

**Application for Federal Assistance SF-424**

Version 02

**\*1. Type of Submission:**

- Preapplication
- Application
- Changed/Corrected Application

**\*2. Type of Application**

- New
- Continuation
- Revision

\* If Revision, select appropriate letter(s)

\*Other (Specify)  
\_\_\_\_\_

3. Date Received:

4. Applicant Identifier:

5a. Federal Entity Identifier:

\*5b. Federal Award Identifier:

**State Use Only:**

6. Date Received by State:

7. State Application Identifier:

**8. APPLICANT INFORMATION:**

\*a. Legal Name: Education and Workforce Development Cabinet

\*b. Employer/Taxpayer Identification Number (EIN/TIN):  
610600439

\*c. Organizational DUNS:  
142488225

**d. Address:**

\*Street 1: Capital Plaza Tower; 3<sup>rd</sup> Floor  
Street 2: 500 Mero Street  
\*City: Frankfort  
County: Franklin  
\*State: Kentucky  
Province: \_\_\_\_\_  
\*Country: US  
\*Zip / Postal Code 40601

**e. Organizational Unit:**

Department Name:  
Office of Employment and Training

Division Name:  
Division of Workforce and Employment Services

**f. Name and contact information of person to be contacted on matters involving this application:**

Prefix: Ms \*First Name: Lisa  
Middle Name: \_\_\_\_\_  
\*Last Name: Daniel  
Suffix: \_\_\_\_\_

Title: Internal Policy Analyst

Organizational Affiliation:  
Division of Workforce and Employment Services

\*Telephone Number: 502-782-3356

Fax Number:

\*Email: Lisa.Daniel@ky.gov

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**\*9. Type of Applicant 1: Select Applicant Type:**

A.State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\*Other (Specify)

**\*10 Name of Federal Agency:**

Department of Labor

**11. Catalog of Federal Domestic Assistance Number:**

17.275

CFDA Title:

**\*12 Funding Opportunity Number:**

SGA/DFA PY - 08-20

\*Title:

Notice of Availability of Funds and Solicitation for Grant Applications for State Energy Sector Partnership (SESP) and Training.

**13. Competition Identification Number:**

Title:

**14. Areas Affected by Project (Cities, Counties, States, etc.):**

The following Kentucky counties will benefit from this application: Adair, Ballard, Calloway, Carlisle, Casey, Christian, Clinton, Crittenden, Cumberland, Fulton, Graves, Green, Hickman, Hopkins, Laurel, Livingston, Lyon, Marshall, McCracken, McCreary, Muhlenburg, Pulaski, Rockcastle, Russell, Taylor, Todd, Trigg, Wayne, Whitley

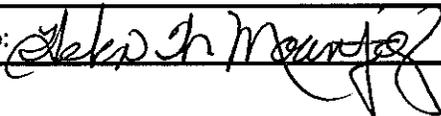
**\*15. Descriptive Title of Applicant's Project:**

The trainings that are proposed in this application include energy efficiency and renewable energy education for energy auditors/raters, Smart Grid technology installation and maintenance professionals, chemical process operators and plumbers, pipefitters, and steamfitters who will receive a Green Systems Awareness certification. These trainings will provide individuals with



\* Email: Helen.Mountjoy@ky.gov

\*Signature of Authorized Representative:



\*Date Signed:

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Standard Form 424 (Revised 10/2005)

Prescribed by OMB Circular A-102

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**\*Applicant Federal Debt Delinquency Explanation**

The following should contain an explanation if the Applicant organization is delinquent of any Federal Debt.

**BUDGET INFORMATION - Non-Construction Programs**

**SECTION A - BUDGET SUMMARY**

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		Total (g)
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	
1. SESP & Training	17.725	\$	\$	\$ 4,740,457.00	\$	\$ 4,740,457.00
2.						0.00
3.						0.00
4.						0.00
5. Totals		\$ 0.00	\$ 0.00	\$ 4,740,457.00	\$ 0.00	\$ 4,740,457.00

**SECTION B - BUDGET CATEGORIES**

Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1) SESP & Training	(2)	(3)	(4)	
a. Personnel	\$ 283,081.00	\$	\$	\$	\$ 283,081.00
b. Fringe Benefits	104,700.00				104,700.00
c. Travel	15,000.00				15,000.00
d. Equipment					0.00
e. Supplies	5,000.00				5,000.00
f. Contractual	4,077,813.00				4,077,813.00
g. Construction					0.00
h. Other					0.00
i. Total Direct Charges (sum of 6a-6h)	4,485,594.00		0.00	0.00	4,485,594.00
j. Indirect Charges	254,863.00				254,863.00
k. TOTALS (sum of 6i and 6j)	\$ 4,740,457.00	\$	\$ 0.00	\$ 0.00	\$ 4,740,457.00
7. Program Income	\$	\$	\$	\$	\$ 0.00

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SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS	
8.	\$	\$	\$	\$	0.00
9.					0.00
10.					0.00
11.					0.00
12. TOTAL (sum of lines 8-11)	\$	0.00 \$	0.00 \$	0.00 \$	0.00

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 1,580,152.32	\$ 395,038.08	\$ 395,038.08	\$ 395,038.08	\$ 395,038.08
14. Non-Federal	0.00				
15. TOTAL (sum of lines 13 and 14)	\$ 1,580,152.32	\$ 395,038.08	\$ 395,038.08	\$ 395,038.08	\$ 395,038.08

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT				
(a) Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16.	\$	\$	\$	\$
17.				
18.				
19.				
20. TOTAL (sum of lines 16-19)	\$	0.00 \$	0.00 \$	0.00 \$

SECTION F - OTHER BUDGET INFORMATION	
21. Direct Charges:	
22. Indirect Charges:	Provisional 6.25%
23. Remarks: The Education and Workforce Development Cabinet has an indirect cost rate agreement of 6.25% with the Federal Government where OMB Circular A-87 applies.	

## **BUDGET NARRATIVE**

**Personnel – \$283,081** The Education and Workforce Development Cabinet, as the applicant, will provide a project manager. Responsibilities will include interpret grant requirements to Local Workforce Investment Area staff. Collect and analyze program data and prepare quarterly performance and quarterly financial reports. Reviews records and reports submitted by program recipients for compliance with grant requirements. Prepare, review, process and/or recommend approval of contracts, grants and other program implementation. Communicate procedural or grant changes to contractors, recipients, and other interested parties.

**Fringe Benefits - \$104,700** Fringe benefits, calculated at 27 percent, includes retirement, FICA, medical insurance, life insurance and other benefits offered by the Commonwealth of Kentucky.

**Travel - \$15,000** – Attendance by project manager at grant related Federal, regional, state and/or local conferences, meetings and workshops.

**Equipment - \$0** – No equipment will be purchased with these grant funds.

**Supplies - \$5,000** – Supplies include items required for project manager to carry out grant related responsibilities, including postage, duplication of materials, paper, printing, computer supplies and other items, as necessary.

**Contractual - \$4,077,813** –

### **Training for Energy Auditors/Raters and Smart Grid Technology - \$1,607,946**

Personnel: A total of \$353,080 is requested. This covers the salary for three positions: Project Coordinator, Technical Support/Administration, and Outreach and Recruitment Specialist. The Project Coordinator will be full-time position (1.0 FTE) with a year-one salary of \$50,000 and year two and three salary increases of five percent per year. The Technical Support/Administration staff person is budgeted for \$25,000 per year as a 0.60

FTE position for year one with five percent increases in both year two and year three. The Recruitment Specialist is budgeted at \$37,000 for year one as a (1.0 FTE) position with five percent increases in year two and year three.

Fringe Benefits: A total of \$123,578 is requested for fringe benefits, representing 35% of total salaries.

Travel: A total of \$15,000 is requested for travel over the 3 year period included in this budget.

Equipment: No funds for equipment costs are requested in this budget.

Supplies: A total of \$105,280 is requested in the supplies line item for training supplies. Supplies to be purchased include: Computers, Smart Grid (SG) Software, Water heater for SG load control training, HVAC unit for SG load control training, Energy Auditor Training Supply Pack, SG load control modules, SG meters, desks and chairs, display boards/whiteboard, RESNET Green rater curriculum and HERS rating software.

Contractual: A total of \$865,740 is requested in the contractual line item.

A total of \$680,940 is requested to contract with South Kentucky Rural Electric Cooperative Corporation (SKRECC) for the provision of four employees to serve as instructors in the program. Under this contract, four experienced SKRECC energy auditors/rates, line workers, and Smart Grad installation and maintenance workers will be dedicated to providing instruction for the program. This instruction will take place at the Somerset Community College High Growth Training Center and in the field for practicum experiences.

\$75,000 is requested in contractual services for Bennie Garland and Associates for overall project coordination with a diverse group of energy industry companies from

across the state of Kentucky to ensure that their skills and education requirements are continually met by the project.

\$109,800 is requested for rental of 2,120 sq. ft. of training space at the High Growth Training Center. The building is owned and operated by the Somerset/Pulaski Economic Development Foundation. They will provide the available space for the training center classrooms and hands-on training areas, \$2,650 per month, which includes all utilities, is requested for a 36 month total of \$95,400. For administrative offices, which will also be contained at the High Growth Training Center, \$400 per month for a total of \$14,400 for 36 months is requested.

Indirect: A total of \$145,268 is requested in indirect costs, representing ten percent of total direct costs. These indirect costs support the project goals through provide the workforce investment area infrastructure to manage and report data, track participants, and ensure that all federal and state requirements are met.

### **Training for Chemical Engineering Technology - \$1,376,365**

Personnel: A total of \$58,600 is requested in personnel costs for salaries of staff associated with this project including the WKWIB Director (.025 FTE), Workforce Investments Manager (.025 FTE), Financial Coordinator (.01 FTE) and support staff (.47 FTE), as assigned, for a total of .53 FTEs.

Fringe Benefits: A total of \$ 9,400 is requested in fringe benefits and are computed on an individual basis and include such items as health insurance, dental insurance, long and short-term disability, tax withholdings and retirements costs.

Travel: A total of \$9,400 is requested in travel and includes direct travel costs for project staff and is reimbursed at the designated federal mileage rate. Per diem is also included.

Includes costs for travel for project training and presentation events throughout the 36 month period.

Supplies: A total of \$3,000 is requested in supplies to include items required for project staff to carry out their responsibilities under this grant. Portions of costs may be incurred for items such as postage, duplication of materials, paper, printing, computer supplies, etc.

Contractual: - \$ 1,267,765 is requested in contractual costs. \$618,440 in a contractual agreement with Hopkinsville Community College will be executed to provide the initial 33 credit hours of training to 75 individuals. Costs include personnel, training supplies and related contractual expenditures to carry out the initial training segment of this project.

\$649,325 is requested for Individual Training Accounts (ITAs) to provide continuing training instruction at Hopkinsville Community College and Austin Peay State University for the project participants and to ensure the completion of a Associate of Applied Science in Chemical Engineering.

\$16,000 is requested for outreach and recruitment activities to include detailed information being released to the region through various media formats and outlets. Also includes required notifications and contacts for the purpose of documenting results of program and other follow-up activities. Costs to include related audit and monitoring costs incurred over the 36 month period, as well as, a portion of related meeting expenses incurred by the WKWIB's Energy Project Team in facilitating the administration of this grant.

Indirect Charges: \$28,600 is requested for indirect charges. The Pennyrile Area Development District (fiscal agent of the WKWIB) has an established indirect cost rate. Current indirect rate is approximately 42% of total personnel and fringe costs.

**Training for Journeyman Plumbers, Pipefitters and Steamfitters - \$1,093,502**

Personnel: A total of \$163,700 is requested in personnel costs, which represent salaries of staff associated with this project including the WKWIB Director (.025 FTE), Workforce Investments Manager (.025 FTE), Financial Coordinator (.01 FTE) and support staff (.47 FTE), as assigned. Also includes a staff entrepreneurial coach (1.0 FTE) to assist with the start-up of 'green' businesses in conjunction with area economic development entities and the Innovation & Commercialization Center located at Murray State University.

Fringe Benefits: A total of \$20,540 is requested in fringe benefits and are computed on an individual basis and include such items as health insurance, dental insurance, long and short-term disability, tax withholdings and retirements costs.

Travel: A total of \$9,000 is requested in travel and includes direct travel costs for project staff and is reimbursed at the designated federal mileage rate. Per diem is also included. Includes costs for travel for project training and presentation events throughout the 36 month period.

Supplies: A total of \$3,000 is requested in supplies and include items required for project staff to carry out their responsibilities under this grant. Portions of costs may be incurred for items such as postage, duplication of materials, paper, printing, computer supplies, etc.

Contractual: A total of \$803,922 is requested in contractual. Contractual agreement (\$753,922) with West Kentucky Community & Technical College will be executed to

conduct Green Systems Awareness Certification training for up to 245 participants as identified in the project proposal. Contractual agreement (\$50,000) for an Entrepreneurial Coach to provide support of 'green' business start-ups and expansion in the energy sector in correlation with the Innovation & Commercialization Center located at Murray State University.

\$16,000 for outreach and recruitment activities to include detailed information being released to the region through various media formats and outlets. Also includes required notifications and contacts for the purpose of documenting results of program and other follow-up activities. Costs to include related audit and monitoring costs incurred over the 36 month period, as well as, a portion of related meeting expenses incurred by the WKWIB's Energy Project Team in facilitating the administration of this grant.

Indirect Charges: – A total of \$77,340 is requested in indirect charges. The Pennyrile Area Development District (fiscal agent of the WKWIB) has an established indirect cost rate. Current indirect rate is approximately 42% of total personnel and fringe costs.

**Construction - \$0** – No Construction costs will be incurred with these grant funds.

**Other - \$0** – No Other costs will be incurred with these grant funds.

**Indirect - \$254,863** – The indirect cost rate negotiated on May 29, 2009 of 6.25% is for use on grants and contracts with the Federal Government to which OMB Circular No. A-87 applies to subject to the limitations contained in the Circular and Negotiated Indirect Cost Rate Agreement. The rates were negotiated by the Education and Workforce Development Cabinet/Department for Workforce Investment and the U.S. Department of Labor in accordance with the authority contained in Attachment A, Section F, of the Circular.

**TOTAL BUDGET - \$4,740,457**

**Leveraged Resources - \$11,592,165**

**Training for Energy Auditors/Raters and Smart Grid Technology - \$2,882,850**

CWIA is offering supportive services (\$60,000) to help with recruitment, training, placement and retention services of participants. The Somerset/Pulaski County Industrial Authority is donating space and equipment for the training program (\$2,822,850).

**Training for Chemical Engineering Technology - \$8,473,899**

Hemlock has supported the development of this A.A.S. degree program with an investment of \$2 million to Austin Peay State University for lab equipment for a new chemical engineering technology building. Austin Peay State University (TN) also received \$6.3 million from the State of Tennessee to build a new lab facility to support this two-year degree program; and Hopkinsville Community College plans to leverage a total of \$173,899 of in-kind resources including related staff resources and space usage.

**Training for Journeyman Plumbers, Pipefitters and Steamfitters – \$235,416**

Space utilization P&S Union Facility, 2000 sq. ft. lab space x \$4/sq ft./yr. x 3 yrs. = \$24,000

Space for lab, office space, classrooms, 1720 sq ft. x \$9.50/sq. ft./yr x 3 yrs.= \$49,020

Principle Investigator salary and fringe at 10% time = \$11,752/yr. x 3 years = \$35,256

WKCTC HVAC Instructor at 15% time = \$9916/yr. x 3 years = \$29,748

WKCTC Administrative Asst. 20% time = \$6464/yr x 3 yrs = \$19,392

P&S Business Agent 10% time = \$10,000/yr x 3 years = \$30,000

P&S Training Coordinator 10% time = \$10,000/yr. x 3 years = \$30,000

P&S Admin. 10% time = \$6000/yr. x 3 years = \$18,000

## **TECHNICAL PROPOSAL**

### **Statement of Need**

Kentucky's challenge for the 21<sup>st</sup> century is to develop clean, reliable, affordable energy sources that help us improve our energy security, reduce our carbon dioxide emissions and provide economic prosperity. *Intelligent Energy Choices*, Kentucky's 7-Point Strategy for Energy Independence, is an action plan for Kentucky that is intended to improve the quality and security of life for all Kentuckians by creating efficient, sustainable energy solutions and strategies; by protecting the environment; and by creating a base for strong economic growth over the long term. Changes must take place in order to accomplish these objectives. In addition to identifying new initiatives, the plan provides an important framework around existing policies and activities, allowing Kentucky to aggressively increase the use of renewable energy sources; improve the energy efficiency of our homes and buildings; develop cleaner methods to utilize fossil energy resources; diversify our electricity and transportation energy portfolios; and more fully integrate our agricultural and energy economies.

The plan proposes a Renewable and Efficiency Portfolio Standard (REPS) whereby 25 percent of Kentucky's energy needs in 2025 will be met by reductions through energy efficiency and conservation and through use of renewable resources. This and other plan proposals are set to be achieved through the following seven strategies:

1. Improve the energy efficiency of Kentucky's homes, buildings, industries and transportation fleet;
2. Increase Kentucky's use of renewable energy;
3. Sustainably grow Kentucky's production of biofuels;
4. Develop a coal-to-liquid industry in Kentucky to replace petroleum-based liquids;

5. Implement a major and comprehensive effort to increase gas supplies, including coal-to-gas in Kentucky;
6. Initiate aggressive carbon capture/sequestration (CCS) projects for coal-generated electricity in Kentucky; and
7. Examine the use of nuclear power for electricity generation in Kentucky.

This thoughtful plan will help Kentucky ensure new vibrant industries that provide high-paying, quality jobs. Among other accomplishments, Kentucky hopes to provide 30,000 – 40,000 new Kentucky jobs as a result of a booming diversified energy sector – at least 12,000 directly in our new energy producing sector; and another 20,000 – 25,000 jobs as a result of the domino effect – jobs which provide indirect support to the new booming energy industry. The training programs described in this proposal will help the Commonwealth in this achievement.

Keeping in line with his vision for intelligent energy choices, Governor Beshear has advocated for the advancement of economic development in Kentucky and creating well-paying jobs for Kentuckians in the 21<sup>st</sup> century economy. His vision is for a highly skilled workforce serving new and emerging industries in the energy, healthcare, advanced manufacturing, and technology sectors. Priorities for the Kentucky's workforce investment system, as outlined in the Workforce Investment Act/Wagner-Peyser Act State Plan, include:

- Build a well-educated, highly-skilled workforce;
- Focus workforce development on emerging industries and employers that represent Kentucky's future;
- Strengthen our career readiness certificate program; and
- Create an integrated workforce training delivery system.

Kentucky is responding to the current economic crisis by integrating these priorities into the Commonwealth's recovery programs and investments under the "Kentucky At Work" initiatives, with the understanding that sustainable recovery and future growth will depend upon both short term and long term solutions.

One of the long term solutions is the transformation required within the energy industry, given the changes and shifts in industries that continue to impact workers through workforce reductions and layoffs. Kentucky has suffered staggering job losses in manufacturing, especially automotive manufacturing and retraining these workers is a high priority. In 2008, the number of jobs in the manufacturing sector plummeted by 65,400 professionals, which equates to a 21.1% rate of decline since 2000.

Forty-one of Kentucky's 120 counties have been impacted by the automotive-related restructuring. Between 2000 and 2008 motor vehicle manufacturing plunged 39.2 percent, falling from 20,400 professional to 12,400. Between June 2007 and June 2009, employment within the motor vehicle manufacturing industry plunged 51.8 percent, as the number of employees plummeted by 8,500 from 16,400 to 7,900, losing over half the industry's jobs in a two-year period.

An evaluation of Kentucky's industries shows that several industries will likely experience substantial growth. The Architectural, Engineering and Related Services industries are expected to expand by more than 19 percent by 2016. Residential and Non-Residential Building Construction industries are expected to grow nearly 16 percent each within the same time period. Within the Non-Residential Building Construction category, plumbers, pipefitters and steamfitters are expected to expand by nearly 20 percent. The energy utility industry is identified

as having the second greatest value added to the Kentucky economy and the Utility System Construction industry is expected to grow by more than 11 percent by 2016.

Additionally, several occupations are expected to experience considerable growth. Such occupations include Environmental Science & Protection Technicians at 57.5 percent within the Management, Scientific and Technical Consulting Services industry; Computer Software Engineers at 53.4 percent within the Computer Systems Design and Related Services industry; and Chemical Engineers and Chemical Technicians at 28.4 percent and 20 percent respectively within the Architectural, Engineering and Related Services industry.

As Kentucky begins to implement long term energy solutions, new skills and competencies are necessary to ensure a green workforce is available. The trainings that are proposed in this application include energy efficiency and renewable energy education for energy auditors/raters, Smart Grid technology installation and maintenance professionals, chemical process operators and plumbers, pipefitters, and steamfitters who will receive a Green Systems Awareness certification. These trainings will provide individuals with the knowledge and skills necessary to obtain employment within the growing industries and occupations described above.

Energy auditors and raters provide assessments of new and existing homes and industrial buildings, which identify potential savings and reductions in energy usage that could be achieved with renovations, improvements, and or upgrades to existing infrastructure. The focus on Smart Grid technology training is directly related to increasing the efficiency of which energy is delivered to, and used by, both commercial and residential utility customers. The chemical process operators will complete an Associate of Applied Science degree program in chemical engineering technology. The plumbers, pipefitters, and steamfitters training will focus on green awareness, sustainable technologies installation/service, and energy efficiency in residential,

business, light industry, including supporting energy-efficient building construction and retrofit industries (green construction) and energy efficiency.

Kentucky’s population totals 4,241,474; of those 49 percent are male and 51 percent are female. Table 1 provides the percentage of the population by age.

**Table 1. Kentucky’s Adolescent/Adult Population by Age**

<b>Age</b>	<b>Percentage</b>
15-19 years old	7.1%
20-29 years old	13.6%
30-39 years old	13.2%
40-49 years old	15.1%
50-59 years old	13.6%
60-69 years old	9.0%
70-79 years old	5.6%
80+ years old	3.5%

*Source: 2007 American Community Survey 1-Year Estimates*

The age composition of Kentucky’s labor pool is expected to shift over the next decade. Further, the only age groups expected to experience any growth by 2020 are those in the 60-69 and 70-79 ranges.

Approximately 42 percent of the current labor pool is between the ages of 20-49. By 2020 this same age group is projected to make up less than 39 percent of the potential labor pool, while the percentage of those aged 50-69 is expected to increase slightly.

Table 2 depicts the educational attainment percentages for Kentucky

**Table 2. Kentucky’s Educational Attainment Rate**

<b>Educational Attainment (age 25 and older)</b>	<b>Total (Percentage)</b>
Less than 9 <sup>th</sup> Grade	247, 797 (8.7%)
9 <sup>th</sup> – 12 <sup>th</sup> Grade, no diploma	316,446 (11.1%)
High School, including equivalency	1,003,985 (35.4%)
Some College, no degree	527,113 (18.6%)
Associates Degree	176,547 (6.2%)
Bachelor’s Degree	340,467 (12.0%)
Graduate/Professional Degree	227,671 (8.0%)

*Source: 2007 American Community Survey 1-Year Estimates*

Although Kentucky has made notable improvements in educational attainment over the past 30 years, the state still ranks 47<sup>th</sup> in the US for those individuals who have received a high school diploma or its equivalency. Between the 1990 Census and the 2000 Census, the percentage of adults that had obtained an education level of high school or above increased from 64.6 percent to 74.1 percent. In fact, Kentucky made the largest jump of any state in the nation in the percentage of high school graduates in the 25-34 age group from 1990 – 2000.

### **State Energy Sector Partnership**

The Kentucky Workforce Investment Board (KWIB) appointed a 20 member Kentucky Energy Sector Partnership (KESP), a voluntary partnership of state, local and private sector interests to develop a statewide energy sector workforce development plan, provide oversight for the implementation of the plan's strategies, seek funding opportunities to facilitate plan implementation, to serve as a forum for collaboration among stakeholder government cabinets and local agencies, and provide guidance and support for best practices in related activities.

The KESP serves as the oversight body for grants, including this one, secured by the KWIB related to training and workforce development in energy-related occupations.

The KESP was intricately involved, through a series of meetings, in the development of its Charter (See Attachment A) and Sector Plan as well as selecting local projects and teams through multiple reviews and discussions of the ten proposals received from the Local Workforce Investment Boards (LWIBs). Each member of the KESP maintains a valuable role in the partnership to contributing to the oversight of the implementation and successful operation of the Sector Plan.

Upon receipt of the ten local proposals, members of the KESP read and scored each of them, using a standard score sheet, in preparation for a partnership meeting. At the meeting, members

discussed the strengths and weaknesses of each proposal, including the local project teams, and selected those they thought best met the intent of this solicitation.

### **Leveraged Resources**

This proposal contains more than \$11.5 million in leveraged resources, demonstrating the strength of commitment from businesses, labor organizations, education and training providers and Federal, state and local government programs. The largest investments are being made in the Chemical Engineering Technology education program. The State of Tennessee contributed \$6.3 million to Austin Peay State University (APSU) for the construction of a new lab facility to support the program. Also, Hemlock Semiconductor Group (HSC) provided \$2 million for the purchase of lab equipment to be placed in the new chemical engineering technology building at APSU. This facility and equipment will be used to train students in the Chemical Engineering Technology education program during the final year of training. Approximately \$3 million of leveraged resources will be provided by the Somerset/Pulaski County Industrial Authority, Somerset Community and Technical College (SCTC), Cumberland Workforce Investment Area (CWIA), West Kentucky Community and Technical College (WKCTC), West Kentucky Workforce Investment Area (WKWIA) and the Journeyman Plumbers & Pipefitters Local 184 in personnel, training equipment and space for use by students enrolled into the energy auditor/rater and Smart Grid technology program and the plumbers, pipefitters, and steamfitters training focusing on green awareness, sustainable technologies installation/service, and energy efficiency in residential, business, light industry and industry including supporting energy-efficient building construction and retrofit industries (green construction) and energy efficiency. Leveraged personnel resources will provide participants with training and supportive services, including assistance with transportation, child care, and placement and retention services.

## Strategy and Work Plan

*Intelligent Energy Choices*, Kentucky's energy sector strategy, is an action plan for Kentucky that is intended to improve the quality and security of life for all Kentuckians by creating efficient, sustainable energy solutions and strategies; by protecting the environment; and by creating a base for strong economic growth over the long term. Kentucky hopes to provide 30,000 – 40,000 new Kentucky jobs as a result of a booming diversified energy sector – at least 12,000 directly in our new energy producing sector; and another 20,000 – 25,000 jobs as a result of the domino effect – jobs which provide indirect support to the new booming energy industry.

Priorities for the Kentucky's workforce investment system, as outlined in the Workforce Investment Act/Wagner-Peyser Act State Plan, include:

- Build a well-educated, highly-skilled workforce;
- Focus workforce development on emerging industries and employers that represent Kentucky's future;
- Strengthen our career readiness certificate program; and
- Create an integrated workforce training delivery system.

Kentucky is responding to the current economic crisis by integrating these priorities into the Commonwealth's recovery programs and investments under the "Kentucky At Work" initiatives, with the understanding that sustainable recovery and future growth will depend upon both short term and long term solutions. Incorporating these initiatives into the proposed training activities described below will increase employment; retain jobs; and raise the earnings and occupational skill attainment of the workforce; among other benefits.

As green sectors and jobs are identified, and the transformation of Kentucky's economy into a clean energy economy begins, focus is required on the interrelated areas of increasing energy

efficiency and developing renewable energy sources. Communities tied to the manufacturing industry will continue to suffer unless these jobs are replaced with quality employment opportunities.

Kentucky has suffered staggering job losses in manufacturing, especially automotive manufacturing and retraining these workers is a high priority. By 2008, the number of jobs in the manufacturing sector plummeted by 21.1% since 2000. In the same period motor vehicle manufacturing plunged 39.2%. Motor vehicle manufacturing employment fell 51.8%, losing over half its jobs between 2007 and 2009.

An evaluation of Kentucky's industries shows that several industries will likely experience substantial growth. The Architectural, Engineering and Related Services industries are expected to expand by more than 19 percent by 2016. Residential and Non-Residential Building Construction industries are expected to grow nearly 16 percent each within the same time period. Within the Non-Residential Building Construction category, plumbers, pipefitters and steamfitters are expected to expand by nearly 20 percent. The energy utility industry is identified as having the second greatest value added to the Kentucky economy and the Utility System Construction industry is expected to grow by more than 11 percent by 2016.

Additionally, several occupations are expected to experience considerable growth by 2016. Such occupations include Environmental Science & Protection Technicians at 57.5 percent within the Management, Scientific and Technical Consulting Services industry; Computer Software Engineers at 53.4 percent within the Computer Systems Design and Related Services industry; and Chemical Engineers and Chemical Technicians at 28.4 percent and 20 percent respectively within the Architectural, Engineering and Related Services industry.

As Kentucky begins to implement long term energy solutions, new skills and competencies are necessary to ensure a green workforce is available. The trainings that are proposed in this application include energy efficiency and renewable energy education for energy auditors/raters, Smart Grid technology installation and maintenance professionals, chemical process operators and plumbers, pipefitters, and steamfitters who will receive a Green Systems Awareness certification. These trainings will provide individuals with the knowledge and skills necessary to obtain employment within the growing industries and occupations described above.

### **Training for Energy Auditors/Raters and Smart Grid Technology**

Energy auditors and raters provide assessments of new and existing homes and industrial buildings, which identify potential savings and reductions in energy usage that could be achieved with renovations, improvements, and or upgrades to existing infrastructure. The focus on Smart Grid technology training is also directly related to increasing the efficiency of which energy is delivered to, and used by, both commercial and residential utility customers. Target populations for this training are veterans, unemployed individuals, out-of-school youth and other individuals seeking pathways out of poverty. Given that education levels in the region are much lower than the state of Kentucky and the US, education is a potential challenge. According to the 2000 US Census data, more than 21 percent of 25-34 year olds in the region had not completed high school compared to 15.8 percent in Kentucky and 16.1 percent in the US for the same time period. To resolve this challenge, they will be assessed for skills gaps and referred to appropriate sources to improve necessary skills before training begins. For instance, an individual must have proficient levels of reading and math skills before they begin training.

The work plan for this proposed project began with the development of the Cumberland regional partnership found in Attachment B. This team has extensive experience in the energy

industry and workforce development, as demonstrated by the presence of leading industry employers, local workforce investment board members and the regional Workforce Investment Area Title I administrator. The team is centrally located in the Cumberland Workforce Investment Area (CWIA), parallels the 13 county region of the CWIA, and has strong connections to the state community college system, with partnership representation, and potential employers statewide. The team consists of six members of which three represents the energy industry working with new and emerging energy needs and solutions, one represents the educational/training portion that provides insight to new and effective curriculum, one represents economic development which lends leadership and contacts with new and emerging industries and one that represents the workforce system that brings supportive services and job placement through the local One-Stop Career Centers. The current lead is Darryl McGaha, Workforce Director for the Cumberland Workforce Investment Area who has been administering federal employment and training programs since 2000.

Outreach and recruitment will be coordinated by CWIA with support from the energy industry partners. CWIA will provide focused recruitment events on a scheduled basis and identify potential applicants from job searches and customer pool. Additionally, the South Kentucky Rural Electric Cooperative Corporation (SKRECC) will coordinate an outreach program to all electrical related companies in Kentucky to identify entry-level employees who could achieve career advancement by completing the proposed training program.

This training program will focus on three main areas: energy auditor/rater training, Smart Grid hardware installation and maintenance training and Smart Grid software training. These three components taken together will provide participants the training, certification and skills necessary to obtain employment within Kentucky's leading energy industry employers.

The energy auditor/rater training will be focused on the Residential Energy Service Network (RESNet) certified Home Energy Rating System (HERS) certificate. RESNet has adopted the Mortgage Industry national Home Energy Rating Standards, which is an industry-recognized certification. Participants will spend three weeks completing the HERS certification training. Following successful completion of the required exam, program instructors will supervise the participant's practical experience by conducting two required supervised ratings and, upon successful completion, issue final certification to the participant.

Smart Grid hardware includes equipment used to monitor and control energy usage in residential and commercial facilities. Participants will be trained to install, maintain and repair Smart Grid equipment, with one week of hands-on training. Experienced energy industry employees will serve as the instructors for these courses and will certify the expertise of participants who successfully complete the program.

The final module of the proposed training program is the Smart Grid software training, which comprises the remaining six weeks of the program. The program will provide instruction to participants on using Smart Grid software utilized by Kentucky's largest energy industry employers. This software controls billing plans, customer options and other automated controls. Participants will learn to program, operate and modify plans using the software, allowing them to educate consumers on energy rate structures and best practices for energy efficiency control.

The comprehensive ten-week training program, including all three elements described above, will enroll 30 participants into ten cohorts over the life of the grant. A new cohort will begin each quarter for the first 30 months of the program. The number of participants is limited to 30 per cohort to ensure that each student receives sufficient individual attention and has the opportunity for ample hands-on experience. Limiting the class size will also allow the instructors

the ability to address any differences of skill level or level of work experience among the participants.

In addition to the core training, several supporting activities will be implemented before, during and following completion of the training program. After assessment and prior to enrollment into the training program, any participant who needs basic skills remediation will have their needs addressed through CWIA referrals to local, basic skills education providers. Support services will be provided under the CWIA support services policies for any participants who need childcare, transportation or other support services. Grant support service resources will be matched, one for one, by CWIA support service funds for WIA eligible participants. CWIA will also provide case management services for participants throughout the entire program.

The core training is based upon existing and proven effective models that have been developed with significant employer input and whose results have been verified by the energy industry. This training has led to positive employment outcomes as well as entrepreneurial opportunities. Further, it is the goal have all training curriculum coming out of the High Growth Training Center, being energy auditor training with RESNET, certifications, (HERS) certifications, Smart Grid hardware and software training to become Kentucky Community and Technical College System (KCTCS) accredited and thus allowing a clear pathway for continued education and financial assistance to ensure sustainability.

Placement strategies begin from the moment each participant enters the program. CWIA staff will conduct a comprehensive assessment of a participant's barriers to employment and will develop individual service plans. All instructors will be energy industry professionals and will provide valuable, constructive, on-going feedback on each student's performance and, along with CWIA staff, will assist them in navigating the application process for employment. During the

ten weeks of training, barriers will be addressed, including resume writing and interview skills.

At the conclusion of the training, each participant will have created their own resume and participated in mock interviews, preparing them for their job search efforts. CWIA will host semi-annual job fairs that focus on energy efficiency and renewable energy occupations.

Employer partners, such as SKRECC and East Kentucky Power, have committed to interviewing candidates who have completed the ten-week training for any available positions within their organizations. As a result of the close partnership this project has with these and other employers, high placement rates are projected.

CWIA will be responsible for monitoring and assisting with the retention of participants who are placed into employment. The CWIA case manager for each participant will contact the participant bi-weekly for the first three months of employment and the employer at least monthly. Workshops will be conducted quarterly by CWIA staff on topics related to job retention, including teamwork, interacting with workplace supervisors and positive work habits. Additionally, the case managers will be available to the participant and the employer whenever either feels there is an issue that may endanger the employment retention status of the participant. The retention strategy is further enhanced through the required HERS probationary ratings. An experienced instructor must accompany a new certified rater on three additional ratings beyond the two completed during the training phase. Training instructors will complete these evaluations with their participants, adding another check point, ensuring retention and that participants are moving along the planned career ladder.

### **Training for Chemical Engineering Technology**

Those entering the chemical process operators program will complete an Associate of Applied Science degree program in chemical engineering technology, with the goal of obtaining

employment at the Hemlock Semiconductor Plant, located in northwest Montgomery County, Tennessee, approximately three miles from the Kentucky line. Hemlock Semiconductor Group (HSC) is a subsidiary of Dow Corning and a world leader in the production of polycrystalline silicon (polysilicon), used in the manufacture of solar power generating applications and semiconductors which provide green energy. Manufacturing spin-offs appear likely as HSC manufactures one-third of the world's polysilicon supply for solar cells. And according to researchers, every manufacturing job adds at least 3.5 workers to the service or retail sector. These additional green energy related spin-offs will provide an opportunity for additional economic development and investment for the Pennyriple area of Kentucky as well as additional green jobs as they require a similarly skilled workforce as HSC.

Priority populations include displaced workers, auto-related dislocated workers, and individuals in need of updated training in the chemical process industry, veterans, unemployed individuals and individuals at-risk. According to employment guidelines for Hemlock Semiconductor, candidates for employment must have the following credentials for initial consideration for employment: high school diploma or its equivalency and computer literacy. In Kentucky, candidates must complete two high school semesters or one college semester of math (minimum of Algebra) and science (chemistry, biology or physics only) with a grade of “C” or better each semester. Given that education levels in the region (Todd County, Christian County and Trigg County) are much lower than the state of Kentucky and the US, college-preparedness and college success skills are potential challenges. Todd County has the highest percentage of people over age 25 without a high school diploma at 36.5 percent; Trigg County’s percentage is 27.9 percent and Christian County’s stands at 22.8 percent. To resolve these challenges, Hopkinsville Community and Technical College (HCTC) will offer a student success pathway

that begins with Adult Education/Academic Foundations for the entering student without a high school diploma or its equivalent. They will then move through any development college coursework required post diploma and then enroll into the first 33 credit hours toward the Associate of Applied Science (AAS). For those students who already have a high school diploma, HCTC will assess and, if necessary, remediate to college-readiness through the institution's normal Academic Foundations coursework. Students will be supported during this process through federal financial aid and other funding mechanisms.

The West Kentucky Regional Energy Team parallels the 17-county region of the West Kentucky Workforce Investment Board (WKWIB) as shown in Attachment B. The team represents economic development and industry leadership with close ties to existing and emerging business/industry in order to provide insight and contacts for the team. There are four educational partner agencies to provide training and develop needed curriculum for career pathways. Veterans, Labor and Career Center partner members are capable of referring participants, providing support services and targeting employment. The current lead is Sheila Clark, WKWIB Director/CEO, who has worked with federal employment and training programs since 1980. Her qualifications include USDOL grant oversight for six National Emergency Grants, High Growth Grant in Energy, collaborator on three national Community Based Job Training Grants with local community colleges, plus partnerships with other regional grants.

The targeted population for the Chemical Engineering Technology program who tests into college level coursework or successfully completes developmental coursework will be recruited for the training program. These populations will primarily be recruited via the West Kentucky Career Center system. The web presence, direct mailing pieces, radio announcements, public service announcements and Rapid Response Team visits will supplement recruitment at career

centers. The program will give priority to veterans recruited through the Fort Campbell campus of HCTC and Austin Peay State University (APSU), as well as the Wounded Warrior Program. The WKWIB's Career Center system case managers will determine eligibility should additional Individual Training Accounts (ITAs) or other training support, such as travel, be needed and will also provide case management based upon individual needs.

The Chemical Engineering Technology program proposed is a partnership between APSU and HCTC. To be hired by HSC, an individual must have completed the 60 hour Associate of Applied Science degree (AAS). HCTC will provide the first year of the AAS in Chemical Engineering Technology; APSU will provide the second year of the AAS degree, which includes coursework designed for HSC to meet specific process needs.

The program focuses on embedded STEM (science, technology, engineering and math) skills that are required for Chemical Process Operators to be successful at HSC and other related employers. Technical skills include the ability to monitor and record process conditions (including temperatures, pressures, vacuum and material flow); monitoring of process stability to maintain quality standards; understanding and upholding environmental regulations and requirements; understanding process and control technologies; maintaining high standards of safety and cleanliness in the worksite; analyzing lab and sampling results to maintain process and safety standards; and the ability to think critically about chemical processes and the improvement of these processes. Required equipment operation skills include the ability to manage distillation columns and batch and continuous readers; mixing and blending tanks and kettles; simple and intricate valve headers and assemblies; compound mixers and rolling mills; chemical dryers and centrifuges; filtration processes; and other simple and complex instruments to control.

The ability to step into the workplace and be ready to work in the manufacturing plant with little on the job training is required for Hemlock Semiconductor and any associate industries to maintain quality of product with quick ramp up to full factory production. The company will support economic growth with required chemicals and processes to ensure access to solar panels for the green energy and construction industries. Workers ready to step into production jobs with the skills embedded in the Associate of Applied Science program make that ramp up possible.

Most of the priority student population will need additional support to ensure program completion. HCTC will provide this early support by assigning a Chemical Engineering Technology program coordinator to these students. Additional in-class support will be provided by the tutoring services available at HCTC and APSU. Transfer and career support will be provided by HCTC Career and Transfer Center in cooperation with WKWIB career center case managers to make sure there is a smooth transition to APSU. The WKWIB career centers will provide counseling, resume and interviewing skills, job search assistance and support and assistance for the students.

To help relieve the financial burden of attending college, each student not eligible for WIA services will receive a tuition scholarship along with textbook and supplies scholarship to help ensure completion in the tough economic times faced by the region. College services are funded via the individual college's general budget and will also leverage Perkins grant funding for tutoring of the students. Each student will be advised to apply for federal financial aid support, receipt of which may allow some of the scholarship funding to be applied to additional student enrollments.

Each course in the AAS degree is designed to meet specific needs for success in the manufacturing workplace, including communication (writing and speaking), use of computers, a

broad understanding of appropriate technologies, and a specific understanding of manufacturing processes for Hemlock Semi-conductor and any subsidiaries. The latter includes an understanding of organic chemistry (including separation techniques, crystallization, and filtrations, heat transfer, fluid flow). Chemical Engineering courses include topics such as processing techniques, theory and application of instrumentation, flow sheet applications, tagging procedures, hands-on use of equipment, reactor design and reaction systems, thermodynamics, and more. Process troubleshooting and Process Operations Management topics complete coursework that focuses on the manufacturing process and its support.

Should the Chemical Process Operator want to continue up the career ladder, additional coursework could be taken at APSU to move to a Bachelor's degree and then into Master's degree level work. As the student moves into graduate work in engineering, position titles available include employment in Hemlock and associate industries as a process engineer (bachelors or masters in chemical engineering), process analyzer engineer (bachelors or masters in electrical or chemical engineering), safety instrumented system engineer (bachelors degree in electrical or chemical engineering), and manufacturing representative startup leader (bachelors or masters degree in chemical or mechanical engineering and 10 years or more of experience).

### **Training for Journeyman Plumbers, Pipefitters and Steamfitters**

The plumbers, pipefitters, and steamfitters training will focus on green awareness, sustainable technologies installation/service, and energy efficiency in residential, business, light industry and industry including supporting energy-efficient building construction and retrofit industries (green construction) and energy efficiency. The West Kentucky Community and Technical College (WKCTC) and Plumbers and Steamfitters Local 184 (P&S) are working in partnership to provide the training to be contracted via the WKWIB. Experts indicate that full

utilization of currently available energy efficiencies could reduce residential and commercial energy consumption by an estimated 25 percent, certainly exceeding the 18 percent targeted within Kentucky's energy plan.

Training will be provided to those in the P&S Union apprenticeship program (approximately 130 individuals over a 36 month period) and to existing union local members (approximately 90 people over a 36 month period) plus students in the HVAC program at WKCTC (approximately 25 people over 36 months). Of the individuals to be served, approximately 90 are currently Union Journeyman (though 30% are currently not working due to economic conditions), 95 are current Union Apprentices (15% currently not employed) both of these groups are in need of updated training related to energy efficiency and renewable energy industries. An additional 35 individuals are expected to be taken into the Union Apprenticeship program during the 36 month grant period and 25 people will be trained as a part of the WKCTC HVAC program; most of these people are currently unemployed or underemployed individuals. A special focus of this program will be recruiting veterans. P&S has included nine "Helmets to Hardhats" participants in their apprenticeship program over the last three years. The project will include a project manager/recruiter who will help identify and recruit veterans into both the P&S apprenticeship program and the WKCTC HVAC diploma program along with career center system sites and military service programs.

The target populations for this training are individuals in need of updated training related to the energy efficiency and renewable energy industries, specifically those working in the plumbing and heating and air conditioning (HVAC) fields who have little knowledge or skills in the installation of green systems or products; currently unemployed individuals and veterans. Challenges to serving these populations includes the lack of knowledge about the different

sustainable energy products and systems in plumbing or HVAC. These challenges will be met via the revised curriculum of the WKCTC HVAC program.

The West Kentucky Regional Energy Team parallels the 17-county region of the West Kentucky Workforce Investment Board (WKWIB) as shown in Attachment B. The team represents economic development and industry leadership with close ties to existing and emerging business/industry in order to provide insight and contacts for the team. There are four educational partner agencies to provide training and develop needed curriculum for career pathways. Veterans, Labor and Career Center partner members are capable of referring participants, providing support services and targeting employment. The current lead is Sheila Clark, WKWIB Director/CEO, who has worked with federal employment and training programs since 1980. Her qualifications include USDOL grant oversight for six National Emergency Grants, High Growth Grant in Energy, collaborator on three national Community Based Job Training Grants with local community colleges, plus partnerships with other regional grants.

Students will be recruited to the training classes in several ways. Those who are Journeymen in the P&S Union Local 184 will be recruited to take the technical training needed to update their knowledge and skills to install and service energy efficient and renewable energy systems. Members of the Union who have Kentucky licenses in plumbing and/or HVAC taking courses in this program would meet the required number of annual continuing education hours. New apprentices are recruited into the Apprentice Training Program annually through solicitation of applications and interviews. To ensure newly trained members receive education and installation and service skills on energy efficient and renewable energy systems, the courses will be incorporated into the Apprenticeship Training Program. Additionally, referrals to the program will be made through the WKWIB's Career Center System. WKCTC HVAC program

participants are primarily those who have been dislocated workers or unemployed/underemployed and seek a diploma in HVAC to improve their employability, with the remaining participants being those who enter upon high school graduation. The project manager will focus on recruiting veterans to the WKCTC HVAC program as part of this new initiative.

The curriculum for this program is an existing curriculum developed by and available through the United Association of Journeyman Plumbers and Pipefitters. This certification has been approved through the US Green Building Council Education Provider Program. In order to utilize this curriculum, instructors attended instructor certification courses at the United Association of Plumbers and Pipefitters, preparing them to provide green instruction in plumbing, HVAC or both.

Participants will receive training on the installation of basic wind power generating system; plumbing systems which include low water, grey water, solar water heaters and pressure assisted systems; and HVAC systems, including solar heating, solar photovoltaic system, geothermal system, and high efficient gas furnace.

The training will consist of a combination of classroom and lab sessions provided in modularized units that will provide postsecondary credit for each modular unit. Upon successful completion of the training, P&S members will be able to take a national union certification exam. HVAC students who successfully complete the courses will receive a Certificate in High-Efficiency HVAC Installation and Service from WKCTC and will have the opportunity to seek additional industry or nationally recognized certifications, such as Leadership in Energy and Environmental Design (LEED).

Those who complete the program wish to start or expand their own business, incorporating both the technical and entrepreneurship skills, will have access to a business coach at the WKWIB and receive referrals to additional area services to assist them in actualizing their business. Such referrals will include WKWIB career center system, Small Business Development Centers, the Innovation and Commercialization Center and the Paducah Area Chamber-based EntrePaducah program.

Placement for graduates will occur through the WKWIB career center system and project team members; P&S union members who complete the training will be placed through the union. Information about the availability of individuals with new skills in the installation of the various green systems will be made available and will be an incentive for local employers to hire the graduates. The small business owner completing the training will have an opportunity to offer new products and services which will secure new customers and provide a more stable business climate.

Individuals will be tracked by the LWIA in the Employ Kentucky Operating System (EKOS). Journeymen receiving upgrades are already tied to employment and completion of the training would continue to secure their employment. The coordination with labor would serve to assure the classroom training skills are tied to the needs of current employers thus providing employers an incentive to retain these employees. Employer skill groups regularly meet with labor unions and the WKCTC to assure these skills are aligned with employer needs. The concentration of federal contracts in this area with military related construction including “green” requirements helps to ensure future employment.

This training effort will be coordinated with the employment and support offerings of the West Kentucky Career Center System in this local workforce area. Support system needs of this targeted population should be minimal outside needs to be addressed by the grant. The various one-stop agencies would be available for supportive services, including WIA services, if barriers to employment were identified.

**Fiscal, Administrative and Performance Capacity**

The Kentucky Office of Employment and Training (OET) is part of the Department of Workforce Investment; OET staff provides job services, unemployment insurance services, Labor Market Information, and training opportunities. OET is the agency administering the Commonwealth’s \$44,615,045 from the U. S. Department of Labor under the American Recovery and Reinvestment Act 2009 to provide workforce services to the its citizens. OET, through collaborative efforts with the two local workforce investment areas participating in this application, has the ability to lead the state’s energy efficiency and renewable energy training efforts. These efforts will play a significant role in developing the Commonwealth’s green economy, as outlined in the Kentucky’s Plan for Energy Independence, by investing in a workforce that targets energy efficiency and renewable energy industries.

**Implementation Timeline**

**Table 3. Energy Auditor/Rater and Smart Grid Training Implementation Timeline**

<b>Key Activities</b>	<b>Deliverables</b>	<b>Start Date</b>	<b>Completion Date</b>
Market using local one stop centers, employers & community colleges. Public Service access.	Recruit 300 participants	1/2010	10/2012
See Cohort 1 description below	Train 300, 275 will complete	2/2010	11/2012
Outreach and recruitment	<b>Cohort 1 (30 participants)</b>	1/2010	2/2010
Assessment & basic skills prep		1/2010	2/2010
Training activities		3/2010	5/2010
Placement activities		5/2010	ongoing
See activities for cohort 1	<b>Cohort 2</b>	4/2010	9/2010

“	<b>Cohort 3</b>	8/2010	1/2011
“	<b>Cohort 4</b>	11/2010	4/2011
“	<b>Cohort 5</b>	2/2011	7/2011
“	<b>Cohort 6</b>	5/2011	10/2011
“	<b>Cohort 7</b>	8/2011	1/2012
“	<b>Cohort 8</b>	11/2011	4/2012
“	<b>Cohort 9</b>	2/2012	7/2012
“	<b>Cohort 10</b>	5/2012	10/2012
Resume writing, job fairs, mock interviews, case management & energy employer partnership development	Place participants in 250 jobs, of which 235 are training related	3/2010	12/2012
Case management, follow up services, workshops related to job retention	Ensure that 225 participants are retained in their job for 3 quarters following quarter of placement	3/2010	12/2012

**Table 4. Chemical Engineering Technology Implementation Timeline**

<b>Key Activities</b>	<b>Deliverables</b>	<b>Start Date</b>	<b>Completion Date</b>
Begin work with APSU to develop official 1+1 articulation agreement	Articulation Agreement	<b>Jan 2010</b>	April 2010
Begin outreach and recruitment efforts	Recruiting materials, updated website, radio spots	Mar 2010	On-going
Program students begin enrolling in HCC college credit courses; offer scholarships to students	Enrolled students Accepted scholarships	Aug 2010	On-going
Continue enrollment of students in program	Enrolled students Accepted scholarships	Jan 2011	On-going
Continue enrollment of students in program	Enrolled students Accepted scholarships	Aug 2011	On-going
First students articulate to Austin Peay State University/continue enrollment of students in program.	Student articulation Student enrollment	Jan 2012	On-going
Grant Funding Complete		Dec 2012	Dec 2012

**Table 5. Journeyman Plumbers & Pipefitters Training Implementation Timeline**

<b>Key Activities</b>	<b>Deliverables</b>	<b>Start Date</b>	<b>Completion Date</b>
Instructors-“Green Awareness” and “Operation of Sustainable Techn.”	Instructor’s Receive Trng Certification	01/2010	04/2010
Equipment and related materials for lab development identified & secured	Comprehensive lab plan developed & available	01/2010	03/2010-06/2010

Initiate recruiting with focus on veterans (with Helmets for Hardhats)	Minimum of 10% veterans in each new class	02/2010	Ongoing
Continuing Ed Unit (CEU) approval from Kentucky for courses	State approval for CEU courses	03/2010	06/2010
Lab equipment installed	Lab equipment installed	05/2010	12/2010
Classes in green technologies	Record classes completed	05/2010	12/2010
P&S Union members take union National Cert. Exam	Union members receive certification	12/2010	12/2012
Recruiting and outreach campaign to promote “green system trained” plumbers and HVAC technicians	Recruiting and outreach materials and campaign (document ads run)	08/2011	06/2012
Contacts made with businesses on completers & placement follow up	List of contacts made & follow-up documentation	12/2010	12/2012

### Projected Outcomes

CWIB utilizes a results oriented approach for all of its training programs to ensure that they meet Common Measures and other funding requirements as well as appropriate employment and career advancement outcomes for participants. For the proposed program, outcomes will be achieved as detailed in the table below.

**Table 6. Outcomes for Energy Auditors/Raters and Smart Grid Training Participants**

Outcome Category	Projected Outcome
Total Participants Served	300
Total Number of Participants Beginning Education/Training Activities	300
Total Number of Participants Completing Education/Training Activities	275
Total Number of Participants that Complete Education/Training Activities that Receive a Degree or Certificate	275
Total Number of Participants that Complete Education/Training Activities that are Placed into Unsubsidized Employment	250
Total Number of Participants that Complete Education/Training Activities that are Placed into Training-Related Unsubsidized Employment	235
Total Number of Participants Placed in Unsubsidized Employment who Retain and Employed Status for three Quarters Following Initial Placement Quarter	225

**Table 7. Outcomes for Chemical Engineering Technology Participants**

<b>Projected Outcomes</b>	<b>Number</b>
Total number of participants to be served	75
Total number of participants beginning education/training activities	75
Total number of participants completing education/training activities ( <i>project 80% completion rate for HCC coursework</i> )	60
Total number of participants that complete education/training activities that receive a degree or certificate ( <i>project 80% completion of APSU program</i> )	48
Total number of participants that complete education/training that are placed into unsubsidized employment ( <i>project 90% placement</i> )	43
Total number of participants that complete education/training activities that are placed into training-related unsubsidized employment	44
Total number of participants placed in unsubsidized employment who retain an employed status at the first and second quarters following initial placement	44

Outcomes for Journeyman Plumbers & Pipefitters are on the following chart. Additional outcome measures include a wage scale of \$30.23 per hour for journeyman P&S members. With a sliding wage scale for apprentices starting at 50% for the first year and increasing 10% per year throughout the five-year apprenticeship period.

**Table 8. Outcomes for Journeyman Plumbers & Pipefitters Training Participants**

<b><u>Projected Outcomes</u></b>	<b><u>Projected Number</u></b>
Total Participants Served	245
Total number of participants beginning education/training activities	245
Total number of participants completing education/training activities	225
Total number of participants that complete education/training that receive a certificate	150
Total number of participants that complete education/training activities that are placed into unsubsidized employment	210
Total number of participants that complete education/training activities that are placed into training-related unsubsidized employment	190
Total number of participants placed in unsubsidized employment who retain an employed status at the first and second quarters following placement	175

<b>Measure</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Cumulative</b>
<i>Adults: (criteria based on Common Measures definitions)</i>				
% of adult participants who meet the criteria for entered employment	65%	70%	75%	
% of adult participants who will meet the criteria for employment retention	70%	75%	80%	
Certificate completers who will achieve an average six months earnings increase	\$500	\$500	\$500	
<i>Incumbent Workers: (criteria based on Common Measures definitions)</i>				
% of incumbent workers who will meet the criteria for employment retention	80%	87%	89%	
Incumbent workers will achieve an average six months earnings increase	\$500	\$500	\$500	

### **Suitability for Evaluation**

The trainings outlined in this proposal will improve participants’ employment outcomes as they foster the development of a state workforce that is ready to meet the demands of the energy efficiency and renewable energy industries. Such opportunities are directly in line with the Commonwealth’s strategy for energy independence. Participants completing one of these training programs will help Kentuckians improve the energy efficiency of their homes, buildings and industries. This will help Kentucky meet its goal whereby 25 percent of the state’s energy needs in 2025 will be met by reductions through energy efficiency and conservation and through the use of renewable resources.

Through recruitment of veterans, unemployed and under-employed individuals, at-risk youth, displaced workers, auto-related displaced workers and those in need of updated training, these programs will yield a large number of qualified applicants for each program, potentially more applicants than the number of positions available. The success of recruitment will be accomplished through the use of WIA recruitment events targeting the populations identified in this proposal, rapid response teams, the Helmets to Hardhats program for veterans, and engaging

businesses and labor organizations that are in need of new employees and newly trained current employees.

The CWIA and WKWIA will use the Employ Kentucky Operating System (EKOS) to collect participant-level information on individuals who apply to participate in the program. EKOS is the system used to track all Workforce Investment Area (WIA) participants, regardless of the programs for which they are enrolled or services they receive. This system will allow each program to track those who leave the program before completion.

Project retention strategies will be implemented to minimize client attrition. By assessing applicants to ensure they have the educational foundation necessary before enrollment into one of the training programs is a proactive retention strategy. Support services provided simultaneously with the training, such as resume writing seminars and interviewing skills workshops will also help prepare the participants for entry into the workplace, reducing attrition rates. Upon completion of the training, local workforce investment area case managers will follow up with participants bi-weekly and employers monthly for the first six months. Workshops on job retention, teamwork, interacting with workplace supervisors and positive work habits will also address common barriers to employee retention.

The OET, CWIA and WKWIA are willing to work collaboratively with an outside evaluator selected by DOL and any independent researcher to ensure the success of this program.

Funding this proposal will enhance knowledge about effective training programs related to energy efficiency that will benefit individuals and communities not directly served by the program. With only 100 energy auditors currently in Kentucky, training for energy auditors/raters and Smart Grid technology is a training that is needed statewide to assist Kentucky in achieving its goal to improve the energy efficiency of their homes, buildings and

industries. This will assist Kentucky in meeting its goal whereby 25 percent of the state's energy needs in 2025 will be met by reductions through energy efficiency and conservation and through the use of renewable resources.

Chemical Engineering Technology, through an AAS, is an education that is applicable to many areas in Kentucky, including the northeast area of the state, where Ashland Oil maintains refineries.

Finally, to improve the energy efficiency of Kentucky's homes, buildings and industries, all of the state's licensed Journeyman plumbers, pipefitters and steamfitters will require the Green Systems Certification. The training proposed in this application for the West Kentucky region is capable of being replicated through partnerships with other union locals and community colleges in Kentucky.

Through the initiatives described within this proposal, Kentucky can build upon its existing strategies to improve the employability and career pathway development for low-income, low-skilled workers, as well as sector strategies that will benefit incumbent workers in need of skill upgrades, or laid-off workers who need to develop sector-specific skills.

# **CHARTER**

## **Kentucky Energy Sector Partnership**

*August 24, 2009*

### **I. Overview**

The Kentucky Energy Sector Partnership is established as a voluntary partnership of state, local and private sector interests to develop a statewide energy sector workforce development plan, provide oversight for the implementation of the plan's strategies, seek funding opportunities to facilitate plan implementation, to serve as a forum for collaboration among stakeholder cabinets and agencies, and provide guidance and support for best practices in related activities.

The Kentucky Energy Sector Partnership serves as the oversight body for grants secured by the Kentucky Workforce Investment Board related to training and workforce development in energy-related occupations.

### **II. Mission and Responsibilities**

#### **A. Mission**

The mission of the Kentucky Energy Sector Partnership is to provide a collaborative forum for connecting state energy policy, economic development, and workforce development initiatives designed to train and place workers in family-sustaining jobs in renewable energy and energy efficiency-related industries.

#### **B. Responsibilities**

The Kentucky Energy Sector Partnership will carry out the following responsibilities, subject to the availability of funds:

- 1) Pursue Federal funding that supports the mission and responsibilities of the Partnership and the vision of the Governor.
- 2) Develop a sector plan (using Kentucky's 7-Point Strategy for Energy Independence as a framework) and oversee the implementation of activities to achieve the goals of the Partnership.
- 3) Identify Federal, State and local activities and initiatives which support the mission of the Partnership.

- 4) Work in collaboration with partner agencies and local workforce entities to develop, implement and track the progress of projects and programs which support the mission of the Partnership.
- 5) Monitor implementation and compliance with all funding stream requirements of grants received by the Kentucky Workforce Investment Board and assigned to the Partnership.
- 6) Consult with customers to ensure that the programs and projects are delivering the services required to meet their needs.
- 7) Regularly communicate with interested parties on the work of the Partnership and on the scope, content, and results of the Partnership's efforts.

### **III. Membership and Meetings**

#### **A. Composition**

The Partnership will be comprised of members who are representatives from the following stakeholder groups:

KWIB	Energy Industry
Local WIBs	Labor Organization
Office of Employment & Training	State Apprenticeship Agency
One Stop Career Centers	Nonprofit Community Organization
Education & Workforce Development Cabinet	Education & Training Community
Cabinet for Economic Development	Veterans Agencies (state or local)
Energy & Environment Cabinet	Economic Development Organization
Labor Cabinet	Area Development Districts
Finance & Administration Cabinet	Council on Post-Secondary Education

#### **B. Chair**

The chair shall be selected by and from the Partnership members and will serve for a term of three years, beginning August 1, 2009. A member may serve as chair for more than one term.

- 1) The chair, or his/her designee, will prepare meeting agendas.
- 2) The chair will preside at Partnership meetings and sign all Partnership correspondence.
- 3) The chair will designate a member to perform the duties of the chair in their absence.
- 4) The Chair will report to the KWIB on the activities of the Partnership not less than two times per year.

#### C. Terms

The Partnership members designated by the KWIB will begin their terms effective August 1, 2009. Each will serve until July 31, 2012. Thereafter, one half of the Committee members (determined by random draw) will serve terms of one year, and the remainder will serve terms of two years. Subsequent terms will be for two years. Members may serve for an unlimited number of terms.

#### D. Vacancies

In the event of a vacancy on the Partnership, the chair will inform the KWIB Chair. The KWIB Chair will appoint a member to serve the balance of the vacant term.

#### E. Workgroups and Sub-Groups

The Partnership may establish work groups or sub-groups to work on specific assignments or projects. Such groups may include individuals who are not members of the Partnership, and who will serve at the discretion of the Partnership. A member of the Partnership will chair each such group.

#### F. Meetings

All meetings of the Kentucky Energy Sector Partnership and its Workgroups or sub-groups are open to the public.

### **V. Decision-Making**

Decisions of the Partnership will be made by a simple majority of the members present.

### **VI. Communication**

The Partnership will provide timely meeting minutes and information on its activities to interested parties, including the KWIB, and make the minutes and information readily accessible via the KWIB web site.

### **VII. Amendments**

Amendments to this charter may be offered by any member by submission to the Partnership chair. The proposed amendment shall be transmitted to all members within fifteen (15) days and considered for adoption at the next meeting of the Partnership.

**VIII. Members**

**IX.**



Benny Adair, Member  
Kentucky Workforce Investment Board



Lynn Allen, President  
Capital Innovations



Rodney Andrews, Director  
Center for Applied Energy Research  
University of Kentucky



Mark Brown, Deputy Secretary  
Kentucky Labor Cabinet



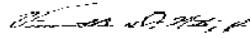
Cheryl Bruner, Director Customer Energy  
Efficiency  
E.ON U.S.



Deborah Clayton, Commissioner  
Department for Commercialization &  
Innovation  
Kentucky Cabinet for Economic  
Development



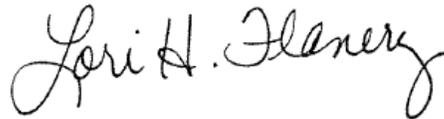
DeDe Conner, Director  
Division of Workforce and Employment  
Services  
Kentucky Office of Employment and  
Training



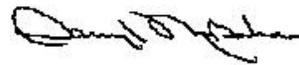
Vincent A. Dinoto, Jr., Dean of College and  
Systemic Initiatives  
Kentucky Community and Technical  
College System



Mike Dixon, Commissioner  
Department of Workplace Standards  
Kentucky Labor Cabinet



Lori Flanery  
Finance & Administration Cabinet



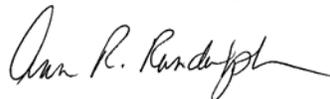
Darryl McGaha, Director  
Cumberlands Workforce Investment Area



Mark Needham, Special Assistant to the  
Governor  
Office of the Governor



Mark Offerman, Deputy CEO, COO  
Kentucky Housing Corporation



Ann Randolph, Policy Advisor  
Energy & Environment Cabinet



Larry Roberts,  
Kentucky Building & Construction Trades  
Council



Reecie Stagnolia, Vice President  
Kentucky Adult Education  
Council on Postsecondary Education



Tom West, Executive Director  
Kentucky Workforce Investment Board  
Education & Workforce Development  
Cabinet

## REGIONAL PROJECT TEAMS

**Table 1. Cumberlands Regional Project Team**

<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Role</b>
Darryl McGaha	Workforce Development Director	Cumberlands Workforce Investment Board	Project lead, outreach and recruitment, support services, placement services, and project team convening.
Donna Diaz	Executive Director	Lake Cumberland Area Development District	Fiscal agent, WIA Title I Administrator, and connection to regional economic development.
Allan Anderson	CEO	South Kentucky Rural Electric Cooperative Corporation	Employer lead, assist with identifying curriculum needs and qualified instructors, assists with placements.
Bennie Garland	Principal	Bennie Garland and Associates	Liaison with employer partners, provides contracted instructors.
Dean Rhodes	Coordinator	High Growth Training Center; Somerset Community College	Coordination of instructional programs for the energy industry.
Jeff Holman	Marketing and Communications Director	East Kentucky Power	Consultation on energy efficiency and generation/distribution.

**Table 2. West Kentucky Regional Project Team**

<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Role</b>
Dan Bozarth	Executive Director	Pennyriple Area Development District	Regional Energy Needs Economic Development
Sheila Clark	Director	West Kentucky Workforce Investment Board	Employment & Training
Gina Triplett	Manager	Breathitt Career Center	Employment & Training
Rick Newman	Judge Executive	Muhlenberg County	Economic Community Needs
George Harben		Greater Paducah Economic Development Corporation	Economic Community Needs
Bill Lisowsky	Area Supervisor	Land Between the Lakes	Environment, Conservation & Forrestry
Benny Adair	Business Representative	IAMAW District Lodge 165	Union & Apprenticeship Areas
Nancy Mitchell	Manager	Kentucky District TVA Relations	Power Production Distribution & Efficiency
Kyle Henderson	Business Manager	Plumbers & Steamfitters, Local 184	Union & Apprenticeship Areas
Gary Jones	Business Outreach	Job Corps	Outreach, Training Services
Dr. James Selbe	President	Hopkinsville Community and Technical College	Various Certifications & Degrees
Dr. Judith Rhoads	President	Madisonville Community and Technical College	Various Certifications & Degrees
Dr. Barbara Veazey	President	West Kentucky Community and Technical College	Various Certifications & Degrees
Mrs T.C. Freeman	Civilian Aide	Secretary of the Army	Veteran Needs & Communication/Coordination
Jennifer Beck-Walker	Executive Director	Purchase Area Development District	Regional Energy Needs Economic Development
Dr. Danny Claiborne	IET Chairman	Murray State University	Various Certifications & Degrees

## **ABSTRACT**

Kentucky's challenge for the 21<sup>st</sup> century is to develop clean, reliable, affordable energy sources that help us improve our energy security, reduce our carbon dioxide emissions and provide economic prosperity. However, changes must take place in order for Kentucky to improve the quality and security of life for its residents through efficient, sustainable energy solutions and strategies, as outlined in *Intelligent Energy Choices*, Kentucky' 7-Point Strategy for Energy Independence. To help meet these challenges, Governor Beshear is advocating for the advancement of economic development and creating well-paying jobs for Kentuckians in the 21<sup>st</sup> century economy. His vision includes establishing a highly skilled workforce in new and emerging industries in the energy, healthcare, advanced manufacturing and technology sectors.

Kentucky has suffered staggering job losses in manufacturing, especially automotive manufacturing and retraining these workers is a high priority. In 2008, jobs in the manufacturing sector plummeted by 65,400 professionals, which equates to a 21.1% rate of decline since 2000. Between 2000 and 2008 motor vehicle manufacturing plunged 39.2 percent, falling from 20,400 professional to 12,400. Between June 2007 and June 2009, employment within the motor vehicle manufacturing industry plunged 51.8 percent, as the number of employees plummeted by 8,500 from 16,400 to 7,900, losing over half the industry's jobs in a two-year period.

An evaluation of Kentucky's industries shows that several industries will likely experience substantial growth, including the Architectural, Engineering and Related Services industries by more than 19 percent by 2016; residential and non-residential building construction industries by nearly 16 percent each within the same time period. Within the Non-Residential Building Construction category, plumbers, pipefitters and steamfitters are expected to expand by nearly 20 percent.

Additionally, several occupations are expected to experience considerable growth, including Environmental Science & Protection Technicians at 57.5 percent within the Management, Scientific and Technical Consulting Services industry; Computer Software Engineers at 53.4 percent within the Computer Systems Design and Related Services industry; and Chemical Engineers and Chemical Technicians at 28.4 percent and 20 percent respectively within the Architectural, Engineering and Related Services industry.

As Kentucky begins to implement long term energy solutions, new skills and competencies are necessary to ensure a green workforce is available. The trainings that are proposed in this application include energy efficiency and renewable energy education for energy auditors/raters, Smart Grid technology installation and maintenance professionals, chemical process operators and plumbers, pipefitters, and steamfitters who will receive a Green Systems Awareness certification. These trainings will provide individuals with the knowledge and skills necessary to obtain employment within the growing industries and occupations described above.

The Cumberland Workforce Investment Board, in partnership with South Kentucky Rural Electric Cooperative Corporation and Bennie Garland & Associates, proposes to provide training for energy auditors/raters, Smart Grid hardware installation and maintenance and Smart Grid software. These three components will provide participants the training, certification and skills necessary to obtain employment with the state's leading energy industry employers. Training will lead to the Residential Energy Service Network's Certified Home Energy Rater (HERS) certificate and Smart grid skills and competencies recognized by employers. Approximately 300 veterans, unemployed individuals, out-of-school youth and individuals seeking pathways out of poverty will be enrolled.

The West Kentucky Workforce Investment Board (WKWIB), Hopkinsville Community & Technical College, and Austin Peay State University, located in Clarksville, Tennessee, through a partnership, will prepare a workforce for the Hemlock Semiconductor Group facility located on the Kentucky-Tennessee border. Hemlock is a world leader in the production of polycrystalline silicon, used in the manufacture of solar cells. Individuals completing the required courses will receive an Associate of Applied Science in chemical engineering and will qualify for Hemlock employment. Approximately 75 displaced workers, auto-related dislocated workers, individuals in need of updated training in the chemical process industry, veterans, unemployed individuals and individuals at-risk will have the opportunity for placement into these highly-advanced employment positions.

The WKWIB, West Kentucky Community & Technical College (WKCTC) and United Association of Journeyman Plumbers, Pipefitters, HVAC and Apprenticeships will support the Green Systems Awareness Certification to retool a critically skilled and emerging workforce in green construction and energy efficiency assessment industry serving residential, commercial, industry/light industry sectors. This partnership will equip participants with the appropriate knowledge and skills to install green plumbing systems such as low water, grey water, and solar hot water heaters; pressure assisted systems for plumbers; solar heating systems; geothermal heating/cooling systems; and high efficiency gas furnaces. Nearly 250 individuals in need of green training related to plumbing and heating and air conditioning (HVAC) fields, currently unemployed individuals and veterans who complete the program will earn a Green Systems Certificate through WKCTC.

To meet these energy efficiency/renewable energy employment and training needs, Kentucky is requesting \$4,740,457.