



MASSACHUSETTS
Department of Elementary
and Secondary Education

Annual Report to the Legislature on the Progress of a Pilot Program to Help Students Acquire Academic and Technical Skills to Prepare Them for Jobs in the Commonwealth’s Offshore Wind Industry

Pursuant to section 74 of Chapter 179 of the Acts of 2022, “the department of elementary and secondary education, in consultation with the executive office of labor and workforce development, shall develop and implement a pilot program for the purpose of helping students acquire academic and technical skills that will prepare them for high-demand jobs in the commonwealth in the offshore wind industry.”

June 7, 2024

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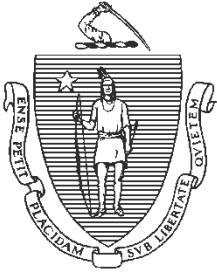
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Russell D. Johnston
Acting Commissioner

June 7, 2024

Dear Members of the General Court:

I am pleased to submit the *FY2024 Annual Report to the Legislature on the Progress of a Pilot Program to Help Students Acquire Academic and Technical Skills to Prepare Them for Jobs in the Commonwealth's Offshore Wind Industry* pursuant to section 74 of Chapter 179 of the Acts of 2022.

Any questions may be directed to Jessica Leitz via email Jessica.Leitz@mass.gov.

Sincerely,

Russell D. Johnston
Acting Commissioner

Table of Contents

Introduction 1

Pilot Program..... 3

 Credentials 5

 Funding..... 5

 Student Participation Reporting 6

Additional School Support 6

Broader Resources and Tools for K-12 Education in Sustainable Practices 6

Introduction

The Department of Elementary and Secondary Education respectfully submits this Report to the Legislature: *Annual Report to the Legislature on the Progress of a Pilot Program to Help Students Acquire Academic and Technical Skills to Prepare Them for Jobs in the Commonwealth's Offshore Wind Industry*, pursuant to Chapter 179 of the Acts of 2022, Section 74:

SECTION 74. (a) Notwithstanding any general or special law to the contrary, the department of elementary and secondary education, in consultation with the executive office of labor and workforce development, shall develop and implement a pilot program for the purpose of helping students acquire academic and technical skills that will prepare them for high-demand jobs in the commonwealth in the offshore wind industry identified pursuant to section 26 of chapter 23 of the General Laws, as inserted by section 2 of this act; provided, however, that programming shall include jobs in the offshore wind supply chain, including, but not limited to, manufacturing, construction, assembly, shipping and operations and maintenance, and any additional credentialed programming in support of the offshore wind industry.

(b) The department shall reimburse each school district at a rate of: (i) \$750 for each student in the district who earns an offshore wind industry-recognized certification for an occupation that has a high employment value or relevant industry-recognized certification that is recognized by any public institution of higher learning in the commonwealth as a basis for academic credit at such institution, and (ii) \$600 for each student in the district who earns an industry-recognized certification in the offshore wind industry that does not meet the criteria of clause (i) but addresses regional demands identified by the local MassHire Workforce Board. Any school district receiving a certification award for the offshore wind industry pilot credentialing program shall allocate at least 80 per cent of any certification award to the school whose students obtained the qualifying certification; provided, that the allocation may not be used to supplant funds otherwise provided for the basic operation of the school; and provided further, that any school receiving a certification award shall use the award to support or maintain the program, including the payment of stipends for instructors and the subsidization of fees for low-income students to obtain the certification. The department shall develop the criteria necessary to carry out the offshore wind industry pilot credentialing program and may promulgate any regulations necessary to operate the pilot program.

(c) Not later than February 1, 2023, and annually for the duration of the pilot program, the department of elementary and secondary education shall submit an annual report on the progress of the pilot program established pursuant to subsection (a), including, but not limited to: (i) the number of public school students participating in the pilot seeking certifications for high-demand occupations in the offshore wind industry; (ii) the number of such students participating in the pilot who are low-income, English language learners and students with disabilities; (iii) the specific types of certifications earned by students, including the number of each such certification earned; and (iv) recommendations on how to bring high-skill, high-demand credentialing programs to scale statewide, including any necessary funding considerations.

(d) Notwithstanding any general or special law to the contrary, the Massachusetts clean energy technology center may transfer not more than \$3,000,000 from the Massachusetts Offshore Wind Industry Investment Trust Fund established under section 9A of chapter 23J of the General Laws to the department of elementary and secondary education; provided, that said funds shall also be expended by the department to reimburse school districts for initial costs incurred as a result of

participation in the pilot program, including, but not limited to, the acquisition of required materials and equipment and the hiring of qualified teachers.

Section 74 of Chapter 179 of the Acts of 2022, enacted into law on August 11, 2022, specifies that “the department of elementary and secondary education, in consultation with the executive office of labor and workforce development, shall develop and implement a pilot program for the purpose of helping students acquire academic and technical skills that will prepare them for high-demand jobs in the commonwealth in the offshore wind industry.” Section 74 further stipulates:

“(c) Not later than February 1, 2023, and annually for the duration of the pilot program, the department of elementary and secondary education shall submit an annual report on the progress of the pilot program established pursuant to subsection (a), including, but not limited to:

- (i) the number of public school students participating in the pilot seeking certifications for high demand occupations in the offshore wind industry;
- (ii) the number of such students participating in the pilot who are low-income, English language learners and students with disabilities;
- (iii) the specific types of certifications earned by students, including the number of each such certification earned; and (iv) recommendations on how to bring high-skill, high-demand credentialing programs to scale statewide, including any necessary funding considerations.”

Finally, Section 74 states that “the Massachusetts clean energy technology center may transfer not more than \$3,000,000 from the Massachusetts Offshore Wind Industry Investment Trust Fund established under section 9A of chapter 23J of the General Laws to the department of elementary and secondary education; provided, that said funds shall also be expended by the department to reimburse school districts for initial costs incurred as a result of participation in the pilot program, including, but not limited to, the acquisition of required materials and equipment and the hiring of qualified teachers.”

This report is intended to serve as a joint report for 2023 and 2024 in order to more comprehensively summarize the full planning and development process for the pilot programs, which were in their initial planning phases at the initial reporting deadline.

Two Phased Pilot Program

Phase 1: High School Pathways:

Throughout FY24, The Executive Office of Education (EOE) and the Department of Elementary and Secondary Education (DESE) partnered with the [Massachusetts Clean Energy Center \(MassCEC\)](#) to design the first phase of a pilot program to help meet the workforce needs of the Commonwealth’s booming clean energy economy – since 2010, the clean energy industry has grown by 73%, which accounted for more than 14% of all net jobs created in the state during that time. The new Clean Energy Innovation Career Pathway will develop the next generation of clean energy leaders in Massachusetts by providing students industry recognized credentials and experiential learning opportunities in the field. Clean Energy Innovation Career Pathways were advised to align program consideration to occupations identified in the MACEC 2022 Clean Energy Report <https://www.masscec.com/resources/2022-massachusetts-clean-energy-industry-report> and occupations identified by the Workforce Skills Cabinet Regional Blueprints as well as those noted in the Skill Capital Grant application. These districts received planning grants for the now approved Clean Energy pathways:

School	Pathway	Amount	Description
<i>Carver Middle High School</i>	Clean Energy	\$25,000	Students will take challenging coursework in environmental science, physics, engineering, and mathematics, and participate in either an internship or a capstone with support from MassHire South Shore and employers to be identified by the Massachusetts Clean Energy Center.
<i>Hadley - Hopkins Academy</i>	Clean Energy	\$12,075	Students will take challenging coursework in environmental science, physics, engineering, and mathematics, and participate in either an internship or a capstone with support from MassHire Franklin Hampshire, and the following local employers: JAMROG HVAC, the Town of Hadley, UMass, NEXAMP, and SWCA Environmental Consultants.
<i>Norwood High School</i>	Clean Energy	\$25,000	Students will take courses such as Introduction to Transportation Technology–Clean and Renewable Energy Focus; Engineering 1–Clean and Renewable Energy Focus; and Introduction to Electric Vehicles and Automotive Electrical Systems via Benjamin Franklin Cummings Institute of Technology. Students will participate in capstones with support from MassHire Metro SouthWest, the Town of Norwood, and Norwood Light.

<i>Reading Memorial High School</i>	Clean Energy	\$25,000	Students will take courses such as Environmental Issues, AP Environmental Science, and Environmental Engineering, Engineering Ethics, or Climate, Crisis, and Society offered via a partnership with UMass Lowell. Students will participate in either an internship or a capstone with support from MassHire Metro North, Weston & Sampson, and other employers to be identified by the Massachusetts Clean Energy Center.
<i>Revere - CityLab Innovation School</i>	Clean Energy	\$25,000	Students will take courses such as Introduction to Alternative Energy Systems, Solar Energy and Photovoltaics, Electrical Code I, Electrical Code II, and participate in internships with support from MassHire Metro North, ReVision Energy, All in Energy, IBEW 103, PowerCorp Boston, and Speak for the Trees.

Relevant public announcements are also available here:

- [Healey-Driscoll Administration Announces Clean Energy Innovation Career Pathway for High School Students | Mass.gov](#)
- [Healey-Driscoll Administration Awards New Innovation Career Pathways to 27 High School Across the Commonwealth | Mass.gov](#)

As part of the pilot planning process, DESE worked with the Executive Office of Education, the Executive Office of Labor and Workforce Development (EOLWD) and MassCEC to identify region specific recommendations for clean energy programs, identify existing local training programs, and create a Clean Energy Career Awareness Curriculum Map that maps key essential questions and learning objectives, aligned to existing academic standards, potential career opportunities, and lesson outlines. Here is an example lesson:

Lesson 7: Offshore Wind and Massachusetts’ Transition to Renewable Energy Sources

Essential Question: How will large-scale Offshore Wind projects transform Massachusetts’ energy sources?

Learning Objectives: Students will be able to:

- Describe how wind turbines capture energy, convert it to electricity, and flow into homes and the community.
- Identify examples of climate-critical professionals who work together to design, build, and maintain offshore wind farms.
- Discuss how Massachusetts historic ports and other assets like the Wind Testing Technology Center contribute to the Offshore Wind industry.
- Anticipated MA Connection(s): MassCEC’s Wind Technology Testing Center, New Bedford Terminal, Salem Port

In SY23-34, the grantees utilized their planning grants to plan for launch in SY24-25. Students in these programs will explore a future in the critical renewable energy sector by working with

employers in the field like the Massachusetts Clean Energy Center and their Wind Technology Testing Center to train the next generation of clean energy leaders and meet the workforce needs of the growing renewable energy sector. Signature learning experiences include advanced coursework, employer-engaged work-based learning, and career planning related to the industry. DESE and partners will work with the schools to identify best practices and develop implementation tool kits that can then be adopted by other high schools. DESE anticipates that 100-125 students will be enrolled in SY24-25; the subsequent legislative report will include those numbers and more detailed information on enrollment.

Phase 2: Industry Credential Reimbursement Grant

In SY24-25, we will launch phase two of the pilot program by providing a grant opportunity for high schools to receive per student reimbursement for student who obtain a Wind Industry Credentials following the funding requirements outlined in the legislation. The organizing partners anticipate pilot grant funding allocated from existing resources will support 6-10 high schools.

High School students participating in the grant program will gain industry credentials at no direct cost to them from a pre-approved list of Wind Industry Recognized Credentials including safety (OSHA/ CPR), career and work readiness training as well as technical skill certification joint established by the operational partners. Phase two pilot program implementation design may include student's participation during traditional school hours, after school, evening sessions, or summer programing.

Phase two pilot grant funding resources will provide high schools reimbursement per students as well as additional resources for program development and implementation. While open for eligibility for any public high school priority may be given to applications located in Wind development regions as identified by the Interagency Offshore Wind Council. Preference may also be given to applicants with students enrolled in CTE programs as it will support fully leveraging existing technical instruction consideration (frameworks, instructor licensing, shop safety, facilities) as well as the Student Information Management System (SIMS) capabilities to meet reporting requirements for demographics and credentialing. Additionally, grant award priority may be given to applicants utilizing industry credentials that are recognized by public higher education partners for credit for prior learning for college credits.

Funding

Throughout FY24 for Phase One, DESE, in partnership with the Executive Office of Education, and MassCEC, funded a pilot program to expand Innovation Career Pathways to include a Clean Energy Pathway for six school districts. DESE utilized Innovation Career Pathways and Early College funding to invest in planning grants totaling \$126,075. These programs will enroll their first cohort of students in FY25 and will be funded for implementation following current Innovation Career pathway funding practices available to all designated programs.

Phase two funding in FY25 will be allocated from the partners existing resources. As currently planned, in FY26, based on pilot results, future offerings the programs may become eligible for

funding per Section 74 of the legislation through the Massachusetts Offshore Wind Industry Investment Trust to reimburse school districts for costs incurred as a result of participation in the pilot program, including, but not limited to, the acquisition of required materials and equipment and the hiring of qualified teachers and the reimbursement of districts for expenses relevant offshore wind industry-recognized certifications earned by students.

Student Participation Reporting

Phase one pilot programs will enroll students in the SY2024-25 school year. Enrollment in programs will be reported through DESE required district reporting. This reporting will also capture credentials earned and student participation in work-based learning capstones as the program progresses. Additionally, Phase two pilot programs is being confirmed but is anticipated to be reported leveraging DESE reporting systems. Relevant information on student participation will be included in subsequent reports.

Additional School Support

In 2023-24, MassCEC awarded grants to entities around the state to support the development of a skilled and capable workforce, MassCEC has awarded five rounds of grant funding, totaling over \$11 million, to Massachusetts institutions, labor unions, non-profit organizations, and businesses to support new offshore wind workforce training and development programs and projects in the Commonwealth. Several grantees are partnering with schools. For example, MassHire Cape and Islands was among the awardees with objectives to support local high school career technical education programs expand awareness and opportunities in Wind and Clean Energy through cooperative education and internship opportunities. Participating schools include: Upper Cape Cod Regional Technical School (UCT) and Cape Cod Technical High School (CCT). Additionally, [Martha's Vineyard Center for Education & Training \(MVCET\)](#) award targeted supporting Martha Vineyard High School Programs

Broader Resources and Tools for K-12 Education in Sustainable Practices

The Department as identified a need to integrate these skills across all career education opportunities in addition to supporting unique roles created by this industry. In particular, the following fields were identified in the report and will be supported for clean energy skills:

High-Growth Occupations in the Offshore Wind Focus Area

Electricians	(+120 additional workers by 2030) will work on a range of activities, including connecting turbines to transmission cables.
Miscellaneous Assemblers and Fabricators	(+120) will assemble parts of turbines.
Structural Metal Fabricators and Fitters	(+100) will assemble larger structural pieces of turbines and jackets.
Miscellaneous Metal and Plastic Workers	(+80) will be involved in the manufacturing of turbine components.
Miscellaneous Installation, Maintenance, and Repair Workers	(+110) will ensure facilities and machinery are operational. Some of these roles may include maintenance on or around turbines, which may require completion of several Global Wind Organization (GWO) courses.

Since many of these skills are already integrated into program areas, DESE CTE has worked with schools to increase awareness of the application of these skills to the clean energy and wind energy sector. In SY21-22, DESE conducted initial training with Bristol Community College of CTE administrators and educators to increase awareness of the applicable skills across various CTE programs and the Clean Energy industry. The 30 educators in attendance represented schools across the state. The session addressed the following learning objectives.

- The energy mix and offshore wind's role in it
- Where offshore wind developments can be found around the world
- Onshore versus offshore wind – the key differences
- Who is big in offshore wind - 'developers' and original equipment manufacturers (OEMs)
- The stages required to bring an offshore wind farm to life
- The stages of an offshore wind farm's life
- The main components of an offshore wind farm
- The importance of effective operations and maintenance
- Latest perspectives on floating versus fixed structures
- The composition of the offshore wind supply chain, including possible entry points
- The key US stakeholders in offshore wind
- How the US offshore wind sector might develop over the next 10 years
- The skills required to grow an indigenous US offshore wind industry
- Offshore wind terminology, via a glossary of term

Since the training, DESE has continued to build out cross-program resources. DESE CTE is in the process of assessing and modernizing all of its CTE Frameworks. Massachusetts offers 44 CTE program areas in 11 industry clusters, and each program area has a framework that ensures

industry alignment with educational experiences. Massachusetts is executing a process that includes conducting labor market analysis for each program area and facilitating employer summits prior to engaging in educator summits on the frameworks. This process allows for the opportunity to remove, adjust, combine, or add programs based on economic need and shifting industry standards delivered through the [Career-Connected Learning Hub \(CCL Hub\)](#), a website that will house expansive college and career connected learning resources in a one-stop-shop for any stakeholder to access. Among other resources, the CCL Hub centers the CTE Frameworks, including easy to read and up to date labor market information for each framework program area. The CCL Hub is a practical tool that closes the distance between practitioners in the fields of education and workforce and the State's vision for career and technical education programs that support a thriving workforce and inclusive economy. The CCL Hub at present also includes information on Exploratory in career and technical education programs and information on work-based learning. Additional resources are being added to the CCL Hub on a rolling basis. The CCL Hub will become a central source of information about career-connected learning in Massachusetts, including resources for integrating Wind Energy and Clean Energy career education.