of the State Auditor  
Suzanne M. Bump

*Making government work better*

Official Audit Report – Issued September 14, 2011

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## Massachusetts Clean Energy Center

For the period August 12, 2008 to August 31, 2010



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The Massachusetts Clean Energy Center (CEC) was established on August 12, 2008 by Chapter 307 of the Acts of 2008 and codified in Chapter 23J of the Massachusetts General Laws as a quasi-public entity to accelerate job growth and economic development in the state's clean energy industry. The Massachusetts Alternative and Clean Energy Investment Trust Fund was also established, which is to be held by the CEC separate and apart from the other sources of funding and is to finance the CEC activities. Subsequently, in November 2009, *An Act Relative to Clean Energy* (Chapter 158 of the Acts of 2009) was signed into law, which among other things transferred the Massachusetts Renewable Energy Trust Fund (RET) from the Massachusetts Technology Collaborative to the CEC. In order to achieve its goals, the CEC makes direct investments in new and existing companies, assists companies in obtaining capital and other resources, promotes workforce development through job training programs, and supports the installation of renewable energy projects throughout the Commonwealth.

In accordance with Chapter 11, Section 12, of the Massachusetts General Laws, we conducted an audit of the CEC controls and oversight activities. Our audit covered the period August 12, 2008 through August 31, 2010. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Our objective was to evaluate the adequacy of the CEC's oversight policies, procedures, reporting, and internal controls in order to determine whether the CEC is meeting the requirements of its enabling legislation.

Based on our review we have concluded that, for the period August 12, 2008 through August 31, 2010, except as discussed in the Audit Results section of this report, the CEC maintained adequate oversight policies, procedures, and internal controls to effectively fulfill its mission to accelerate job growth and economic development in the state's clean energy industry.

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Our review disclosed that the CEC had documented policies and procedures for individual phases of its operations but had not developed a comprehensive internal control plan based on an assessment of risk. The CEC also needs to expand its policies and controls over investment activities and needs to comply with the annual reporting requirements established by Chapter 23J, Section 5, of the Massachusetts General Laws. Generally accepted accounting principles advocate that entities such as the CEC establish and implement an adequate written internal control plan. Without such a document there is inadequate assurance that the CEC's goals and objectives are met; resources are

used efficiently, effectively, and in compliance with applicable laws, rules, and regulations; assets are safeguarded against potential waste, loss, and misuse; and financial/operating data is maintained, reported, and fairly disclosed in reports.

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## INTRODUCTION

### *Background*

The Massachusetts Clean Energy Center (CEC) was established on August 12, 2008 by Chapter 307 of the Acts of 2008 and codified in Chapter 23J of the Massachusetts General Laws as a quasi-public entity to accelerate job growth and economic development in the state’s clean energy industry. The Massachusetts Alternative and Clean Energy Investment Trust Fund was also established, which is to be held by the CEC separate and apart from the other sources of funding and is to finance the CEC activities. Subsequently, in November 2009, An Act Relative to Clean Energy (Chapter 158 of the Acts of 2009) was signed into law, which among other things transferred the Massachusetts Renewable Energy Trust Fund (RET) from the Massachusetts Technology Collaborative to the CEC. In order to achieve its goals, the CEC makes direct investments in new and existing companies, assists companies in obtaining capital and other resources, promotes workforce development through job training programs, and supports the installation of renewable energy projects throughout the Commonwealth.

The CEC is governed by a 12-member board of directors consisting of the Secretary of Energy and Environmental Affairs, the Secretary of Housing and Economic Development, the Secretary of Administration and Finance, the Secretary of Labor and Workforce Development<sup>1</sup>, the President of the University of Massachusetts, the Executive Director of the Massachusetts Workforce Alliance, the Commissioner of the Department of Energy Resources, and five members appointed by the governor.

### *The Alternative and Clean Energy Trust Fund*

The Green Jobs Act of 2008 placed the Massachusetts Alternative and Clean Energy (ACE) Trust Fund, established by Chapter 10, Section 35FF, of the General Laws, within the Clean Energy Center. The fund was established to make “qualified investments” designed to finance, promote, or leverage further investment in the research, development, manufacturing, and education of the clean energy sector, as well as any ancillary functions that may further those same goals (such as

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<sup>1</sup> Prior to her swearing in as State Auditor on January 19, 2011, Suzanne M. Bump served as Secretary of the Executive Office of Labor and Development for the period 2007 to 2009. This disclosure is made for informational purposes only, and this circumstance did not interfere with our ability to perform our audit work and report the results impartially.

investment in technical colleges and state universities and/or other public instrumentalities that plan on forming a clean energy curriculum and job training programs).

Originally funded with \$43,000,000, ACE was reduced by \$10 million in 2008 by An Act Making Appropriations for the Fiscal Year 2009 to Provide for Supplementing Certain Existing Appropriations and for Certain Other Activities and Projects (Chapter 377 of the Acts of 2008, Section 8). With a remaining balance of \$33,000,000, ACE was bolstered in January of 2010 when it received an additional \$5,000,000 from the Regional Greenhouse Gas Initiative Auction. The initiative auctions off certificates to regional facilities (manufacturing plants, power plants, etc.) that allow those facilities to exceed the legal output of greenhouse gas emissions for a fee. The proceeds from the auction are then redistributed to agencies promoting clean energy, such as the CEC. ACE also receives a minimum of \$5,000,000 a year, transferred from the Renewable Energy Trust (RET) Fund. In fiscal year 2010, ACE received \$8,000,000 and anticipates an additional \$8,000,000 in fiscal year 2011. Additionally, ACE realized \$2,400,000 in interest income and program gains in fiscal year 2010. As of August 31, 2010, the fund included \$107,111,000 of total assets and has recognized liabilities and grant commitments of \$42,538,000, resulting in total net assets of \$64,573,000.

In addition, the Governor must appoint an advisory committee of 15 individuals in accordance with Chapter 10, Section 35FF. This advisory committee is to consist of individuals who have “an interest and knowledge in matters related to the general purpose and activities of the fund(s) and with expertise and experience” in the field of clean energy. The CEC is to consult with the advisory committee regarding the awarding and investment of monies from ACE.

### ***The Renewable Energy Trust Fund***

Subsequently, in November 2009, *An Act Relative to Clean Energy* was signed into law, and resulted in the transition of RET (an entity within the Massachusetts Technology Collaborative) into the Clean Energy Center. The legislation, in addition to consolidating the staff and resources of the similar agencies, transferred the Massachusetts RET (established by Chapter 23J, Section 9, of the General Laws) from the Massachusetts Technology Collaborative to the CEC. The purpose of RET, according to subsection (b) of its enabling legislation, is to “promote the increased availability, use and affordability of renewable energy by making operational improvements to existing renewable energy projects... and by fostering the formation, growth, expansion and retention within the Commonwealth of preeminent clusters of renewable energy and related enterprises.”

RET is funded by the renewable energy surcharge, established by The Electric Utility Restructuring Act of 1997. This surcharge is a per-kilowatt-hour fee charged to customers by electric utility distributors state-wide. During fiscal year 2010, RET's proceeds from the renewable energy surcharge totaled about \$21,267,000. Additionally, RET realized approximately \$795,000 in interest income and program gains in fiscal year 2010, mostly from the sale of renewable energy certificates. The fund, as of August 31, 2010, had net assets of \$39,429,000.

***Federal Funding – American Recovery and Reinvestment Act (ARRA) Funds***

In addition to the two main funding vehicles, RET and ACE, the CEC has been the recipient of a significant amount of federal ARRA funding. The bulk of this federal stimulus money was awarded to the CEC to fund the construction of a state-of-the-art wind blade testing facility in Charlestown, MA, known as the Wind Technology Testing Center (WTTC). Plans for the WTTC were originally undertaken in 2007 by the Massachusetts Technology Collaborative (MTC), which won a \$2,000,000 grant for the project from the National Renewable Energy Laboratory (NREL) in June of that year. In September of 2007, RET (then still a part of MTC) committed \$13,200,000 to the WTTC project for the design and concept phases of development. Then, as stated above, in November of 2009 legislation was passed transferring the RET fund from MTC to the newly created CEC, and with it came the responsibility for the continued development of the WTTC. On August 31, 2009, the U.S. Department of Energy awarded the CEC \$24,700,000 in ARRA funding to complete this project. Construction on the project commenced in December of 2009, and is expected to continue into March of 2011. When completed, the WTTC will be the first commercial large blade testing facility in the nation, testing commercial-sized wind turbine blades to help reduce costs, improve performance, and expedite the deployment of newer, more efficient models. In addition to creating many temporary construction and design jobs over the project's lifespan, the goal of the facility is to attract companies to design, manufacture, and test their blades in the United States, and more specifically, Massachusetts. ARRA expenditures through August 31, 2010 on the WTTC project totaled \$17,831,161. We have conducted a related audit (No. 2011-1469-3R) of the CEC's oversight and use of ARRA funds, which will be issued separately.

In addition to the ARRA-funded WTTC project, the CEC has secured \$8,000,000 in federal stimulus funds for the Commonwealth Solar Stimulus Program. This program provides rebates to residents and small businesses throughout the Commonwealth through an application process for the installation of solar-powered systems. Residents who already have installed or wish to install

solar-powered (also known as photovoltaic) systems to power their homes or businesses can apply for these federally-funded rebates through the CEC to offset their system costs. The money is retained by the CEC until the applications are submitted and approved and all of the awards have been granted, and the applicants submit the necessary documentation supporting their energy costs. As of August 31, 2010, the solar rebate program was still in the application/approval process and had awarded, but not distributed, any of the \$8,000,000 in ARRA funds.

***Audit Scope, Objectives, and Methodology***

In accordance with Chapter 11, Section 12, of the General Laws, we conducted an audit of the CEC controls and oversight activities. Our audit covered the period August 12, 2008 through August 31, 2010. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Our objective was to evaluate the adequacy of the CEC's oversight policies, procedures, reporting, and internal controls in order to determine whether the CEC is meeting the requirements of its enabling legislation.

In order to accomplish these objectives, we reviewed the CEC's enabling legislation (as well as the enabling legislation of the RET and ACE), agency policies and procedures, and the report from the CEC's independent accounting firm for fiscal year 2010. Additionally, we tested the administrative expenses, disbursements from the funds, and internal controls to ensure compliance with applicable laws, rules, and regulations.

Our audit was not conducted for the purpose of forming an opinion on the CEC's financial statements; rather, our audit was intended to determine the extent to which the CEC's controls, procedures, and operations are in compliance with applicable laws, rules, and regulations and to identify services, processes, methods, and internal controls that could be made more efficient and effective.

Based on our review we have concluded that, for the period August 12, 2008 through August 31, 2010, except as discussed in the Audit Results section of this report, the CEC maintained adequate oversight policies, procedures, and internal controls to effectively fulfill its mission to accelerate job growth and economic development in the state's clean energy industry.

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## AUDIT RESULTS

### **IMPROVEMENTS NEEDED IN INTERNAL CONTROLS OVER MANAGEMENT, INVESTMENT ACTIVITIES, AND REPORTING**

Our review disclosed that the CEC had documented policies and procedures for individual phases of its operations but had not developed a comprehensive internal control plan document based on an assessment of risk. The CEC also needs to expand its policies and controls over investment activities and fully comply with the annual reporting requirements established by Chapter 23J, Section 5, of the Massachusetts General Laws. Generally accepted accounting principles (GAAP) advocate that entities such as the CEC establish and implement an adequate written internal control plan. Without such a document there is inadequate assurance that the CEC's goals and objectives are met; resources are used efficiently, effectively, and in compliance with applicable laws, rules, and regulations; assets are safeguarded against potential waste, loss, and misuse; and financial/operating data is maintained, reported and fairly disclosed in reports.

#### **a. Internal Control Plan**

Our review revealed that the CEC needs to improve its internal controls over its reporting and management activities. Specifically, although the CEC had documented policies and procedures for individual phases of its operations, it has not developed them into a comprehensive internal control plan. In addition, the CEC has not completed and documented a risk assessment to determine the internal control procedures needed to minimize any identified risks. GAAP advocate that entities such as the CEC should establish and implement an adequate internal control system. In order to comply with GAAP, the CEC is required to have a documented, comprehensive plan of internal controls describing its goals and objectives and the means by which these goals and objectives can be achieved. An effective internal control system would establish clear lines of authorization and approval for an entity's various business functions, such as investing in clean energy companies, purchasing, contracting, asset management, and payroll and operating expenses. In addition, an entity's internal control document should be backed up with a set of detailed subsidiary policies and procedures that would communicate responsibilities and business operations to employees regarding business functions such as accounting, billing, cash receipts, accounts payable, human resources, and payroll.



There is guidance available to organizations in designing an internal control system. For example, in a report entitled *Internal Control – Integrated Framework*, the Committee of Sponsoring Organizations (COSO) of the Treadway Commission provides a framework for organizations to design, implement, and evaluate the controls that will facilitate compliance with GAAP. The COSO report includes the following five components:

- **Control environment:** sets the tone of an organization and influences the control consciousness of its people. It is the foundation for all other components of internal control, providing discipline and structure.
- **Risk assessment:** is the entity’s identification and analysis of relevant risk to the achievement of its objectives, forming a basis for determining how the risk should be managed.
- **Control activities:** are the policies and procedures that help ensure that management’s directives are carried out.
- **Information and communication:** are the identification, capture, and exchange of information in a form and timeframe that enable people to carry out their responsibilities.
- **Monitoring:** is a process that assesses the quality of internal control performance over time.

In addition, although not designed specifically for use by all public entities, the CEC should refer to Chapter 647 of the Acts of 1989, *An Act Relative to Improving the Internal Controls within State Agencies*, for guidance in structuring its internal control plan. Chapter 647 states that “internal control systems for the various state agencies and departments of the Commonwealth shall be developed in accordance with internal control guidelines established by the Office of the Comptroller.” Subsequent to the passage of Chapter 647, the Office of the State Comptroller (OSC) issued written guidance in the form of the Internal Control Guide for Managers and Internal Control Guide for Departments. In these guides, the OSC stressed the importance of internal controls and the need for departments to develop an internal control plan, defined as follows:

*A high-level summarization, on a department-wide basis, of the department’s risks (as the result of a risk assessment) and of the controls used by the department to mitigate those risks. This high level summary must be supported by lower level detail, i.e. departmental policies and procedures..*

A sound system of internal controls would coordinate the CEC’s policies and procedures to safeguard its assets, check the accuracy and reliability of accounting data, promote operational

efficiency, and encourage adherence to prescribed managerial policies. In addition, a risk assessment would help the CEC to determine the most effective and productive internal control system by indicating where specific controls are necessary.

**b. Controls over Investment Activities Need to be Expanded**

During the course of our audit, we reviewed and tested the extent and effectiveness of the policies, procedures, and oversight of investment activities.

The CEC has established an investment team whose mission is to screen applications from eligible companies seeking an investment, perform reviews of applicant companies, and document the findings resulting from that process. In those cases where an eligible investment opportunity is identified, the team prepares an investment recommendation for the board that includes an executive summary of the company, an analysis of the technology and potential market for the product, a financial and management analysis, and the terms of the recommended investment.

The CEC has developed procedures which outline the process to be followed by the CEC investment team when making investment determinations. The process requires, among other procedures, a complete analysis of the investment opportunity; the proposed award, benefits, and risk associated with the award; documentation of the due diligence process including a technical evaluation of the product and its potential in the marketplace; all leading up to board approval.

Our audit confirmed that the policies and procedures outlined above comply with Chapter 10, Section 35FF, of the General Laws, which sets forth the terms, procedures, standards, and conditions with which the CEC shall identify qualified applications; process applications; make investment determinations which advance employment in the Commonwealth; oversee the progress of qualified investments; and secure the participation of other public instrumentalities, private institutions, and the federal government. However, we believe these policies should be expanded to provide guidance for additional investment in companies whose fair market value has declined. Management has stated that the CEC has an unwritten policy that no additional investment will be made in such companies until the problem which led to the fair market value decline has been corrected. However, as detailed in our recommendations, we believe the CEC

should include this unwritten policy in its written policies to mitigate the financial risk of making additional investments in underperforming companies.

The CEC's Board of Directors authorized loans, grants, and matching funds to 18 companies totaling \$19,774,773 during our audit period (see Appendix). These investments were made in accordance with the investment criteria established by the CEC. However, when investing and reinvesting funds, subsections (b) and (c) of Chapter 10, Section 35FF require the CEC to consult with an advisory committee, which was to be appointed in accordance with subsection (d) of that chapter. The committee should consist of 15 individuals with expertise and experience in at least one of the following areas:

- Clean energy technology research
- Clean energy technology development
- Clean energy investing and/or management of clean energy companies
- Making or advancing clean energy policy
- Clean energy curriculum development or workforce training in the field of clean energy or energy efficiency

The purpose of the advisory committee is to assist the CEC in investing and reinvesting the fund and in the implementation of Section 35FF. As of July 2011, the advisory committee had not been appointed.

### **c. Annual Report to the Legislature is Incomplete**

According to Chapter 23J, Section 5, of the General Laws, the CEC is required to annually submit a report on or before August 15 to the Governor, the Secretary of Administration and Finance, and the Legislature addressing "its operations, its receipts and expenditures during such fiscal year and its assets and liabilities during the fiscal year." Chapter 23J was later amended to include the additional requirement that the annual report include statements on the "ability of [ACE] to meet the requirements in Section 35FF of Chapter 10 and the ability of [RET] to meet the requirements in Section 9, and any recommendations for improving the ability of the board, the center and [ACE and RET] to meet such requirements," and for examination of the growth rate of the Commonwealth's clean energy sector, including the number of in-state jobs and businesses.

The fiscal year 2010 annual report that was submitted to the Governor, the Secretary of Administration and Finance, and the Legislature did not contain either the financial statements, a discussion of the CEC's ability to meet its statutory requirements, or any recommendations for how the CEC could better meet those requirements.

In addition, the report includes a statement that the CEC has committed approximately \$70 million to fund and create 1,414 jobs in the clean energy sector. We believe that the 1,414 figure is inaccurate because it was reached by combining three different methods of establishing job creation estimates, two of which are questionable. First, the CEC correctly reported that it had created 72 jobs through its Workforce Development Division based on actual job count. However, the CEC also reported that it created 652 of the 1,414 jobs using an out-dated federal formula for ARRA projects. This formula, which required the CEC to divide the total ARRA funds received by \$92,000 to estimate the number of jobs created, was replaced by a new formula which was not used by the CEC. For the remaining 690 jobs, the CEC used the figures that were included as a condition of loans/grants made to three companies during fiscal year 2010. These conditions required the companies to create those jobs over the life of the loans/grants (five years). Although these jobs were to be created over a five-year period, all of the jobs were reported in the CEC's fiscal year 2010 annual report as having already been created.

### ***Recommendation***

In order to address the issues in our report, we recommend that CEC:

- Review its operations and identify areas of inherent risk and vulnerability and develop specific internal control procedures to address these risks as part of a comprehensive internal control plan document;
- Conduct an annual risk assessment and update its internal control plan based on the results;
- Include its unwritten investment policy relative to tracking its investments in its written policies and procedures and develop a stop-loss policy to mitigate the financial risk associated with underperforming investments as well as requiring a formal periodic review with the Board of Directors on the status of companies in which the CEC has invested;
- Request that the independent advisory committee required by Chapter 10, Section 35FF(d) be appointed;

- Comply with the statutory requirements that its annual report include management's financial statements, comments on the ability of RET and ACE to meet their statutory obligations, and any recommendations for improving the ability of the board, the CEC, and the funds to meet those requirements; and
- Adopt a uniform method of compiling job creation information, which may involve requesting more data from sub-contractors and more active oversight of projects intended to create jobs.

***Auditee's Response***

*The [CEC is] pleased that [the OSA's] audit results found the policies, procedures and internal controls of the MassCEC to be an effective part of [its] mission to accelerate job growth and economic development of the Commonwealth's clean tech industry. We at MassCEC hold ourselves to the highest standards and work to maintain the public confidence at all times. MassCEC acknowledges your recommendations of developing a comprehensive internal control plan document, expanding our investment policies, establishing the advisory committee, fully complying with the annual statutory reporting requirements and adopting a uniform job creating methodology. The audit recommendations will be a welcomed enhancement to our robust policies, procedures and internal controls, and we will undertake to implement them as expeditiously as possible.*

## APPENDIX

### CEC Board Investment Approvals through August 31, 2010

<u>Company Name</u>	<u>Award Amount</u>	<u>Board Approval Date*</u>	<u>Type of Investment</u>
Lilliputian	\$ 99,773	3/4/2009	Follow-on Equity Investment
Premium Power	2,500,000	3/4/2009	Participation Loan with MassDevelopment
A123 Systems	2,500,000	3/4/2009	Loan
WindPole Ventures	500,000	4/14/2009	Convertible Loan
Panel Claw, Inc	300,000	4/14/2009	Convertible Loan
Lilliputian	2,500,000	5/19/2009	Participation Loan with MassDevelopment
SolarOne	240,000	7/14/2009	Loan Guarantee
1366 Technologies Inc.	300,000	12/8/2009	Cost Share Grant / Convertible Grant
Agrivida	300,000	12/8/2009	Cost Share Grant / Convertible Grant
FastCAP Systems Corporation	300,000	12/8/2009	Cost Share Grant / Convertible Grant
FloDesign Wind Turbine Corp.	300,000	12/8/2009	Cost Share Grant / Convertible Grant
MIT - Professor Donald Sadoway	150,000	12/8/2009	Cost Share Grant / Convertible Grant
MC10, Inc.	300,000	4/13/2010	Cost Share Grant / Convertible Grant
Sun Catalytix Corporation	300,000	12/8/2009	Cost Share Grant / Convertible Grant
TPI Composites, Inc.	250,000	1/12/2010	Grant
Company Catalyst	735,000	3/9/2010	Grants
FloDesign	2,700,000	3/9/2010	Convertible Grant, Loan, Grant
A123 Systems	2,500,000	4/13/2010	Loan
MTPV	500,000	4/13/2010	Convertible Note
EE Service Innovation Grants	2,000,000	4/13/2010	Grant
Hy-SyEnce	<u>\$500,000</u>	5/11/2010	Convertible Note
	<u>\$19,774,773</u>		

\*Approval doesn't represent actual completed or closed transactions