

**Appalachian Regional Commission**  
Renewable Energy and Energy Efficiency Grants Competition  
FY 2008

Announcement Date: April 1, 2008

Close Date: June 30, 2008

Selections Announced: July 31, 2008

*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 revitalize their economies. ARC expects to provide eight to ten awards of up to \$75,000 each, for a total of \$500,000 in awards, to help communities implement these strategies.*

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 and moving toward energy independence.

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](http://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.

ARC is able to financially support a range of energy efficiency and renewable energy activities to achieve the dual goals of energy production or savings, and creation of new jobs in the Region. Examples of projects that are eligible for ARC funding include, but are not limited to:

- Redevelopment of brownfields sites into renewable energy production facility, such as a wind power facility or biofuels production plant. Brownfield sites are often permitted for industrial or chemical facilities, and may be adjacent to rail or power transmission corridors, making them ideal sites for distribution of liquid fuels and power generation. For example, in Somerset County, Pennsylvania, six 1.5-megawatt wind turbines have been placed on a former mining site adjacent to the Pennsylvania Turnpike. The turbines at the Somerset wind farm generate 25,000 megawatt hours of electricity annually, enough to supply approximately 2,500 homes.
- Support for Clean Energy business incubators that assist renewable energy and energy efficient businesses. For example, the Clean Energy Incubator (CEI), in Austin, Texas promotes the development of viable businesses focusing on clean energy. CEI has served 18 companies within the renewable and energy efficiency sectors, including geothermal power, biofuels, wind energy and water conservation. With CEI's assistance, companies fill in knowledge gaps and build stronger business propositions, helping to increase their chance for success. CEI helps these companies solidify management teams, secure adequate funding, and accelerate their time to market
- Biofuels purchasing programs for municipalities, counties, and private users. The East Tennessee Clean Fuels Coalition (ETCFC) works with utilities and fuel suppliers, city and county government, public and private sector fleet managers and operators, and environmental organizations and community groups to expand the use of biofuels in east Tennessee. Six cities, including Chattanooga, Cleveland, and Maryville, are now using B20 fleetwide, as is Knox County, and Hamilton County is using B30 on selected

vehicles. As a result of this demand, a new 3 million gallon biodiesel facility has opened. The 12,000 sq ft plant will bring \$3 million of new private investment to the community and result in 20 new jobs for the region. ETCFC participates in the US DOE's Clean Cities program and partners with the Tennessee Department of Economic and Community Development.

- Support for “green highway corridors” including retrofitting of fueling stations to add infrastructure for alternative fuels, developing regional or sub-regional markets for alternative fuels along highway corridors, and truck stop electrification. In one example of a green corridor, three Appalachian states - Alabama, Kentucky, and Tennessee – and Indiana are working with the U.S. Department of Energy to locate E85 and B20 fueling stations along the I-65 corridor from the Gulf of Mexico to the Great Lakes. When the proposed stations are in place, any point along the length of I-65 would be no more than a quarter of a tank of fuel from the nearest E85 station. (Note: The U.S. Environmental Protection Agency estimates that fuel savings from truck stop electrification could be as high as \$3,240 per truck parking space, while reducing diesel emissions. Truck stop electrification allows truckers to plug in to heat, cool, and run appliances in their cabs while resting, without leaving trucks idling for hours at a time).
- Support for “green buildings” or LEED (Leadership in Energy and Environmental Design) certified facilities. For example, Georgia State Parks have constructed several LEED Silver certified green buildings, including facilities at Richard Russell State Park and the Little White House Museum. The facilities are 20% to 30% more energy efficient than traditional structures, and employ techniques such as reflective coating on the roof to reduce heat absorption, high efficiency heating, ventilation and air conditioning systems, and natural daylight to reduce lighting costs. In one facility over 80% of the building materials were produced locally or regionally, further reducing energy used and costs of transportation.
- Energy efficient wastewater and water treatment systems. The New York State Energy Research and Development Authority (NYSERDA) estimates that drinking water and wastewater treatment facilities in New York consume more than 3 billion kWh of electricity per year. Several programs are underway in New York to reduce energy use and operating costs in the water treatment sector, including one with Fredonia Village to demonstrate an innovative biological treatment technology that will save the municipality \$3 million over its 20-year life, while increasing capacity.

For information on ARC funded activities in FY2007, visit [www.arc.gov/energy](http://www.arc.gov/energy).

#### Asset Based Development Initiative:

This grant competition for energy efficiency and renewable energy will build on the Commission’s Asset Based Development Initiative which has provided over \$8.2 million in grant support to 85 projects since 2005. These projects are projected to leverage tens of millions of dollars of private investment and create over 400 jobs. The Asset Based Development Initiative focuses on the cultural, natural, community, and structural assets of the Region, assisting communities to build 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](http://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 2002, defines the Region as 410 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 72 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.

### Renewable Energy and Energy Efficiency Grants Competition

Grants of up to \$75,000 will be provided to assist communities in building strong and sustainable “asset-based” economies. It is expected that ARC will award eight to ten grants, for up to \$500,000 in total awards. Grantees will be required to provide matching funds at a ratio of \$2 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 development partners, and may receive exposure in local, regional, or national media.

### Goals / Outcomes

Projects must focus on implementing renewable energy and energy efficiency projects. Proposed activities should result in the creation of new jobs or businesses in the target communities. Outcomes could include:

- Production and use of renewable energy products, such as biofuels, biomass, solar, or wind energy, including siting of these facilities and net metering applications.
- Distribution of renewable energy products, including customer purchasing commitments for these products.
- Expansion or start-up of ‘clean energy’ businesses, including support for business incubation programs and targeted business financing programs.
- New construction or facilities renovations that follow ‘green building’ and LEED certified guidelines.
- Installation of energy efficiency equipment in public or non-profit facilities that is 2005 Energy Policy Act Tax Credit eligible, directly results in cost savings, and leads to increased delivery of services to local communities.

This grants program will not provide support for projects that propose to study or plan for future activities. Energy audits will not be supported unless they include implementation of energy efficiency programs.

### 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. Job creation projections should be clearly articulated.
  3. Identification of assets that will be leveraged by the proposed project. This could include specific renewable energy resources, public or private demand for renewable products, facilities in need of efficiency improvements, technology assets, etc.
  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, local leaders and partners in the planning and implementation of the proposed activity.
  5. Outreach activities for disseminating or promoting the program 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 \$2 of support for each ARC grant dollar, a portion of which may be provided in-kind. Matching support may be provided from private and non-profit sources, 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.

Note: Additional materials will be discarded.

For consideration, ten hardcopies of the response must be received at ARC offices by June 30, 2008. Please note, submitted materials will not be returned.

### Who is eligible to apply?

Non-profit organizations, governmental entities, and public educational institutions located within the ARC Region 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.
- Capability of applicant: expertise in relevant program areas, grants management, and community development.
- Level of community support, including overall level of match and private sector match. A minimum match of 2:1 will be required, a portion of which may be in-kind.
- Articulation of clear, measurable outcomes. Impact of the program.
- Outreach activities to other communities, 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](http://www.arc.gov/index.do?nodeId=58), County Economic Status 2008 tab, for a map of ARC Distressed and At Risk Counties.
- Multi-state collaboration. Additional consideration will be provided for projects that target activities within two or more states.

*The proposed activities should result in the creation of new jobs or businesses in the target communities. This grants program will not provide support for projects that propose to study or plan for future activities. Energy audits will not be supported unless they include implementation of energy efficiency programs.*

### 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: June 30, 2008. Please note, submitted materials will not be returned.

## **Renewable Energy – Energy Efficiency Grants Competition**

### **Additional Information - Resources**

Additional resources for Renewable Energy - Energy Efficiency include:

*Energizing Appalachia: A Regional Blueprint for Economic and Energy Development*, ARC 2006, [www.arc.gov/energy](http://www.arc.gov/energy)

ARC research scans on renewable energy and energy efficiency:

[www.arc.gov/energy](http://www.arc.gov/energy)

- *Economic Development Potential of Conventional and Potential Alternative Energy Sources in Appalachian Counties*  
Amy Glasmeier, Penn State University and Tom Bell, Consulting Geologist, June 2006
- *Energy Efficiency and Renewable Energy in Appalachia: Policy and Potential*  
The Center for Business and Economic Research, Marshall University, Huntington, WV, August 2006
- *Summary of National and State Energy Policy Trends*  
Keystone Center, Washington, DC, August 2006

### **Renewables**

American Council On Renewable Energy (ACORE)

[www.acore.org](http://www.acore.org)

American Wind Energy Assn

[www.awea.org](http://www.awea.org)

Solar Energy Industries Assn

[www.seia.com](http://www.seia.com)

American Solar Energy Society

[www.ases.org](http://www.ases.org)

American Coalition for Ethanol

[www.ethanol.org](http://www.ethanol.org)

National Biodiesel Board

[www.nbb.org](http://www.nbb.org)

Clean Energy Alliance - National Alliance of Clean Energy Business Incubators, National Renewable Energy Lab, US DOE

[www.cleanenergyalliance.com](http://www.cleanenergyalliance.com)

US Department of Energy - renewables

<http://www.energy.gov/energysources/renewables.htm>

US Environmental Protection Agency – brownfield reuse

[www.epa.gov/superfund/programs/recycle/pdfs/wind\\_energy.pdf](http://www.epa.gov/superfund/programs/recycle/pdfs/wind_energy.pdf)

## **Energy Efficiency**

National Association of Counties, energy efficiency management resources link:

[http://www.naco.org/Template.cfm?Section=New\\_Technical\\_Assistance&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=62&ContentID=14019](http://www.naco.org/Template.cfm?Section=New_Technical_Assistance&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=62&ContentID=14019)

US Department of Energy – energy efficiency

<http://www.energy.gov/energyefficiency/index.htm>

[http://www.eere.energy.gov/state\\_energy\\_program/](http://www.eere.energy.gov/state_energy_program/)

Greenwire - Energy and Environmental News

<http://www.eenews.net/gw/>

Energy Star – US Environmental Protection Agency

[www.energystar.gov](http://www.energystar.gov)

American Council for an Energy Efficiency Economy

[www.aceee.org](http://www.aceee.org)

U.S. Green Building Council - LEED building rating system

[www.usgbc.org](http://www.usgbc.org)

**Appalachian Regional Commission**  
**Renewable Energy – Energy Efficiency Grants Competition**  
2008

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**  
 2008

Project Budget  
 Line Item Budget

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

\* Sources of Matching Costs:

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

Total Matching Costs: \_\_\_\_\_

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