

FY09 ARC Renewable Energy and Energy Efficiency RFP Training and Certification Programs

Open Date: February 18, 2009

Close Date: May 29, 2009

Announcement Date: June 30, 2009

ARC Grant Funds Available: \$250,000. Maximum award \$40,000.

ARC anticipates providing seven to ten grant awards under this program.

This Appalachian Regional Commission (ARC) grants program will provide support for the implementation of Energy Efficiency and Renewable Energy training and certification programs for adults. These programs can be delivered by postsecondary institutions, such as vocational and technical schools, community colleges, and 4-year colleges and universities, as well as by trade associations, non-profit organizations, and government entities. These targeted training programs will be designed to help develop trained employees for supply chain jobs in the renewable energy and energy efficiency fields, as well as provide certified installers of renewable energy (wind, solar, geothermal, fuel cells, or biofuels) and energy efficiency technologies in the marketplace. The grants program will also assist in implementing energy efficiency education curricula, such as USGBC LEED, ASHRAE, IECC and other energy efficiency programming¹.

It is expected that ARC will award seven to ten grants, up to \$40,000 each, for \$250,000 in total awards. Grantees will be required to provide matching funds at a ratio of \$1 of support for each grant dollar. Activities supported by these grants are expected to be completed within 18 months of the award date. Funded activities will be promoted by ARC to a range of partners, and may receive exposure in local, regional, and/or national media.

ARC funds may be used to purchase or license existing curricula, defray training or other staff costs, purchase course supplies or equipment associated course implementation, and other related costs. ARC funds may only be used for curriculum development if no suitable curriculum is available in the marketplace.

Project Examples

Wind-Solar Energy Certified Education (WISE) program, Frostburg State University, Maryland
One example of a successful ARC-funded training program in this field is the Wind-Solar Energy Certified Education (WISE) program, at Frostburg State University, in Maryland. A certificate program on design, installation, and maintenance of solar and wind powered residential electric generation systems was developed and offered as an 8-week interactive online instruction with a 3-day conventional on-campus instruction, including hands-on training and lab

¹ See p. 8 for training and curricula resources.

work. Workshop participants were prepared to take the certification test offered by the North American Board of Certified Energy Practitioners (NABCEP) for the Solar PV Entry Level Certificate of Knowledge Exam, and the students were provided with basic knowledge on residential wind energy systems. The program has graduated over 30 students per course, and was recognized with a ‘Champion Award’ from the Solar Energy Industries Association in the fall of 2008. Information on this program may be viewed at:

<http://faculty.frostburg.edu/engn/soysal/Activities/Training.html>

Energy Efficiency Training Workshops

A grantee could host a series of energy efficiency training workshops targeting building professionals such as contractors, home builders, building code officials, local government officials, architects, realtors, and other interested parties. The workshops could focus on 2006 International Energy Conservation Code practices, ASHRAE 2007 standards, or USGBC LEED certification. Workshops could emphasize the importance of cost effective energy-efficiency measures, and involve professional trade associations as co-sponsors to help recruit participants, such as local builders associations, architects, etc.

Background

Appalachia enjoys an abundance of cultural, natural and structural assets, from its scenic mountains and small towns to its rivers, forests, music, and energy resources. These wide-ranging resources can play an important role in building a strong and sustainable “asset-based” economy, bringing jobs and prosperity to rural communities while preserving their character. This grants competition is designed to assist communities in leveraging renewable energy and energy efficiency resources to create jobs and revitalize their economies.

Appalachia and energy have been closely linked throughout the history of the nation, through the first production of oil to the importance of coal mining in the Region. By using its full range of energy resources and staying at the forefront of emerging energy technologies and practices, the Region has the potential to increase the supply of locally produced, clean, affordable energy, and create and retain jobs. This approach will help the Region find new ways to satisfy domestic energy demand, minimize environmental impact, and attract service and supply side industries and businesses that rely on energy resources to grow and sustain jobs. Developing Appalachia’s energy potential will provide clean, safe, affordable, locally produced energy to customers, create and retain jobs, help companies stay competitive, and keep the Region economically strong.

In 2006, the Commission released *Energizing Appalachia: A Regional Blueprint for Economic and Energy Development*, to provide a strategic framework for the promotion of new energy-related job opportunities throughout the Appalachian Region. Approved by the governors of the 13 Appalachian states and the ARC Federal Co-Chair, the blueprint was developed in response to the changing energy supply, policy, and use environment.

In developing the blueprint, the Commission created an energy advisory council made up of one energy expert from each of the 13 Appalachian states, local development district representatives, and two federal representatives. Members of this group used their expertise, ideas, and experience, as well as the information gathered by ARC, to develop regional energy strategies

and identify opportunities for ARC and its member states to address the changing energy market environment.

The Commission has identified three basic strategic objectives for the Region:

1. Promote energy efficiency in Appalachia to enhance the Region's economic competitiveness.
2. Increase the use of renewable energy resources to produce alternative transportation fuels, electricity, and heat.
3. Support the development of conventional energy resources, especially advanced clean coal, in Appalachia to produce alternative transportation fuels, electricity, and heat.

The Appalachian Region is well positioned to take advantage of all the economic development opportunities in today's changing energy landscape. The Region possesses a diverse set of energy resources that hold the potential to generate additional businesses and jobs.

ARC Federal Co-Chair Anne B. Pope stated that "the blueprint shows the way to maximizing the development of Appalachia's abundant natural energy resources. It draws on the input of over 100 industry experts, educators, government officials, and entrepreneurs in assessing the Appalachian Region's broad energy picture. Appalachia is one of the nation's richest areas in energy assets, and we believe it can become a leader in new energy development." (Visit www.arc.gov/energy for a copy of the Blueprint.)

Renewable Energy and Energy Efficiency:

Significant renewable energy opportunities can be found in the development of energy from biomass, biofuels, wind, solar power, and hydropower. Energy from biomass converts specially grown crops, sawmill wood residue, agricultural wastes, and other organic matter into new energy sources and fuels. The total annual biomass resources for the Appalachian states are estimated to be over 108 million tons. Biofuel potential is estimated to be 500 million gallons annually, based on converting 2005 output for corn and soybean production to ethanol and biodiesel fuels. Additional potential is available from the commercialization of new cellulose-based biofuel technologies, which are currently being developed.

Wind power is significantly underdeveloped in the Region, and has the greatest potential for development along the ridge lines of the Appalachian Mountains. There are 528 megawatts of installed wind power capacity in the Appalachian states, nearly 1,000 megawatts of planned capacity, and the potential for over 11,000 megawatts of additional capacity.

Solar power's best potential in the eastern United States, including Appalachia, is likely to be for both residential and commercial application. In the Appalachian Region, production of residential and commercial photovoltaic (PV) power is currently viable in southern Appalachia, and several PV manufacturing plants are located throughout northern Appalachia. Passive solar installations such as day-lighting, solar ventilation air preheating, hot water heaters, and pool heating may also provide an effective return on investment in solar technology.

Small and low-impact hydroelectric capability is another largely undeveloped energy resource in Appalachia. The Region is traversed by several major rivers and watersheds that create numerous

opportunities for small-scale and low-flow hydropower installations. This category of hydroelectric generation is based on damless technology. Total hydropower potential could be as high as 5,700 megawatts of average available capacity.

The nation has also managed to address some of its rising energy needs through improved energy efficiency, which can be measured in two different ways: energy use per dollar of gross domestic product (GDP) and energy use per capita. The amount of energy used for every dollar of GDP produced by the economy has fallen steadily since 1980. The Energy Information Administration (EIA) of the U.S. Department of Energy forecasts that this trend will continue, based on existing policies of the federal and state government and on private sector investment trends. Economic restructuring also plays a part in explaining the fall in energy use per dollar of GDP, because it caused a shift in economic activity away from manufacturing and energy-intensive uses and toward the relatively less energy-intensive service sectors. The combined effect of energy-efficiency measures and economic restructuring has been that the total amount of energy used by each person in the economy has remained relatively steady.

Despite these gains from efficiency investments and shifting economic activity, there are some countervailing trends that are increasing energy use per capita, including increased travel demand and the rising intensity of energy demands by residential users and the service sector. The growth of computing and telecommunications applications, due to the expansion of the Internet, has led to an increased demand for electricity by residential and commercial users. This trend is so widespread that the EIA has forecast that energy use per capita will begin to rise and will continue to escalate slowly for the next two decades. This means that total U.S. energy consumption will grow slightly faster than it has in the past.

For information on ARC funded activities in this program area, visit www.arc.gov/energy.

Asset Based Development Initiative:

This grants program for energy efficiency and renewable energy training and certification will build on the Commission's Asset Based Development Initiative which has provided over \$21.6 million in grant support to 264 projects since 2005. These projects are projected to leverage tens of millions of dollars of private investment and create over 4,500 jobs. The Asset Based Development Initiative focuses on the cultural, natural, leadership, and structural assets of the Region, assisting communities in creating jobs and building strong and sustainable "asset-based" economies. The Commission has supported projects that capitalize on traditional arts, culture, and heritage, supporting local entrepreneurs and attracting visitors. Activities have leveraged unique natural assets, supporting the production of value-added agricultural products and assisting Gateway Communities to prosper. And the Commission has helped turn community liabilities into opportunities, focusing on such strategies as Brownfield redevelopment, adaptive reuse, and downtown redevelopment. (See www.arc.gov/abd for additional information on the Asset Based Development Regional Initiative.)

ARC Background

The Appalachian Regional Commission is a federal-state partnership established in 1965 by the Appalachian Regional Development Act to promote economic and community development of the Appalachian Region. The Act, as amended in 2008, defines the Region as 420 counties

comprising all of West Virginia and parts of Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia—an area of 200,000 square miles and about 22.9 million people. To promote local planning and implementation of ARC initiatives, the Commission established 73 Local Development Districts (LDDs) comprising groups of counties within each of the 13 states. The Commission has 14 members: the governors of the 13 Appalachian states and a Federal Co-Chair, who is appointed by the President.

For almost 30 years, the Commission has assisted a wide range of programs in the Region, including highway corridors; community water and sewer facilities, telecommunication, and other physical infrastructure; health, education, and human resource development; economic development programs, local capacity building and leadership development.

Goals / Outcomes

Funded projects must focus on implementation of Energy Efficiency and Renewable Energy training and certification programs, supporting the development of trained employees for supply chain jobs in the renewable energy and energy efficiency fields, as well as provide certified installers of renewable energy (wind, solar, geothermal, fuel cells, or biofuels) and energy efficiency technologies in the marketplace. Implementation of energy efficiency education curricula, such as USGBC LEED programs, ASHRAE programming, IECC or other energy efficiency coursework will also be supported. (See Training and Curricula Resources, p. 8 of this RFP.)

Proposed activities should result in the matriculation of students from proposed training within the grant period, and entry of students into target industry. Proposals should include the anticipated number of individuals that will participate in the training, the anticipated number that will successfully complete the training, when they will complete the training, and, where applicable, the anticipated number of individuals that will gain employment.

Application Format

Please submit your application in the following format:

- Cover Page – Complete the Cover Page, attached.
- Application Narrative – 6 pages maximum in 12 point font. Please address the following items:
 1. Project Summary – one paragraph, 200 word limit.
 2. Description of proposed activity, including anticipated outcomes. A linkage to employment opportunities should be clearly articulated and quantified. The applicant must identify or provide a brief summary of the curriculum to be purchased / licensed / used, and project the number of teachers and students that will participate in the coursework. Training for professional certification or curriculum-based certificate should be noted, if applicable.
 3. Identification of assets that will be leveraged by the proposed project. This could include specific institutional facilities, faculty, employers, or other assets.
 4. Capability of applicant and community partners. ARC believes that successful development takes place when business, government, nonprofit organizations, and community groups mobilize resources towards a common goal. Describe the

applicant's relevant organizational capacity. As appropriate, address the development of new, or the capability of existing, partners in the planning and implementation of the proposed activity. Be sure to describe any similar training programs in the service area.

5. Outreach activities for disseminating or promoting the program to the target community and to other communities.
6. Plans for sustainability. How will the activities continue at the end of the grant period? Describe current or proposed revenue generating activities.

Attachments – please include the following attachments:

- Project Budget – Complete the Line Item Budget form, attached, listing project expenses by funding source. Also, include a budget narrative describing the elements of each expense line item. (Matching support: Grantees are required to provide matching funds at a ratio of \$1 of support for each ARC grant dollar, which may be provided 'in-kind' from non-cash sources. Matching support may be provided from private sources, both for profit and non-profit, local and state government, philanthropies, educational institutions, federal agencies, and other partners.)
- Staff background – include resume of project leader and brief bios for key staff and contractors. Note estimated hours per week (FTE's) to be allocated to project activities for each staff member, contractor, and project leader.
- Timeline. Note key project milestones and outcomes. Activities supported by these grants are expected to be completed within 18 months of the award date.
- Map. Include a state map indicating the location of the proposed activities. Simple maps generated through internet providers (such as Yahoo, Google ...) are acceptable. Project activities must occur within the ARC service region.

Note: Additional materials will be discarded.

For consideration, ten hardcopies of the response must be received at ARC offices by May 29, 2009. Please note, submitted materials will not be returned.

ARC Eligible Costs

ARC funding may be used for:

- Program and staffing costs.
- Purchase / license and implementation of curriculum.
- Associated equipment / instructional supplies costs.

ARC funds may only be used for curriculum development if no suitable curriculum is available in the marketplace.

Who is eligible to apply?

Non-profit or public educational institutions, including vocational and technical schools, community colleges, and 4-year colleges and universities located within the ARC Region are eligible to apply. In addition, governmental and non-profit organizations, including non-profit trade associations, are eligible to apply. Private for-profit organizations are not eligible to apply.

Selection Criteria:

An independent review panel will be convened to evaluate submissions. This panel will include leading energy efficiency and renewable energy organizations, federal, state and local partners. The review panel will forward recommendations to ARC for final approval.

Applications will be evaluated on several criteria, including:

- Feasibility of proposal; likelihood of achieving proposed outcomes, including matriculation of students from proposed training within the grant period, and entry of students into target industry.
- Capability of applicant: expertise in relevant program areas, grants management, and community development. Quality of the curricula.
- Level of community support, including support from the target employer industry(ies). Overall level of match, including match from private sector partners. A minimum match of 1:1 will be required, which may be provided 'in-kind' from non-cash sources
- Articulation of clear, measurable outcomes, including employment placement metrics. Impact of the program, and the absence of similar training programs in the service area. In addition, will the program result in students receiving a professional certification or receipt of a curriculum-based certificate from a well recognized third-party entity?
- Outreach activities focusing on disseminating or promoting the program.
- Sustainability of effort; ability to continue the activity upon conclusion of grant period.
- Distressed Counties and Areas, At Risk Counties. Additional consideration will be provided for projects focusing on ARC designated Distressed Counties and Areas, and At Risk Counties. Please visit: www.arc.gov/index.do?nodeId=58 , County Economic Status 2009 tab, for a map of ARC Distressed and At Risk Counties.
- Collaboration. Additional consideration will be provided for projects that target activities within two or more states, or build partnerships with local K-12 school systems.

Submissions

Submit ten (10) hardcopies of your proposal to:
Elaine Jackson, Program Operations Division
Appalachian Regional Commission
1666 Connecticut Ave, NW
Washington, DC 20009
202/884-7750
Fax: 202/884-7691

Deadline for receipt of responses: May 29, 2009. Please note, submitted materials will not be returned.

Training and Curricula Resources

- ASHRAE Learning Institute (American Society of Heating, Refrigerating and Air-Conditioning Engineers) – A wide variety of courses, some of which lend themselves to renewable energy and energy efficiency training and certification.
www.ashrae.org/education/
- US Green Building Council - is a national leader working to make green buildings available to everyone. The USGBC developed and maintains the Leadership in Energy and Environmental Design (LEED) program.
 - Education Provider Program – this program offers high-quality, peer-reviewed courses. A course catalogue is available at Greenbuild 365
www.greenbuild365.org/coursecatalog.aspx
 - Best Practices in Green Education – for community colleges and 4-year educational institutions. www.usgbc.org/DisplayPage.aspx?CMSPageID=1881
 - Workshops and on-line courses – offered by USGBC faculty.
www.usgbc.org/DisplayPage.aspx?CMSPageID=1449
- International Code Council – provides training, certification and testing for building energy codes, specifically the International Energy Conservation Code (IECC).
www.iccsafe.org/training/
- Interstate Renewable Energy Council – IRECs mission is to accelerate the use of renewable energy sources through state and local government, and community activities. IREC supports market-oriented services targeted at education, coordination, procurement, and the adoption of uniform guidelines to support renewable energy development.
 - Renewable Energy Training: Best Practices and Recommended Guidelines.
www.irecusa.org/index.php?id=50
 - Institute for Sustainable Power Quality: accredited programs and certified instructors.
www.irecusa.org/index.php?id=91
- North American Board of Certified Energy Practitioners (NABCEP) - offers credentialing and certification courses for renewable energy professionals. www.nabcep.org/
- US Department of Energy – Energy Efficiency and Renewable Energy (EERE). Resources for higher education courses and degrees, as well as energy education programs.
www1.eere.energy.gov/education
- US Department of Energy – Building Energy Codes Program. In partnership with the International Code Council and ASHRAE, DOE develops and distributes compliance tools and materials that make it easier for designers, builders, product manufacturers, and code officials to comply with energy codes. www.energycodes.gov/training/

- The Advanced Technology Environmental and Energy Center (ATEEC) is a national NSF-supported center that promotes and supports environmental and energy technology education to address the needs of the national and global workforce.
www.ateec.org/store/catalog/Curricula-22-1.html

Appalachian Regional Commission
Renewable Energy – Energy Efficiency Grants Competition
Training and Certification Programs
2009

Cover Page

Project Title: _____

Organization/Applicant: _____

Primary Contact: _____

Address: _____

Email: _____

Phone: _____

Fax: _____

County(ies) served: _____

Grant Request: \$ _____

Appalachian Regional Commission
Renewable Energy – Energy Efficiency Grants Competition
Training and Certification Programs
 2009

Project Budget
 Line Item Budget

<u>Expense</u>	\$ ARC Costs	\$ Matching Costs*	\$ Total
Personnel	_____	_____	_____
Benefits	_____	_____	_____
Travel	_____	_____	_____
Equipment	_____	_____	_____
Supplies	_____	_____	_____
Contractual	_____	_____	_____
Other	_____	_____	_____
Sub total	_____	_____	_____
Indirect	_____	_____	_____
Total	_____	_____	_____

*** Sources of Matching Costs:**

<u>Source</u>	\$ Amount	Type (Cash, In-kind)
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____

Total Matching Costs: _____

Please attach a budget narrative describing each expense line item, above.