

Clean Energy Workforce Training Capacity Building Projects
Updated 11-23-09

Project Lead Amount/Level Grant Period	Project Description	Employer and Other Partners
<p>Lead: Asian American Civic Association Amount: \$117,370</p>	<p>The Energy Efficiency Technician Apprenticeship Program (EETAP) is a three-part apprenticeship program designed to train immigrants/non-native English speakers and other low-income and under-skilled individuals to be certified Energy Efficiency Technicians. The three parts of the program will consist of:</p> <ol style="list-style-type: none"> 1. a pre-apprenticeship component designed to prepare participants to be ready for an apprenticeship; 2. an apprenticeship component that is registered with the Massachusetts Division of Apprentice Training (DAT) that consists of on-the-job training and classroom instruction in related topics; and 3. a Building Performance Institute (BPI) certification preparation component designed to prepare apprentices and others to take and pass the Building Analyst certification exam. <p>With funds from the Clean Energy Workforce Training Capacity Building initiative, the Asian American Civic Association (the lead partner), in partnership with clean energy businesses and lead instructor Jonah DeCola of Clean and Smart, will engage in several capacity building activities, including:</p> <ul style="list-style-type: none"> • curriculum development for the pre-apprenticeship component, the on-the-job work processes and related classroom instruction for the apprenticeship component, and for the BPI certification preparation component; • development of a “train the trainer” component designed to recruit and train four additional program instructors with language skills in Chinese, Haitian Creole, Spanish, and Arabic to be BPI and Occupational Safety and Health Administration (OSHA) certified; • development of necessary components for AACA to become a certified and accredited BPI and Residential Energy Services Network (RESNET) training site, with the goal of training non-native English speakers and other low-income and under-skilled individuals to be BPI and/or RESNET certified; • development of the apprenticeship which includes employer outreach and recruitment, application and registration with MA DAT, and research into forming a local clean energy industry association; • discussions with the Benjamin Franklin Institute of Technology (BFIT) to develop an articulation agreement that would provide 	<p>Employers: Clean and Smart, LLC, Next Step Living, Inc., Byggmeister, Inc.</p> <p>Other Partners: Jonah DeCola, Benjamin Franklin Institute of Technology</p>

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	<p>an opportunity for EETAP apprentices to earn college credit; and</p> <ul style="list-style-type: none"> the purchase of training equipment for the “train the trainer” component and classroom instruction portion of the apprenticeship. <p>The project team will consist of the Deputy Director of AACA, who will oversee the entire project and its capacity building activities; a Project Coordinator who will be responsible for employer outreach and recruitment, application and registration of the EETAP with MA DAT, and coordination of curriculum and evaluation development with all relevant partners; Jonah DeCola of Clean and Smart who will be the lead instructor and lead party in curriculum development; and clean energy businesses (three to start) who will provide input and advice for curriculum development, apprenticeship development, participate on the Advisory Board, and sponsor and hire apprentices and graduates when the EETAP is implemented after the capacity building activities conclude. Other potential partners include the Braintree office of the federal OSHA to assist in development of safety training modules and certification of program instructors; the MA DAT and federal US Department of Labor Employment and Training Administration’s Office of Apprenticeship to guide and inform the apprenticeship application and registration process.</p> <p>The majority of training for apprentices once the EETAP is launched will be conducted on-the-job at employer partners’ businesses. The classroom instruction for all three apprenticeship components as well as the “train the trainer” component will be primarily conducted at AACA, located in Boston’s Chinatown neighborhood.</p>	
<p>Lead: Blackstone Valley Vocational Regional School District Amount: \$150,000</p>	<p>Blackstone Valley Vocational Regional School District’s EnSAVE Program (<u>E</u>nergy <u>S</u>olutions <u>A</u>ccentuating <u>V</u>ocational <u>E</u>ducation) has two major themes:</p> <ol style="list-style-type: none"> 1. SAVE energy through efficiency, conservation and weatherization and 2. Spend to SAVE on solar and other clean energy technologies. <p>The primary goals of the grant proposal are to:</p> <ol style="list-style-type: none"> 1. train their network of vocational technical teachers in three areas of clean energy technologies, i.e., building science/weatherization, 	<p>Employers: altE Store, NESEA, Future Solar Systems, Banwell Architects</p> <p>Other Partners: Employment & Training Resources, Central MA Reg. Employment Board, JFYNetWorks, Blackstone Valley Reg. Voc. Tech High School, Greater Lawrence Reg.</p>

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	<p>solar photovoltaic, and solar domestic hot water, who in turn will</p> <ol style="list-style-type: none"> 2. instruct their students in the same technologies and 3. prepare adults in the evening with these same skills, leading to certification whenever possible. <ul style="list-style-type: none"> • Lead Applicant/Fiscal Agent – Blackstone Valley Tech would be responsible for fiscal and operational management of the grant and dispersal of monies to each of the four program implementation sites for purchase of training materials. • Program Implementation Sites – Four vocational technical schools would provide professional development on-site for high school personnel and training for adult residents in the community. Each would serve as a mentor school to other school districts participating in the consortium. Several sites, including Blackstone Valley Tech, Upton; Greater Lawrence Tech, Andover; Tri-County Tech, Franklin; and Upper Cape Tech, Bourne have indicated their interest in fulfilling this role. Selections will be made once the partnership is formally organized. The purpose of the grant program would be to prepare teachers and related personnel to plan and implement renewable energy instruction in order to teach their students for employment readiness purposes. This train-the-trainer model would be expanded to incorporate adult evening training programs. Solar energy training structures would also be built and energy efficiency diagnostic materials purchased to support training. • Affiliated Program Sites – Each of these schools would participate in training of their key staff through the approach described above. These high schools may also provide staff to design curricula and plan courses linked with training to be offered through the program implementation sites. • Instructional Development Teams – Teams would meet regularly with experts in the field to plan and develop instruction. New curricula and related training would be developed. Areas to be addressed would be building science/energy efficiency, solar photovoltaic and solar domestic hot water, including certification programs. Training would be developed and delivered with three different models, i.e., interactive webinars, online courses and on-site training instruction. • Cooperative Business Partners – Professionals from our corporate business and industry affiliates, organizations and local labor unions would work with the partnership to incorporate and modify 	<p>Technical School, Tri-County Reg. Voc. Tech High School, Upper Cape Cod Reg. Technical School, Building Event Solutions, altE University, Southeastern Reg. Voc Tech School, South Middlesex Reg. Voc. Tech High School, Minuteman Career & Tech. High School, Northeast Met. MA. Reg. Voc. School, MAVA Professional Development Committee, Benjamin Franklin Institute of Technology, MassBay Community College Consortium, Blackstone Valley Education Foundation, Valley Tech Educational Foundation, Worcester Community Action Council, Blackstone Valley Chamber of Commerce, Local Carpenters Union #535, Local Carpenters Union #107, Fast Forward Productions</p>

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	<p>existing curricula and instruction, provide advice to instructional development teams, train school faculty and arrange internships, cooperative education placements, apprenticeships and employment.</p> <ul style="list-style-type: none"> • Postsecondary Partners – Relationships and cooperative programs with postsecondary institutions would be essential to the success of the project. Tech prep and dual enrollment linkages would be developed through integration of instruction. • Agency Support – Relationships with the REBs/WIBs, one-stop career centers, chambers of commerce, community action councils, local school foundations, and other partnering groups would provide assistance in planning, organization, advisement and service delivery. • Project Advisory Group – This group would be comprised of representation from each of the project partners and would meet up to five times during the project period to review and make recommendations regarding implementation and service delivery strategies. 	
<p>Lead: Bristol Community College Amount: \$196,666</p>	<p>Bristol Community College, Cape Cod Community College and Massasoit Community College, are proposing the Green Energy Design and Building Project (GEDB) in partnership with green businesses and regional high schools. During the anticipated project period of September 1, 2009 to December 31, 2010, the GEDB Project will design and implement an online course, Green Energy Design and Building, targeted to building industry professionals seeking to ramp up their green skills or to open new lines of business in the difficult economy. Many building and trade professionals are out of work and retooling with green skills creates new opportunities. The GEDB course will provide a broad-based introduction to the available technologies and techniques that are commonly used in green building and design, coupled with hands-on, onsite skill-building workshops. The course will be composed of discrete, self-contained modules permitting non-credit learners to select as many or few modules as they need; credit students will be required to take all modules. Topics will include smart/green design principles, materials and technology for: solar thermal and solar photovoltaic; HVAC including geothermal systems; energy efficient lighting and electronics; water conservation; building envelopes, and roofing. Participants will learn the latest information on building codes, industry certifications, methods of estimating return on investment, and tax credits/other incentives for building green. The GEDB course will be offered as a dual enrollment option in high</p>	<p>Employers: Alteris Renewables, Johnson Controls, Konarka, RISE Engineering</p> <p>Other Partners: Bristol Community College, Cape Cod Community College, Massasoit Community College, Cape and Island Workforce Investment Board, Greater New Bedford Workforce Investment Board, South Coastal Workforce Investment Board, Blue Hills Regional Technical School, Cape Cod Regional Technical High School, Diman Regional Vocational Technical</p>

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	<p>schools, as well as a non-credit or credit-based course through the online learning systems of the community colleges. The project will also develop guidelines to assist high schools in adapting the course for secondary use (no college credit). Modules and workshops will be digitally archived to support pod-casts. The project will design Sustainability and Green Energy (SAGE) Career-Educational pathways from secondary schools to a range of regional green degree and certificate programs and careers. This activity will identify gaps, improve coordination and expand upon articulation agreements where needed. The GEDB Course will offer one option for articulated credit in the proposed SAGE Pathways.</p> <ul style="list-style-type: none"> • Phase 1 of the project (months 1-9) will focus on GEDB course development and the mapping SAGE Pathways for the region. With partners, the project team will design a curriculum framework for the GEDB course that: a) identifies the course goals; and b) outlines the module components including: learning outcomes, key resources, online and onsite learning activities; and assessment rubrics. Curriculum Design Teams will complete course content using a common template; each team will develop several modules in their areas of content expertise. In Phase 1 the Advisory Board partners will map existing and proposed green educational paths, careers and courses to create SAGE Career-Education Pathways that incorporate a core SAGE Certificate that will be equivalent across all colleges. The model will show current and possible pathways outlining existing articulations from secondary to postsecondary levels and cross laterally. • In Phase 2 (months 10-12), qualified instructors across the region will be trained to teach the GEDB course and will pilot it with three cohorts. Advisors will seek additional resources to build other courses, certificates and degrees identified in the SAGE Pathways model. • In Phase 3 (months 12-15), the course will be evaluated and improved and new articulation agreements implemented. 	<p>High School, New Bedford High School, Greater New Bedford Vocational Technical High School, Southeastern Regional Vocational Technical High School, South Shore Vocational Technical High School</p>
<p>Lead: Nuestras Raíces, Inc. Amount: \$ 145,468</p>	<p>The Roots Up Clean Energy Workforce Project is a community-driven project to enhance the capacity of the region to create opportunities for the young people of Holyoke and the region in the growing Clean Energy industry. The project will create new academic courses in Holyoke Community College's (HCC) Sustainability Studies Program and create a Renewable Energy Technology Certificate Program with tracks</p>	<p>Employers: Co-op Power, Steibel Eltron, USA, Green in Green, Beyond Green</p> <p>Other Partners:</p>

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	<p>in Solar Thermal Technology, Photovoltaic Technology, and Small Wind Technology. Each track consists of two introductory courses, two specialty courses, and a final internship in the focus technology area. To provide adequate hands-on training experience, a comprehensive Community Learning Labs Program will be piloted for the Solar Thermal Technology track. With clean energy educator and clean energy business input, these course and training developments will ensure that the new HCC programs meet industry standards and will most-effectively provide pathways for the low-income youth of the region to enter the clean energy sector.</p> <p>The project will take place in Holyoke, Massachusetts, centered at Holyoke Community College and with a new learning lab at the Nuestras Raíces Roots Up training center in downtown Holyoke. A highly skilled and experienced team will implement the project:</p> <ul style="list-style-type: none"> • Nancy Abdalla, Program Director of the Roots Up Green Jobs Training Program will direct the project • Kate Maiolatesi, Chair of the Sustainability Studies Program of HCC will develop and install new curricula • Lynn Benander of Co-op Power and Frank Steibel of Steibel Eltron USA will provide Clean Energy business expertise for inclusion in the curricula • Donavin Gratz of Green in Green provides specific expertise in solar thermal technology, and Sean Jeffords of Beyond Green in deep energy retrofits. <p>The project will draw heavily from existing curricula and programs of Greenfield Community College and Cape Cod Community College, but will use local community-based training program (Nuestras Raíces' Roots Up) and employer input to design programs that meet the specific challenges and build on the specific assets of Greater Holyoke. It will include a special ESL class in Clean Energy, and courses on Sustainable/Renewable Energy Sources, Energy Efficiency and Conservation Methods, Intro to Solar Energy, Intro to Wind Energy. Certification programs will include Solar Thermal Systems Installation and Photovoltaic Systems Installation, interfacing with national standards. The project will develop a new community learning lab, mobile learning center lab stations at HCC, and a closer relationship and Articulation Agreement with Nuestras Raíces' Roots Up program to address the need for step-by-step transitions of Holyoke's unique population of youth into the Clean Energy workforce.</p>	<p>Holyoke Community College</p>

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	<p>Existing models of curriculum and programs will be compiled in the summer of 2009. In the fall of 2009, course curricula, certificate programs and Learning Center Labs will developed. By spring 2010, all courses, programs and certifications will be approved. In summer 2010 the Certificate Internship programs will be developed, marketing will begin, and be ready for a Fall 2010 launch of programs.</p>	
<p>Lead: University of Massachusetts, Boston Amount: \$187,000</p>	<p>UMass Boston’s proposed initiative will provide the workforce with the skills and knowledge to enable them to play more effective roles as professionals, policymakers, and business managers. It will generate a cluster of clean energy capabilities that will increase the competitiveness of the region, increasing investment and employment with clean energy firms and related service sectors.</p> <p>This initiative will be based at the University of Massachusetts, Boston, a public university capable of delivering high quality, accessible, and cost effective education to a wide range of traditional and non-traditional students. They will develop new interdisciplinary degree and certificate programs at the graduate and undergraduate levels that build on existing campus strengths in the science, business, politics, economics, and policy dimensions of clean energy, climate change. It will also extend and develop existing programs to bring a sharper focus on clean energy and the workforce skills demanded in a low-carbon energy efficient economy. This initiative will complement the proposed Massachusetts Energy Training and Education Consortium (METEC), which is more focused on the practical skills required of trades people directly engaged with clean energy and energy efficiency.</p> <p>The core of this initiative will be new graduate and undergraduate certificate programs in clean energy, designed for professionals seeking focused, compact, and low-cost career development. The certificates will be valuable for mid-career professionals as well for degree students seeking a unique qualification. The certificate programs are part of a broader environmental and clean energy education initiative at UMass, with several elements. They are developing a Professional Science Masters degree program with tracks in Environmental and Carbon Management, and Environmental Science. They are enhancing and extending their Environmental Management Specialization within the MBA program to bring a sharper focus on clean energy and climate change. They will also develop their undergraduate minor in Environmental Studies in a similar fashion. The Collins Center for Public Management in the McCormack Graduate School of Policy Studies is proposing training modules to help Massachusetts municipalities</p>	<p>Employers: Rockport Capital, Solectria Renewables, Electrochem, Inc., Great Point Energy</p> <p>Other Partners: AMR Research, Sustainable Energy Advantage, Energy New England</p>

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	<p>measure and manage their energy efficiency and carbon profiles. They are also planning shorter executive education programs and workshops.</p> <p>The project team includes senior faculty from the College of Management and the Department of Environmental, Earth, and Ocean Sciences. The faculty has substantial experience in developing new programs and in the topics of clean energy, environmental science, climate change, environmental policy, energy law, and natural resource economics. The Center for Sustainable Enterprise and Regional Competitiveness (SERC) will coordinate the development of the programs.</p> <p>The project plan entails:</p> <ol style="list-style-type: none"> 1. assessment of market needs using a survey and interviews with project partners 2. development of program structures, in terms of required and elective courses in each program 3. development of detailed curriculum and assignment of instructors for each course 4. initiate governance approval process for new courses and programs 5. marketing to potential participants, and 6. implementation, review and feedback. 	
<p>Lead: Western New England College Amount: \$153,036</p>	<p>The Western New England College School of Engineering, in collaboration with their industrial partners, proposes to develop a comprehensive green engineering program to help meet the workforce needs for this rapidly developing industry. The emphasis of the proposed project is to fully integrate green engineering theory and practice into the engineering curricula at Western New England College. Wind energy technology will be integrated through collaboration with FloDesign Inc., FloDesign Wind Turbine Corp., and Cape Wind Associates, and energy management will be integrated through collaboration with CMF Engineering and Pioneer Valley Energy Center. The project team consists of the faculty from multiple engineering departments at Western New England College, as well as personnel from our industry partners.</p> <p>The project plan is:</p>	<p>Employers: Cape Wind Associates, FloDesign Inc., FloDesign Wind Turbine Corp., Pioneer Valley Energy Center, CMF Engineering</p> <p>Other Partners:</p>

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	<ul style="list-style-type: none"> • to develop all the course materials and the corresponding laboratory experimentations; • to complete the outdoor green engineering laboratory learning platform; • to support an internship program for engineering students to work in the leading companies in the area of clean energy; and • to develop a novel micro-wind turbine that will become part of a hands-on training laboratory experience. This micro-wind turbine, which represents the next generation of renewable energy, will be used as a test bed and teaching tool in the green engineering program. <p>The timeline for this project is from August 2009 until December 2010. At the start of the Fall 2009 academic year, the School of Engineering at Western New England College will be introducing a green energy concentration in both the Bachelor of Science in Mechanical Engineering (BSME) and Bachelor of Science in Electrical Engineering (BSEE) programs to build the training capacity to graduate mechanical and electrical engineers for the clean energy workforce. The concentration consists of a sequence of six courses at the junior and senior levels. The courses cover a range of topics in renewable energy, as well as, energy conversion, efficiency and management. The School of Engineering has already embarked on the development of an outdoor green engineering laboratory learning platform for WNEC students that consists of solar photovoltaic energy, solar heat, and wind power.</p>	