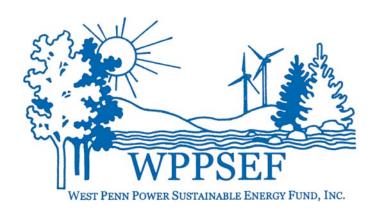
The 2004 Annual Report of the West Penn Power Sustainable Energy Fund



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I. INTRODUCTION

The West Penn Power Sustainable Energy Fund (WPPSEF) is pleased to submit its 2004 Annual Report to the Pennsylvania Public Utilities Commission. In 2004, the Fund entered into its third year of providing funding to:

- Promote the use of renewable and clean energy;
- > Promote energy conservation and energy efficiency; and
- Promote the start-up, attraction, expansion, and retention of sustainable energy businesses.

This Annual Report discusses the accomplishments made by the WPPSEF during the twelvemonth period from January 1 to December 31, 2004. During that time frame, the WPPSEF activities increased substantially from previous years as its programs and initiatives became more visible within the West Penn Power service region and across the Commonwealth.

II. FINANICIAL APPROVALS

During 2004, the WPPSEF Board of Directors approved \$4,340,745 to co-fund twenty-four requests, which had a total value of \$45,599,614. A breakdown of these approvals is presented in Table 1.

Table 1. 2004 WPPSEF Financial Approval Summary

		Project Costs		
Funding Type	Number	WPPSEF Funding	Total Project Cost	
Program Related Investments	6	\$3,945,000	\$43,542,000	
Strategic Initiatives	2	\$101,515	\$201,515	
Grants	7	266,934	\$610,149	
Memberships/ Sponsorships	9	\$27,296	\$1,245,950	

A. Program-Related Investment Approvals

The WPPSEF Board approved \$3,945,000 to co-fund six program-related investments in 2004. These six projects had a reported project cost of \$43,542,000. The program-related investment approvals included the following:

- ➤ \$500,000 loan approval to Community Energy to develop a 21.45 MW wind farm comprised on thirteen 1.65MW Vestas wind turbines. The Bear Creek farm will be located approximately 10 miles southeast of Wilkes Barre, PA. This is a syndicated financial offering between the Pennsylvania's Sustainable Energy Funds (PA-SEFs), which collectively is providing \$4,500,000 of the projected \$31,000,000 project costs. This project was not completed in 2004 because of the failure to renew the Federal Production Tax Credit (PTC) until late in 2004. After the passage of the PTC, the project developers and PA-SEF staff met to discuss the wind farm expansion in 2005. It is anticipated that the financial closing for this project will occur by mid-year 2005.
- ➤ \$400,000 loan approval to Soy Energy, Inc. to build a soybean oil processing and distribution facility which will have the initial capacity to produce up to 1,000,000 gallons of soy oil produced from Pennsylvania soybeans. The EPA-certified soy oil can be utilized as a diesel fuel additive that can be blended (up to 5 volume %) with conventional diesel fuel to improve diesel engine performance while reducing emissions. The Soy Energy facility was constructed adjacent to Agricultural Commodities, Inc. (Ag Com) located near New Oxford, PA. Ag Com produces the raw soybean oil, which is further clarified by Soy Energy before entering the marketplace. The project cost for the Soy Energy facility is \$1,000,000.
- ➤ \$465,000 loan approval to Omega Piezo, Inc. to commercialize thermal management technologies that are focused primarily on reducing the cost of water heating. The WPPSEF is working with Omega Piezo and Pennsylvania's Governor Action Team to expand Omega's manufacturing facilities located in State College, PA. The reported cost for this project is \$1,000,000.
- ➤ \$1,000,000 loan approval to Community Opportunities to renovate and construct a LEED-certified high performance building in Uniontown, PA. The reported cost for this building is \$3,000,000.
- ➤ \$80,000 loan approval to Allegheny Power to establish a customer choice program to provide West Penn Power ratepayers to option to purchase a portion of their electric supply from renewable energy sources such as Pennsylvania wind farms. The reported cost for this project is \$542,000.
- ➤ \$1,500,000 loan approval to Southwest Penn Power (SWPP) to develop a 15 MW electric generating facility at the Imperial landfill site in Allegheny County. The loan was contingent upon SWPP obtaining the gas rights and power purchase agreement for the project. The reported cost for this project is \$10,000,000.

B. Strategic Initiatives

The WPPSEF Board of Directors may develop and co-fund initiatives which they believe are of strategic interest to the WPPSEF. In 2004, the WPPSEF approved co-funding for the following two initiatives:

- \$100,000 as seed funding to organize and host the 2006 Pennsylvania Clean Energy Expo. This Expo will be built off of the successful 2004 Clean Energy Expo that was held at Penn State's Bryce Jordan Center on April 2-3, 2004. The Fund took the lead on organizing and raising the necessary funds to hold this event. The Expo drew over 11,000 attendees. The WPPSEF provided \$25,000 of seed funding to organize the Expo. These seed funds where used to leverage an additional \$115,000 to host and market the Expo. This event would not have been possible without the WPPSEF and the generous support of the Expo sponsors. All of the regional sustainable energy funds in Pennsylvania provided financial support and actively participated in the Expo. Based upon the positive feedback of the Expo sponsors, exhibitors, and attendees the WPPSEF agreed that the Expo should be held again and possibly in future years on a two-year cycle. In addition to the seed funding, the WPPSEF Board approved to support various Expo technical and community workshops through additional WPPSEF grantmaking efforts.
- ➤ \$1,515 to design, procure, and install two wind power educational displays along the Pennsylvania Turnpike (I-76) at the north and south Somerset Rest Plazas. From these displays, the 9 MW Somerset wind farm can be easily viewed. This effort was a collaborative effort between the WPPSEF, Pennsylvania Turnpike Commission (PTC), Robert and Tomalee Will, FPL Energy, GE Wind, Community Energy, and the Mid-Atlantic Renewable Energy Coalition. The PTC reports that an estimated 11 million travelers visit these two rest areas annually.

C. Grants

In 2004, the WPPSEF issued a request-for-proposals (RFP) to solicit proposals around specific program areas. These areas included: clean energy education and clean energy technology deployment. The 2004 RFP is provided in Appendix A.

The WPPSEF Board approved \$266,934 to co-fund seven grant requests in 2004. These seven projects had a reported project cost of \$610,149. These grant approvals included the following:

- ➤ \$24,549 to Penn State's Center for Sustainability to install hybrid power generation (wind and solar) at the Center's demonstration facility. The reported cost of the system and educational program is \$52,288.
- ➤ \$24,160 to Try-Again-Homes to install a 3.1kW solar photovoltaic panel at their office located in Washington, PA. The reported cost of this program is \$24,160.
- ▶ \$4,225 to Penn State's Science Lions to support their in-school renewable energy science demonstrations in local K-12 school districts. The Science Lions is a volunteer student organization comprised of undergraduate and graduate-level students. The reported cost of this program is \$4,810.

- ➤ \$13,000 to the Washington County Airport to install solar photovoltaic on-site power generation for their directional and nondirectional beacons. The WPPSEF monies will be leveraged with a Bureau of Aviation grant to support this solar project. The reported cost of this program is \$65,000.
- ➤ \$100,000 to by Penn State's Public Broadcasting and Center for Science and the Schools to develop an integrated web-based, multimedia renewable energy curriculum for Pennsylvania teachers. This project is being developed in conjunction with Pennsylvania's Department of Education and several public schools throughout PA. The reported cost of the E-21 program is \$144,476.
- ➤ \$50,000 to the Fulton County Medical Center (FCMC) to install a thermal solar desiccant cooling technology on a proposed new medical center. The FCMC will be located near McConnelsburg, PA. The WPPSEF monies were leveraged with a \$60,000 Pennsylvania Department of Environmental Protection Energy Harvest grant and \$110,000 provided by the applicant.
- ➤ \$50,000 to the Fayette County Community Action Agency (FCCAA) to install a high efficiency geothermal heat pump at an adjacent building, which is being renovated to LEED-standards. The building is located in Uniontown, PA. The reported cost of the geothermal heat pump system is \$100,000

D. Sponsorships & Memberships

In 2004, the WPPSEF approved nine funding requests that were used to co-sponsor conferences or as membership dues to sustainable energy associations. The WPPSEF Board approved \$27,296 to participate in these activities, which had a reported value of \$1,245,950. These approvals included the following:

- ➤ \$3,600 to the Pennsylvania Consortium for Interdisciplinary Environmental Policy and Penn State's Center for Regional Assessment to organize a series of meeting to promote the construction of high performance buildings on Pennsylvania's university campuses. The WPPSEF monies are being leveraged with the U.S. Department of Energy's Rebuild America program. The project cost for this workshop is \$18,000.
- ➤ \$7,500 to the Alternative Fuels Renewable Energies Council to develop a biofuel consortium that will assist Pennsylvania's biofuel producers develop markets for these emerging fuels. The cost of establishing this consortium is reported to be \$35,000.
- ➤ \$5,000 to the Regional Economic Development District Initiative (REDDI) of South Central Pennsylvania to co-sponsor a conference called: "Renewable Energy Conference A Pennsylvania Reality". The conference will be held on August 23 & 24, 2005 at the Harrisburg Area Community College. The focus of this conference is primarily on the agriculturally derived biofuels such as ethanol and biodiesel. The projected cost of this conference is \$30,000.
- > \$1,000 to Penn Future to co-sponsor the 2004 Green Power conference and luncheon at Philadelphia on October 14, 2004.
- > \$200 to the American Wind Energy Association (AWEA) for WPPSEF's 2005 membership dues.

- ➤ \$3,000 to the Public Fuel Cell Alliance (PFCA), which is a coalition of state and federal agencies responsible for fuel cell deployment. This is a collaborative effort with the Pennsylvania regional sustainable energy funds and other state sustainable energy funds. The reported cost of establishing PCFA is \$600,000.
- ▶ \$750 to the Alternative Fuels Renewable Energies Council for WPPSEF's 2005 membership dues.
- ➤ \$1,000 to Penn Future to co-sponsor the upcoming the 2004 "Getting to 10%" conference which was held at the Wyndam Hotel in Harrisburg, PA on May 12, 2004.
- > \$5,246 to the Clean Energy States Alliance (CESA) for WPPSEF's 2004 membership dues. The reported cost of the CESA work is \$560,000.

III. STRATEGIC ALLIANCES & MARKETING

The development, deployment, and promotion of sustainable energies technologies in Pennsylvania involves building a network of strategic alliances between federal agencies, Commonwealth agencies, Pennsylvania's regional sustainable energy funds, the private sector, and various organizations throughout the Commonwealth. In 2004, the WPPSEF continued to work hard to expand the breadth of its strategic alliances formed in previous years.

A. Pennsylvania Regional Sustainable Energy Funds

The four regional sustainable energy funds in Pennsylvania work together to stimulate the development of sustainable energy technologies and businesses in Pennsylvania. The following collaborative activities were conducted in 2004:

- ➤ Pennsylvania's regional sustainable energy funds (PA-SEF) joined and were active partners in the Clean Energy States Alliance (CESA). CESA is a nonprofit organization that provides information and technical services to twelve clean energy funds in the United States. All of the Pennsylvania's Regional Sustainable Energy Funds committed funding to CESA in 2004. By pooling the funding, each of the regional funds reduced their overall funding commitment to CESA rather than providing sole funding.
- ➤ PA-SEFs worked closely to approve syndicated funding to the proposed 21.45 MW Bear Creek wind farm. This project was not completed in 2004 due to the failure to renew the Federal Production Tax Credit (PTC) until late in 2004. After the passage of the PTC, the project developers and PA-SEF staff met to discuss the wind farm expansion in 2005. It is anticipated that the financial closing for this project will occur by mid-year 2005.
- ➤ The PA-SEFs joined and were active in the Public Fuel Cell Alliance (PFCA) that was organized and managed by CESA. The Sustainable Development Fund (SDF) sent a representative to the PFCA meetings and reported their ongoing activities.
- ➤ The WPPSEF worked with the Sustainable Energy Fund of Central Eastern Pennsylvania and the Penelec Sustainable Energy Fund to approve and monitor the

funding request of SEDA-COG to build a LEED-certified energy resource center at their Lewisburg office building. The WPPSEF approved funding for this project in 2003 contingent upon receiving finalized engineered drawings, a final project appraisal, and a letter of commitment from Citizens Bank who will serve as a co-funder of the project and will provide services to the Funds for monthly mortgage collection services. The Funds have monitored this project during 2004 and anticipates that SEDA-COG will begin construction in 2005.

- ➤ The 2004 Clean Energy Expo was organized by the WPPSEF. All of Pennsylvania regional sustainable energy funds co-funded the Expo and provided exhibits for the 11,000⁺ attendees.
- ➤ The WPPSEF worked with the Penelec Sustainable Energy Fund and the Metropolitan Edison Sustainable Energy Fund continued to provide financial and logistical support to Native Energy to facilitate the construction of farm-based anaerobic digesters to capture methane generated from livestock manure.

B. Pennsylvania Sustainable Energy Board

The WPPSEF worked with the Pennsylvania Sustainable Energy Board (PA-SEB) to develop a series of Best Practice Guidelines in the following areas:

- Nomination, Election and Approval of Directors;
- Inquiries and Applications for Grants, Loans and Equity Investments;
- Code of Conduct, Conflict Of Interest and Confidentiality Policy; and
- Reconsideration and Appeal.

In addition, the WPPSEF provided an overview of its activities at the PA-SEB Annual Meeting, which was held in Hearing Room 5 at the Commonwealth Keystone Building on June 29, 2004. The WPPSEF provided handouts to the meeting attendees.

C. Pennsylvania Biomass Working Group

The Pennsylvania Biomass Working Group (PA-BWG) is a coalition of agencies and businesses that are focused on promoting the use of Pennsylvania's indigenous biomass resources for bioenergy applications. The activities of the Working Group are co-funded by the U.S. Department of Energy and are managed by the Pennsylvania Department of Agriculture.

The WPPSEF is working with the PA-BWG to gain a better understanding on the amount, type, and distribution of Pennsylvania's biomass resources. The Pennsylvania Department of Environmental Resources, in collaboration with the WPPSEF and Penn State's Energy Institute, is co-funding the study that will develop an internet-based Pennsylvania biomass database that can be accessed by potential biomass end-users. The study will be completed in 2005.

D. U.S. Department of Energy

The U.S. Department of Energy (DOE) provides an enormanous amount of technical and financial assistance to Pennsylvania. In 2004, the WPPSEF worked closely DOE's Energy Efficiency and Renewable Energy (EERE) Mid-Atlantic Regional Office located in Philadelphia to become an EnergyStar partner and to partner in the 2004 Clean Energy Expo. The WPPSEF also worked with DOE's National Energy Technology Laboratory Pittsburgh's Office to showcase emerging state-of-the-art clean energy technology at the 2004 Clean Energy Expo. Both of these DOE Offices (EERE and NETL) provided critical support to the WPPSEF in 2004. The WPPSEF will work to strengthen these relationships in 2005.

E. 2004 Clean Energy Expo

The 2004 Clean Energy Expo served a premier clean energy showcase for Pennsylvania. The Expo was held on April 1-2, 2004 at the Penn State's Bryce Jordan Center (BJC). The BJC is located at the Penn State's University Park campus in central Pennsylvania.

Some key Expo facts include the following:

- > Targeted audience: consumers
- > Targeted exhibitors: nationwide
- Expo base funding pooled from 26 sponsors,
- > Pennsylvania regional SEFs provided financial support and exhibited;
- > Expo offered free admission and parking.
- > Expo had 270 exhibit spaces (exhibitor waiting list had to be established),
- > Fifteen technical and consumer-based workshops held,
- > 11,000 attendees over the 2-day event,
- Marketing included a mix of TV, radio, and print efforts, and
- Expo to be held on a 2-year cycle (next Expo is scheduled for 2006).

F. Penn State Public Broadcasting

The WPPSEF has worked with Penn State's Public Broadcasting (WPSX) to develop a 26-minute documentary entitled: "Pennsylvania Energy" which showcases many of the sustainable energy technologies now taking root in Pennsylvania. The documentary aired on WPSX on November 21 to over 500,000 households in Pennsylvania. The Fund is working with WPSX to provide this documentary to other public broadcast stations for a coordinated airing throughout Pennsylvania in Spring 2005.

F. Meetings & Networking

The WPPSEF worked with several organizations and businesses in 2004 to discuss the WPPSEF activities and potential opportunities for collaboration. Key meetings and/or presentations were made with the following organizations:

- > AFC First Financial,
- Access Energy,
- > Agriculture Commodities,
- > Allegheny Power,
- > Allegheny Supply,
- Alternative Fuels Renewable Energy Council,
- Ballard Power Systems,
- Ben Franklin Technology PArtners,
- Bergey Wind Power.
- Citizens for Pennsylvania's Future,
- > Centre Area Transportation Authority.
- Community Energy,
- ➤ GE Wind,
- Gemstone Group,
- EnSave.
- > FPL Energy,
- > Fayette County Community Action Agency,
- > Fulton County Medical Center,
- Generation Resource Holdings Company,
- Lowes,
- Native Energy,
- Omega Piezo.
- > PBCI Allen Mechanical & Electrical Contractors.
- > PJM Interconnection,
- Pennsylvania Biomass Working Group,
- Pennsylvania Department of Agriculture,
- > Pennsylvania Department of Conservation and National Resources,
- Pennsylvania Department of Environmental Protection,
- Pennsylvania Energy Development Authority,
- > Pennsylvania State Small Business Development Center,
- Pennsylvania Sustainable Energy Board,
- > Pennsylvania Technical Assistance Program (PENNTAP).
- > Pennsylvania Turnpike Commission.
- > Regional Economic Development District Initiatives of South Central Pennsylvania,
- > SEDA-COG,
- > Seton Hill University,
- > Solar Power Industries,
- Southwest Penn Power,
- > Tramco Inc.,
- ➤ U.S. Department of Energy (Coalition of Northeast Governors),
- > U.S. Department of Energy (Energy Efficiency and Renewable Energy),
- ➤ U.S. Department of Energy (National Biomass Initiative),
- ➤ U.S. Department of Energy (National Energy Technology Laboratory),
- ➤ U.S. Department of Energy (National Renewable Energy Laboratory),
- Wisconsin Energy Conservation Corporation, and
- World Kitchen.

IV. ORGANIZATIONAL

The WPPSEF continued to streamline its daily operations while improving the quality of its services in 2004.

A. WPPSEF Administration

The WPPSEF administration consists of a seven-member Board of Directors that provide oversight to the Fund and approves funding requests and a staff that oversees the day-to-day operations of the Fund. Individual Board members of the WPPSEF are selected by the Fund through a search process and then are nominated to the Pennsylvania Public Utility Commission for formal approval.

The WPPSEF Board of Directors as of December 31, 2004 were:

- ➤ Linda Boxx, WPPSEF President
 - ▶ Katherine Mabis Foundation
- > Ed Johnstonbaugh, WPPSEF Vice-President
 - Allegheny Power
- > Rob Hosken, WPPSEF Secretary
 - ▶ Three Rivers Association for Sustainable Energy
- > Pat O'Brien, WPPSEF Treasurer
 - WesBanco Washington
- Michele Ponchione
 - World Kitchen
- Craig Kuennen
 - ▶ Glendale Water & Power
- Jim Stark
 - ▶ Family Service Center

The WPPSEF Board of Directors selected The Pennsylvania State University to serve as the Fund's administrator and the Economic Growth Connection of Westmoreland County to provide its financial services to the Fund. In addition, the Fund utilizes the services of Energetics and the Gemstone Group on an as-needed basis. The Fund strives to keep its total staff commitment to less than 2 full-time equivalent (FTE)/ year.

The WPPSEF staff is as of December 31, 2004 were:

- Joel Morrison, Fund Administrator
 - ▶ The Pennsylvania State University (Energy Institute)
- John Skiavo
 - ▶ Economic Growth Connection of Westmoreland County

Additional support to the WPPSEF is provided by:

- Joe Badin
 - Energetics
- Gary Kleinman/ Adam Stern
 - ▶ Gemstone Group

B. Board Meetings

The WPPSEF schedules its Board meetings at the beginning of each year. The full Board strives to meet every two months. In addition, the Board has developed three working groups (Administrative, Investment, and Grantmaking), which meet on an as-needed basis.

In 2004, the WPPSEF Board of Directors met as follows:

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    February 12 (Location: Greensburg, PA)
    June 10 (Location: Greensburg, PA)
    August 12 (Location: Fallingwater, PA)
    August 24 (Location: Greensburg, PA)
    October 14 (Location: Greensburg, PA)
    December 9 (Location: Greensburg, PA)
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In 2004, the April Board meeting was rescheduled to an extended Board meeting on June 10 due to the WPPSEF involvement in the Clean Energy Expo on April 2-3, 2004. The WPPSEF Board met twice in August due to the large number of funding requests submitted in its 2004 RFP.

C. Web Site

The WPPSEF web site was re-designed to better showcase the Fund's activities as the number and types of programs expanded in 2004. The WPPSEF web site is: http://www.wppsef.org.

D. Awards

The WPPSEF received two awards in 2004. These awards were:

Contributor of the Month. This award was present to the Fund by Penn State's Bryce Jordan Center for its vision and spirit of hosting the 2004 Clean Energy Expo.

Green Energy Fund Award. This award was presented to the WPPSEF for its financial support of Native Energy and for purchasing clean electricity for the WPPSEF organization. The award was presented in October 2004 at the Green Power luncheon.

V. UPCOMING IN 2005

The enthusiasm of the successful WPPSEF programs will position the Fund to expand its programs during 2005. As the Fund's activities become better known throughout the Commonwealth, the quality and quantity of funding requests is expected to grow during the upcoming year.

A. Expanded Grantmaking

The WPPSEF plans to expand its grantmaking efforts in 2005 by releasing two requests-for-proposals (RFPs). The Board plans to select projects sometime in the June timeframe for the first RFP and in December for the second RFP.

B. Expanded Energy Star Efforts

The WPPSEF became an Energy Star partner in March 2004. The WPPSEF plans to increase its support of the Energy Star program by developing a Keystone Home Energy Loan Program (HELP) which will provide incentive financing to West Penn Power residential ratepayers to purchase Energy Star qualified products. The program will be designed for expanded roll out throughout the Commonwealth should other entities wish to utilize the HELP infrastructure.

In addition, the WPPSEF will seeks to promote the high performance building practices in the residential building sector. The Fund is currently exploring how it might deploy Energy Star building practices within the West Penn Power service region.

C. 2006 Pennsylvania Clean Energy Expo

In December 2004, the WPPSEF Board of Directors approved seed funding to begin organizing the next Clean Energy Expo. The upcoming Expo will be held at the Penn State's BJC in April 2006. Planning for the Expo is scheduled to begin in the spring 2005 with the planning committee to be in place by late summer 2005.

VI. FINANICIAL REPORT

The WPPSEF contracted with Delisi & Associates, P.C. located in Greensburg, Pennsylvania to perform the Fund's 2004 annual financial audit. As of December 31, 2004 the WPPSEF net assets are reported as being \$12,162,844.

VII. CONCLUDING REMARKS

The WPPSEF is very proud of its programs and will expand them in the upcoming year. Without doubt, the deployment of sustainable energy technologies is slowly beginning to take root in Pennsylvania. The Commonwealth has become a leader in the deployment of wind power and high performance LEED-certified buildings. Legislation at the Federal and Statelevels will stimulate the further deployment of sustainable energy technologies throughout Pennsylvania and the Nation.

In the upcoming year, the WPPSEF will continue to seek out innovative technologies and businesses that will help the Commonwealth and the Fund deploy clean energy technologies throughout Pennsylvania. By expanding its strategic alliances with a broad array of businesses and organizations, the Fund will seek to leverage its monies whenever possible to provide the maximum benefit to the West Penn Power ratepayer while strengthening the quality of its programs.

VIII. APPENDIX: 2004 GRANTMAKING RFP

The 2004 Grantmaking RFP is provided in this section.



The West Penn Power SUSTAINABLE ENERGY FUND



Grantmaking Opportunities For 2004



Submission Deadline: July 1, 2004

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1.0 WPPSEF BACKGROUND

The West Penn Power Sustainable Energy Fund (WPPSEF) was established as a non-profit organization as part of the West Penn Power Restructuring Plan Settlement Agreement with the West Penn Power Company and the Pennsylvania Public Utilities Commission on October 1998.

The mission of the WPPSEF is to:

- Promote the use of renewable fuel and clean energy;
- Promote energy conservation and energy efficiency; and
- Promote the start-up, attraction, expansion, and retention of sustainable energy businesses.

The WPPSEF is focused on fulfilling its mission within the 23-county West Penn Power (WPP) service region shown in Figure 1. Applicants applying for WPPSEF grant monies must clearly show benefit to the WPP ratepayer.

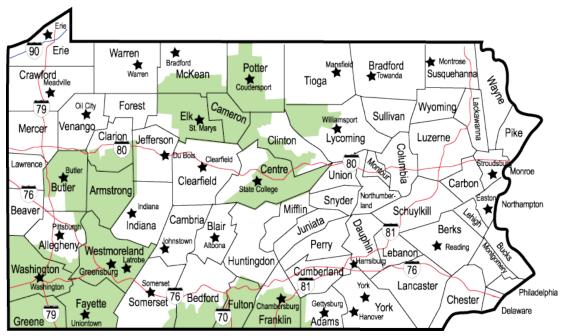


Figure 1. WPP Service Region.

2.0 GRANTMAKING OPPORTUNITIES

In 2004, the WPPSEF grantmaking efforts will be used to co-fund a limited number of:
1) broad-based education initiatives, and 2) projects which deploy advanced, clean energy technologies within the WPP service region.

2.1 Broad-Based Education Initiatives

In 2004, the WPPSEF seeks to develop broad-based education initiatives which are focused on the following:

- K-12 Clean Energy Education,
- · Higher Learning Student Volunteer Organizations, and
- Consumer Education.

All of these initiatives need to demonstrate how they will be implemented within the WPP service region; however, broader applicability to other portions of Pennsylvania is encouraged.

2.1.1 K-12 Clean Energy Education

WPPSEF seeks to increase the level of knowledge of clean energy and energy conservation among teachers and students in grades K-12 by developing an integrated clean energy education program which will include:

- Curriculum development,
- Teacher training, and
- Program evaluation.

The program should focus on an interactive mix of print and electronic media. The WPPSEF encourages applicants to consider developing a team comprised of educational institutions and advisors. A least two teachers from schools within the WPPSEF service region and one representative from the Pennsylvania Department of Education should be involved to the project team.

Curriculum development.

WPPSEF seeks curriculum to be developed and made available for use in Pennsylvania's elementary, middle, and high schools. Each curriculum may be tailored to a single grade level or developed to satisfy the needs of multiple grade levels in the same school. For example, an applicant could develop a single, "umbrella" middle school guide or guides that are developed around certain grade brackets (K-3, 3-6, 6-9, and 9-12). Proposals should include a strategy to ensure the greatest usability of the curriculum and the broadest possible distribution to schools throughout Pennsylvania at the lowest possible cost. A literature review should be conducted of other state/ organizational clean energy programs.

The curriculum should include lesson plans with hands-on activities that clearly map to state and national math and/or science standards and use inquiry-based teaching methods. The lesson plans should include a variety of appropriate assessment methods to ensure that standards are met. In addition to lesson plans, the curriculum could also include supplementary "kits" with hardware or other materials needed for hands-on activities in the classroom. Proposed subject matters should include, but are not limited to, the following:

- Energy basics and general environmental/ecology
- Electricity production and delivery
- Renewable energy (wind, solar, bioenergy)
- Clean energy technologies (fuel cells and applications, hydrogen)
- Conventional and alternate transportation systems and fuels
- Energy conservation (traditional and advanced approaches)
- Energy and the environment

The content of the lesson plans will be in part determined by the grade level.

Teacher Training

The teacher training component of the program should provide interested teachers with background knowledge of energy technologies and include hands-on training on how to use the curriculum and conduct the hands-on activities in their classrooms. Additional consideration will be given to proposals that include a teacher recruitment strategy and

appropriate incentives for teacher participation, such as, but not limited to, professional development units.

Program Evaluation

The program should include a mechanism for evaluating its effectiveness in increasing the knowledge of energy technology (and subject matters listed above) among both teachers and students. Priority will be given to applicants who can quantify their success in achieving the program objective.

Anticipated Project Profile

The WPPSEF is envisioning the following:

- Project Period: Curriculum Development (9-12 months)
- Teacher Training and Program Evaluation: (6-9 months)
- Estimated number of awards: 1
- Funding Level: \$50,000 \$100,000
- Cost share requirement: Not required; however, encouraged.

The WPPSEF will require the grantee to provide full unrestricted access to the final products, without copyright restrictions, to make additional copies as needed or use excerpts or graphics contained within the document as needed.

2.1.2 <u>Higher Learning Student Volunteer Organizations</u>

WPPSEF seeks to provide grantmaking opportunities to student-based volunteer organizations (student clubs) that promote science and engineering outreach on campus and to the surrounding communities. The WPPSEF would like to invest in a small number of outreach activities concerning sustainable energy that could not be funded through other campus mechanisms. Traditional faculty research projects are ineligible for these grants. WPPSEF encourages collaborating teams of Pennsylvania college and university organizations and local K-12 educators to submit grant proposals. WPPSEF believes that such teams can contribute greatly to the understanding of scientific principles and foster the interest of school children and the community in their

environment and increase their awareness of the impacts of energy usage, resource choices, and the concept of sustainability.

Eligible activities include, but are not limited to:

- Hands-on demonstrations and shows,
- Series of outreach/education workshops,
- Stage shows,
- Interactive displays and programs,
- Promotion of green campus practices and initiatives, and
- Community outreach with local science museums, environmental education centers, or other similar organizations.

Anticipated project profile

- Project Period: (12 months)
- Estimated number of awards: 5-7
- Funding Level: \$1,000 \$5,000
- Cost share requirement: Not required; however, encouraged.

2.1.3 Consumer Education

The WPPSEF seeks to fund a clean energy consumer education program that is tailored to the WPP service region. The Fund seeks to increase consumer awareness of clean energy and energy-efficient products such as EnergyStar appliances and program services, energy competition/choice, energy conservation, energy supply, and renewable energy sources.

WPPSEF is seeking proposals that can provide focused consumer education through innovative media production/ placement (television, radio, print, web-based) and/ or focus activities within existing organizations. The applicant should have a demonstrated familiarity with local markets within the WPP service region.

Applicants need to describe how they will develop the consumer education program, how the program will be implemented, and how the program success will be measured. Electricity saving and environmental betterment need to be estimated.

Anticipated Program Profile

• Project Period: (12 months)

• Estimated number of awards: 1

• Funding Level: \$10,000 - \$30,000

• Cost share requirement: Not required, however, encouraged.

2.2 Clean Energy Technology Deployment

The WPPSEF seeks to assist in the deployment of clean energy technologies within the WPP service region. The WPPSEF co-funding will be directed towards those technologies which have not been commercially demonstrated but show great potential for becoming a commercial viable technology within 1-2 years of funding. These clean energy deployment grants are considered Phase 1 funding for projects that require additional technology-base development before they can be considered as financially viable, revenue generating business ventures. Projects that are more mature and have a near-term business plan may apply to WPPSEF for debt/equity financing. Grants are to cover a one-year period and then grantees have the option to submit a business plan to WPPSEF and apply for traditional financing.

The following are examples of targeted project areas that might apply:

- Bioenergy projects for power or transportation applications,
- Innovative wind or solar projects,
- Innovative energy conservation/ efficiency projects,
- Advanced clean energy technologies (e.g., fuel cells) projects, and
- Non-conventional natural gas recovery projects,

Project examples above are not intended to be a complete list of possible project proposals that could obtain co-funding. WPPSEF is designed to remain open to all new technologies that foster the potential for the growth of a sustainable energy industry in the WPP service region and throughout Pennsylvania.

Anticipated Project Profile

• Project Period: 12 months

• Estimated number of awards: 2

• Funding Level: \$15,000 - \$50,000

• Cost share requirement: Minimum 25%, Expected range: 25-75%.

3.0 SUBMITTING A FUNDING REQUEST

The WPPSEF is pleased to provide these grantmaking opportunities to facilitate the adoption of clean energy technologies throughout the WPP service region.

3.1 Application Deadline and Submission

The final deadline for receipt of proposals is **4:00 PM on July 1, 2004.** Proposals submitted after the deadline will be returned to the applicant. A signed original and four (4) copies should be submitted to the WPPSEF Administrator at the following address:

Mr. Joel L. Morrison WPPSEF Administrator The Pennsylvania State University C-211 CUL University Park, PA 16802-2323

3.2 Funding Request Format and Content

Applicants are required to submit their proposal on standard 8 1/2" x 11" letter size paper with 1" margins. Each proposal is to be stapled and three holed punched. Font size type must be 10 pts or greater and line spacing should be single space or greater.

Appendix A contains the standard WPPSEF forms that need to be completed for all incoming funding requests. Attachment A is a checklist that the applicant can use to ensure all required information is provided. Attachment B is the proposal cover sheet. Attachment C is budget page that should be used.

Cover Sheet One (1) page maximum – Use Attachment B

 Table of Contents
 One (1) page maximum

Executive Summary One (1) page maximum

Applicants are required to provide a one-page summary of the proposed project.

Statement of Work Five (5) page maximum

The main body of the proposal should outline the plan of work, including the broad design of activities to be undertaken.

Project Milestone One (1) page maximum

A plan which establishes the time schedule for accomplishing the work. The plan should include major milestones of the project in bar chart format and should cover the complete period of performance.

Proposed Budget Two (2) page maximum – Use Attachment C The submission of a itemized budget is an important part of the proposal. The itemized budget is to include total project cost by category.

Cost-Share Commitments Three (3) page maximum Cost share may be required for WPPSEF funding.

- Broad-Based Educational Initiatives: Nor required, but encouraged
- Clean Energy Technology Deployment: A minimum of 25% is required.

A minimum of 25% cost-share is required for the clean energy deployment grants. Cost share must be verified by letters of commitment. Cost share may be in the form of cash and third party in-kind are acceptable as part of the matching if they meet the following criteria:

- Are verifiable, necessary and reasonable for proper and efficient accomplishment of the project;
- Are incurred within the project performance period, previously expended research, development, or exploration costs are unallowable.
- The value of patents and data contributed to the project is unallowable as cost sharing.

Biographical Sketches One (1) page per person maximum

The Principal Investigator of the proposed project is required to submit a one (1) page vitae. Each vitae should include educational background, professional experience, honors and professional activities. Additional vitae can be submitted for key coinvestigators.

Letters of Support Three (3) letters maximum

Letters of support from outside sources are encouraged, but not mandatory.

3.3 Additional Information

Additional questions should be forwarded to the WPPSEF Administrator. Questions should be submitted via e-mail to wppsef@ems.psu.edu or contact Mr. Joel Morrison at (814) 865-4802.

4.0 APPENDIX A

Appendix A contains three attachments which are required to be submitted with all funding requests. These attachments include:

ATTACHEMENT A: Proposal Checklist

ATTACHEMENT B: Proposal Cover Sheet

ATTACHEMENT C: Proposed Budget Page

ATTACHMENT A - PROPOSAL CHECKLIST

PI	
Project Title	
the cover shee	your application is complete, please complete and staple the proposal checklist to et of the original (signed) copy of the proposal. Be sure the following items are e following order.
	Cover Sheet (Attachment B) - signed by PI and authorized representative
	Executive Summary (one page maximum)
	Proposed Statement of Work (five page maximum)
	Project Milestone (one page maximum)
	Proposed Budget (Attachment C)
	Cost-Share Commitments
	PI and Co-Investigator Vitas (one page per person maximum)
	Letters of Support
	Required number of copies (original + 4 copies)

<u>ATTACHMENT B - PROPOSAL COVER SHEET</u>

Proposal Submitted to:

Mr. Joel L. Morrison WPPSEF Administrator The Pennsylvania State University C-211 CUL University Park, PA 16802-2323

Date of Submission				
Title of Proposal				_
Amount Requested from WPPSEF		\$		
Cost Share Commitments		Cash	\$	
		In-Kind	\$	
Total Project Costs		\$		
Principal Investigator				
Phone:	Fax: _		Email	
Address:				
Other Participants:				
Submitted by:		Ap_{j}	proved by:	
Signature of PI		Au	thorized Representative	

ATTACHMENT C - PROPOSED BUDGET

Salaries and Wages	REQUESTED WPPSEF	COST-SHARE
List individually all personnel identified in the proposal. Include title and percent of effort	\$	\$
Fringe Benefits	\$	\$
Materials and Supplies List types required and estimated costs.	\$	\$
Equipment Items exceeding \$5,000 and 1 year's useful life are defined as permanent equipment. List item and dollar amount for each amount. Justify and/or provide quotation.	\$	\$
Travel State the type and extent of travel and its relation to the project. Itemize by destination and estimated costs.	\$	\$
Other Direct Costs Itemize and justify. (*See note below)	\$ \$ \$	\$
Facilities and Administration (F&A) Specify current rate(s) and base.	\$ \$	\$
TOTALS	\$	\$

May attach up to two additional pages of justification covering all items.