

Minnesota State Energy Sector Partnership

# Profiles of Green Training Projects Around Minnesota

May 2013



Governor's Workforce Development Council  
Policy Solutions that Work for Minnesota

## About the Minnesota State Energy Sector Partnership

Created in 2009 by the Governor's Workforce Development Council, the Minnesota State Energy Sector Partnership (MSESP) is a statewide initiative with a mission to forge an integrated and demand-driven system of education, training, and support services in energy efficiency and renewable energy industries that anticipates and advances skill attainment and sustainable career pathways for Minnesota's workforce. MSESP is funded by a three-year, \$6 million U.S. Department of Labor grant to provide training, job placement, and related activities in the energy-efficient building, construction, and retrofit industries; the renewable electric power industry; and the biofuels industry. See the MSESP Charter on page 55 for more information.

Partnership members come from a wide range of Minnesota businesses and organizations:

Adult Basic Education  
Best Buy Co., Inc.  
BioBusiness Alliance of Minnesota  
BlueGreen Alliance  
Community Action Partnership  
Department of Commerce  
Department of Education  
Department of Employment and Economic Development  
Department of Human Services  
Department of Labor & Industry  
Department of Veteran Affairs  
Greater Metropolitan Workforce Council  
Hallberg Engineering, Inc.  
Heron Lake BioEnergy, LLC  
Honeywell Building Solutions  
Institute on the Environment, University of Minnesota  
Minnesota House of Representatives  
Minnesota Municipal Utilities Association  
Minnesota OIC State Council  
Minnesota Rural Electric Association  
Minnesota State Building Trades Council  
Minnesota State Colleges and Universities  
Minnesota West Community & Technical College  
Minnesota Workforce Council Association  
Minwind Energy, LLC  
Solar Skies  
Saint Paul Community Literacy Consortium  
Synergy Resource Group  
Teamsters Joint Council 32  
University of Minnesota, Morris  
The Weidt Group

## MSESP Staff

Bryan Lindsley, Project Director  
Executive Director, Governor's Workforce Development Council

Teresa Kittridge, Project Manager  
Executive Director, MNREM

Carol Dombek, Program Manager  
Program Manager, MNREM



## MSESP in Action

See videos featuring each MSESP green training project and download this publication:

[www.gwdc.org/MSESP](http://www.gwdc.org/MSESP)



## Governor's Workforce Development Council

Policy Solutions that Work for Minnesota

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As members of the MSESF Executive Team, we want to congratulate the grantees and training participants featured in this report for their contributions to the renewable energy industry in Minnesota.

Since its formation in 2009 to apply for an American Recovery and Reinvestment Act grant from the U.S. Department of Labor, the partnership has funded 25 projects which have trained 1,782 individuals in solar energy, wind power, biofuels, energy efficiency, and conservation. Industry partners were a critical component of this work. In each community, business leaders partnered with educational institutions, foundations, nonprofit agencies, and workforce development professionals to lead MSESF grants. The resulting projects touched students, incumbent and displaced workers, and community members by meeting critical labor market demands.

MSESF-funded projects built on training strategies that have proven successful in serving Minnesotans, including stackable credentials, incumbent worker training, on-the-job training, apprenticeships, career academies, and career pathways models. They have also increased opportunities and access to training for low-wage and educationally-underprepared adults and youth, helping them increase their basic and occupational skills and acquire credentials that will help them attain employment.

As the profiles of MSESF projects in this report show, investment in green skills is and will continue to be a proven economic engine, crucial particularly in communities recovering from high unemployment and other recessionary pressures.

Sincerely,

Cynthia Leshner (MSESF Co-Chair)  
Exec VP and CAO, Sheer Wind

Roger Hemminghaus  
Manager, Workforce Planning, Xcel Energy

Jennifer Schaubach  
Legislative Director, Minnesota AFL-CIO

Inez Wildwood (MSESF Co-Chair)  
Manager, Talent Acquisition and Development, Allete,  
Inc.  
Chair, GWDC

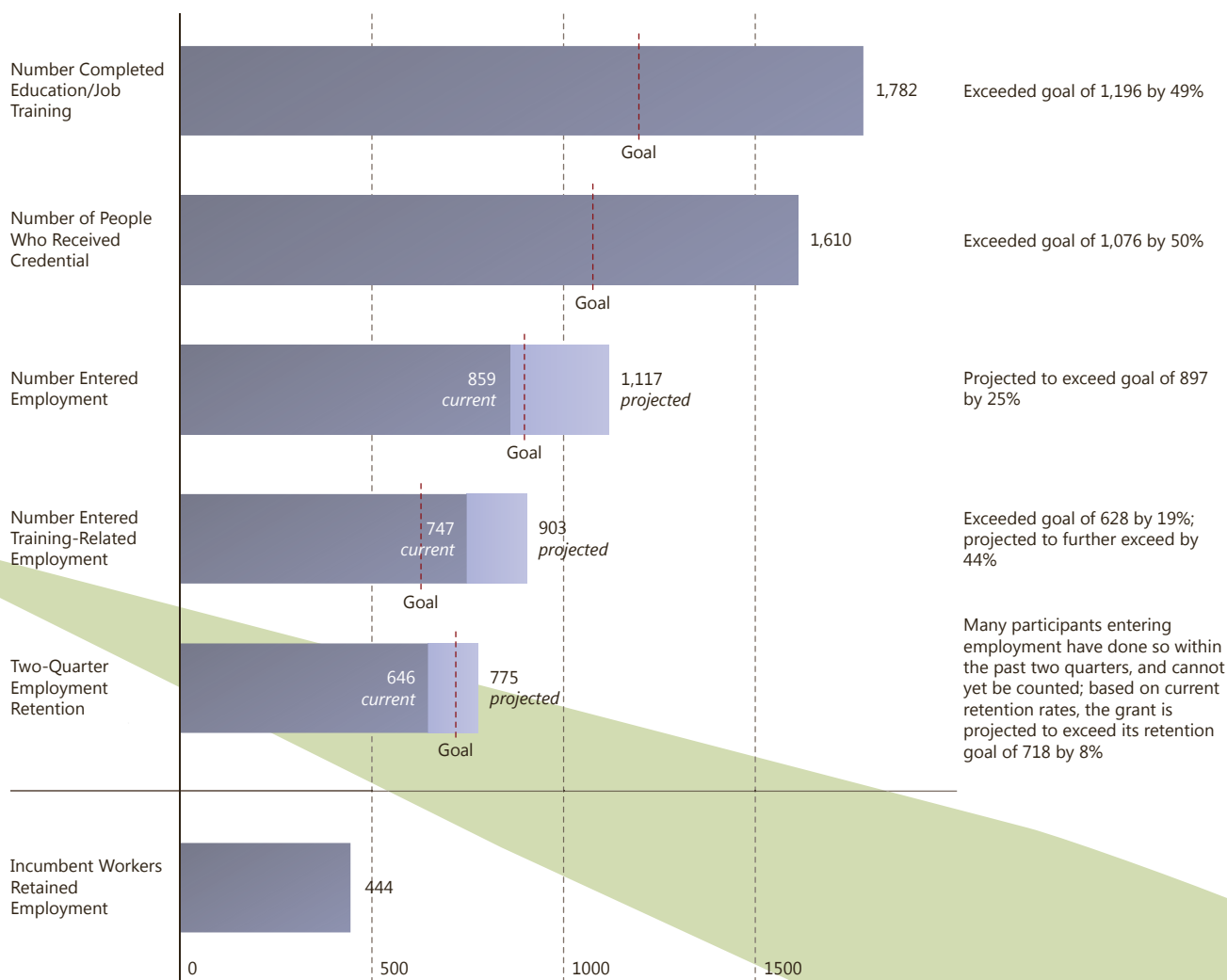
Mark Willers  
CEO, Minwind Energy, LLC

# Partnership Progress and Outcomes

The partnership exceeded or is on track to reach all participant outcome goals by the grant end date of June 30, 2013. Although training incumbent workers was not one of MSESPP's original goals, the partnership trained 444 incumbents who benefitted from layoff avoidance or moved into higher-paying positions. Incumbent outcomes are not included in the "entered employment" outcomes described below.

## Participant Progression from Training to Employment as of May 1, 2013

Comparing goals, current outcomes, and projected outcomes. Projected outcomes are for June 30, 2013 and are based on employment outcome rates for MSESPP training participants.



# MSESP Projects At-a-Glance

Page	Project Name	Description	Grantee	Region	End Date
4	Anoka Green & Minnesota Green	Combines BGAF's GreenPOWER green manufacturing training, customized to meet the needs of manufacturers, with Precision Sheet Metal training; additional training in one of two manufacturing career pathways: medical device manufacturing or customized welding	BlueGreen Alliance Foundation	Metro	5/31/2013
6	Biofuels Production Training	Biofuels certification; existing online course supplemented by multiple learning strategies	Anoka-Ramsey Community College	Metro	9/30/2012
8	Clean Energy Smart Grid Technology	Statewide mobile training program focused on the electric power sector workforce in clean energy smart grid technology	Dakota County Technical College	Metro	12/31/2012
10	EESI Internship Program	Internships in renewable energy technology for high school and college students	Easy Energy Systems, Inc.	Central	7/31/2012
12	Energy Efficient Technician Training	Job training in energy efficient construction	Summit Academy OIC	Metro	5/31/2013
14	Energy Training for Tribal Communities	Basic construction and home energy auditing skills for tribal communities; students eligible to take BPI Certification exam	Fond Du Lac Tribal and Community College	Northeast	5/31/2013
16	Enhancing the Energy Industry Pathway to Employment	Pre-employment trades academy with an introduction to the solar industry; evening classes help electricians become certified solar installers	Workforce Development, Inc.	Southeast	5/31/2013
18	Get Into Energy Career Pathways	Career coaching and tuition assistance for energy and renewables training programs	Southwest Minnesota Private Industry Council, Inc.	Statewide	5/31/2013
20	Green Construction and Sustainability Awareness	Green Construction classes and Green Awareness training	Cement Masons Local 633 Joint Apprenticeship & Training Committee	Metro	5/31/2013
22	Green Construction Awareness: LEED Green Associate Class	LEED construction training and certification for apprentices, journey-level workers, and contractors	Metro Area Sheet Metal Joint Apprenticeship & Training Committee	Metro	6/30/2012
24	Green Construction for Youth	Energy-efficient building construction and retrofit training for youth and young adults combining basic education, support services, and work readiness skills	City Academy	Metro	12/31/2012
26	Green Employment Initiative	Two short-term vocational training tracks for low-income job seekers focused on energy-efficient building, construction and retrofitting, energy efficiency assessment, or sustainable product manufacturing	RESOURCE, Inc.	Metro and Central	5/31/2013
28	Lean Green Manufacturing	Lean manufacturing and green process management classroom and on-the-job training focused on eliminating waste from the production process while creating environmental benefits	Rebuild Resources/Project for Pride in Living Enterprises	Metro	5/31/2013
30	LEED and 50001 Training	LEED certification for college staff and dislocated workers; ISO 50001 training and certification for college staff and incumbent workers	South Central College	Central	9/30/2012
32	LEEDERS in Sustainable Construction	Green building techniques and Leaders in Energy and Environmental Design (LEED) certification	Anoka County Job Training Center	Metro	11/30/2011
34	Mechanical Insulation Green Jobs Training Initiative	Green mechanical insulation training for apprentices; green awareness training course added to the JAC apprenticeship program	Twin City Area Heat & Frost Insulators Local 34 Joint Apprenticeship Committee	Metro	12/1/2012
36	NEMN Renewable Energy Project	Training, career coaching and internships in the renewable energy industry	Northeast Minnesota Office of Job Training	Northeast	5/31/2013
38	Northern Minnesota Green Training	Green energy construction or photovoltaic skills training including wind turbine installation and maintenance, solar thermal techniques, and green building practices	Northwest Technical College	Northwest	5/31/2013
40	Red Lake Green Construction	Occupational skills training and development in the construction of energy efficient dwellings combining basic education with technical training	Red Lake Band of Chippewa Indians	Northwest	6/30/2012
42	RENEW Green Homes North	Training and job placement in green construction and building maintenance	Minneapolis Employment and Training Program	Metro	5/31/2013
44	Renewable Energy & Energy Efficiency Training Program	Short-term job readiness and industry-specific training on green construction and renewable energy manufacturing; special emphasis on sales and customer service	Central Lakes College	Central	3/31/2012
46	Renewable Energy Maintenance Technician Training	Comprehensive training and certification in industrial maintenance in the energy generation and biofuels production industries; targeted to unemployed and underemployed individuals	Southwest Minnesota Private Industry Council, Inc.	Southwest	5/31/2013
48	Saint Paul Sustainable Building Policy Training	Pilot program to train developers on compliance with the Saint Paul Sustainable Building Policy; training in energy efficiency and green development	City of Saint Paul	Metro	6/30/2012
50	Solar Photovoltaic Technical Sales and Installation	Training in solar photovoltaic technical sales and installation	HIRED	Metro	5/31/2013
52	Trades Academy to Apprenticeship Pathway	Extensive career pathway instruction outlining opportunities for adults to develop skills through hands-on experience and demonstrated skill attainment; welding skills and safety training for jobs in green industries	Workforce Development, Inc.	Southeast	5/31/2013

# Anoka Green & Minnesota Green

## Minnesota State Energy Sector Partnership

### GRANTEE

BlueGreen Alliance Foundation

### GRANT AMOUNT

\$628,800

### EMPLOYER PARTNERS

E. J. Ajax

Juno, Inc.

Liberty Carton Company

Meier Tool & Engineering, Inc.

Micron Metal Works

Pentair Technical Products

### KEY PARTNERS

Anoka Chamber of Commerce

Anoka County Job Training  
Center

Anoka-Ramsey Community  
College

Anoka Technical College

HIRED

### CONTACT

Jerome Balsimo

BlueGreen Alliance Foundation

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## PROJECT SUMMARY

The BlueGreen Alliance Foundation (BGAF) has partnered with education, workforce development, and industry in Anoka County and the Twin Cities metro area to train participants in GreenPOWER, OSHA 10, and precision sheet metal and medical device manufacturing. In addition, BGAF has partnered with HIRED to train participants in welding and GreenPOWER.

## BACKGROUND

This project was initially developed through a previous U. S. Department of Labor grant, and was continued and enhanced with MESP funding. The project was developed to train workers in manufacturing careers with skills that help make employer operations more efficient, sustainable and profitable. This project has met the needs of the area manufacturing industry, which had requested hands-on skills training and GreenPOWER training for current and future employees. Participants have received skills training in precision sheet metal, medical device manufacturing, and welding. In addition, the GreenPOWER training teaches participants how to bring energy efficiencies, environmental awareness, and lean production techniques to the manufacturing process. This project will have a long-term effect in the region, not only by helping to develop a skilled workforce, but by providing a blueprint for future training development.





## HIGHLIGHT

Frank M. participated in the Precision Sheet Metal (PSM) training program, a joint program with Anoka Technical College. When BGAF staff first met him, he was very doubtful that he would be able to find a permanent, full-time job at his age with his lack of skills. It was suggested he participate in the PSM training based on his background. Frank did well in training and was well-liked by his instructors and his classmates. Upon graduation, he began working for Cummins Onan Manufacturing. He has been there for one year and is now a permanent full-time employee. He contacted BGAF when he became permanent, ever so grateful for the opportunity to be productive and to be able to support his family at a livable wage.

Mark N. is a veteran with a computer science background who was having difficulty finding employment. Mark says, "I was hired June 8 by Masterson Personnel, and am working second shift at Pentair in Anoka, SCO department. This was as a result of the BlueGreen training and Precision Sheet Metal training at Anoka Tech that Betty arranged for me." Mark continues to be employed and can now support his young family.

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

### ANOKA GREEN

99 TRAINED  
in green manufacturing

99 CERTIFIED  
earning at least one credential

69 GAINED EMPLOYMENT  
in training-related jobs

### MINNESOTA GREEN

42 TRAINED  
in green manufacturing

42 CERTIFIED  
earning at least one credential

32 GAINED EMPLOYMENT  
in training-related jobs

## CREDENTIALS EARNED

Green Specialist—Energy Management, Solid Waste Management, Green Chemistry, H<sub>2</sub>O Conservation, Pollution Solutions, and Sustainability

Green Manufacturing Specialist

Medical Device Essentials

Advanced Medical Device Certificate

AWS Structural Welding Code—Steel, Sheet Metal, Stainless Steel, and Aluminum

Precision Sheet Metal Operator Level 1

Metal Forming 1

OSHA 10-Hour General Industry

# Biofuels Production Training

## Minnesota State Energy Sector Partnership

### GRANTEE

Anoka-Ramsey Community College

### GRANT AMOUNT

\$118,217

### EMPLOYER PARTNERS

Ever Cat Fuels, LLC.

SarTec Corporation

### KEY PARTNERS

Anoka County Workforce Center

Central Minnesota Workforce  
Investment Board

Minnesota West Community &  
Technical College

### CONTACT

Steve Jones  
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## PROJECT SUMMARY

The Biofuels Production training program targets dislocated and incumbent workers in the northern Twin Cities metro area and parts of Central Minnesota. The training takes place through online classes in biodiesel fundamentals, mechanical fundamentals, and OSHA safety training. Participants in these classes are able to upgrade their knowledge and skills for jobs in the biofuels industry.

## BACKGROUND

The project was developed through an educational partnership between the SarTec Corporation of Anoka and Anoka-Ramsey Community College. The SarTec Corporation is the umbrella organization for Ever Cat Fuels, LLC. The Isanti-based Ever Cat Fuels began operations in November, 2009 and uses the new Mcgyan Process<sup>®</sup> to convert feedstocks into biodiesel. The employee base for Ever Cat Fuels does not have formal knowledge of biofuels production processes; this project meets industry needs by providing a skilled workforce for Ever Cat Fuels and other biofuels operations in Central Minnesota and the metro area. Current and future employers in the biofuels industry will benefit from having a skilled and knowledgeable workforce and a system for providing in-service training to incumbent employees.





It is anticipated that there will be significant growth in the biofuels industry. The additional outcomes and value-added components of the project have been significant and are long-lasting. Perhaps the most significant is the strengthened partnership between Ever Cat Fuels/SarTec and Anoka-Ramsey Community College. A true educational partnership has evolved that will continue far into the future.

## HIGHLIGHT

A number of value-added components have helped make this project exciting and sustainable, including:

- » Partnership with Iowa State University on researching pennycress seed from 10 locations around the world.
- » Networking with the energy crop scientists at the West Central Research and Outreach Center in Morris, Minnesota.
- » Involvement of Cambridge-area farmers in learning more about growing energy crops.
- » Anoka-Ramsey Community College serving as a collection station for waste cooking oil, which will be converted into biodiesel.

## PARTICIPANT OUTCOMES

Project End Date 9/30/2012

- 29 TRAINED  
in biofuels
- 29 CERTIFIED  
earning at least one credential
- 9 GAINED EMPLOYMENT  
in the biofuels industry
- 16 INCUMBENT WORKERS  
retained employment in the biofuels industry

## CREDENTIALS EARNED

Biofuels Training Certificate

## OTHER OUTCOMES

A 10-acre energy crop demonstration plot was developed at the Anoka-Ramsey Community College Cambridge campus

Online biofuels training curriculum

Online Excel curriculum

Teaching Web page:

[http://webs.anokaramsey.edu/biofuel/biofuels\\_energy\\_crops\\_homepage.htm](http://webs.anokaramsey.edu/biofuel/biofuels_energy_crops_homepage.htm)

# Clean Energy Smart Grid Technology

Minnesota State Energy  
Sector Partnership

## GRANTEE

Dakota County Technical College  
(DCTC)

## GRANT AMOUNT

\$32,388

## EMPLOYER PARTNER

Siemens Energy, Inc.

## KEY PARTNERS

Lake Superior College

Minnesota State Community and  
Technical College

Minnesota West Community &  
Technical College

Minnesota Technical Assistance  
Program (MnTAP)

## CONTACT

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## PROJECT SUMMARY

The goal of the project was to develop an intentionally integrated mobile training system designed to produce a well-trained, highly-skilled electric power sector workforce in the area of clean energy smart grid technology. The project targets job creation and increased job opportunities for incumbent and prospective workers in Minnesota. The overall goal is to train Minnesotans in the occupational skills needed for the energy efficiency and renewable energy industries. Students who enter the industry after completing the Smart Grid training have more applicable knowledge as this technology continues to develop.

## BACKGROUND

The overall goal of this project was to train Minnesotans in the occupational skills needed for the energy efficiency and renewable energy industries. DCTC and Siemens Energy, Inc. were the lead partners and worked together to create relevant training that was delivered to students in the college's Electrical Construction & Maintenance and Electrical Lineworker programs. The intent was to augment two strong training programs with updated technical information on evolving Smart Grid applications students will encounter when they graduate.

Siemens experts took the lead in developing the curriculum and then provided in-depth training to DCTC's faculty. The faculty then delivered the training to their students, and customized it for each field of study. The training also allowed DCTC's faculty to gain



deeper knowledge of Smart Grid technologies and issues, which will continue to add value to the college's programs.

## HIGHLIGHT

The Department of Energy estimates energy efficiency jobs could triple in ten years. One specific gap is preparing enough workers with the skills to conduct energy audits, perform energy-efficient retrofits of buildings, and install sensors and transmitters necessary to make the current energy grid "smart."

According to the University of Minnesota's Initiative for Renewable Energy & the Environment, big changes are coming to the nation's electricity grid, which is dated and under stress from growing demand. It is estimated that upgrading to smart meters, enhancing information systems, integrating renewable energy sources, hardware and software will cost the nation more than \$1 trillion. Training provided by this grant through the Minnesota State Energy Sector Partnership is better preparing DCTC's graduates to contribute as the nation's energy grid evolves.

## PARTICIPANT OUTCOMES

Project End Date 12/31/2012

123 TRAINED  
in Smart Grid Technology

123 CERTIFIED  
in Smart Grid Technology

67 GAINED EMPLOYMENT

37 INCUMBENT WORKERS  
retained employment

## CREDENTIALS EARNED

Smart Grid Technology Certificate

## OTHER OUTCOMES

Curriculum on Smart Grid technology was developed by industry experts at Siemens Energy, with the goal of teaching participants how to use intelligent monitoring systems as a means of more efficiently delivering electricity from power producers to end-users. The curriculum has been fully integrated into DCTC's Electrical Construction & Maintenance and Electrical Lineworker programs and will continue to be delivered within associate degree programs.



# EESI Internship Program

## Minnesota State Energy Sector Partnership

### GRANTEE

Easy Energy Systems, Inc.

### GRANT AMOUNT

\$73,626

### EMPLOYER PARTNERS

Easy Energy Systems, Inc.

### KEY PARTNERS

Martin County West Schools

Minnesota State University,  
Mankato

### CONTACT

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Easy Energy Systems  
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jgrupe@easyenergysystems.com



## PROJECT SUMMARY

Easy Energy Systems, Inc. of Welcome, Minnesota hosted an internship program during the summers of 2011 and 2012. During this time, 13 high school and college students interned with the company and learned about renewable energy, with a focus on the renewable fuels segment of the industry.

## BACKGROUND

The EESI Program was developed jointly by Easy Energy Systems and the Martin County West school district, building on their close relationship and shared interest in engaging local students.

The participants of this program benefit from an excellent opportunity to work in an expanding field with unlimited potential. As the world requires more energy, job skills that can meet the demand of an expanding populace are crucial to success. Future employers of these students will appreciate their exposure to the industry and experience in the field.

Part of the problem facing rural areas is a lack of potential employees to provide the skills businesses need to thrive. This internship program offers EESI an opportunity to showcase the opportunities available for students in their hometown, while also giving students experience with real scenarios and challenges from the renewable energy industry. Interacting with real customers, fixing real equipment, welding together real pieces,





operating a pilot ethanol facility—these experiences cannot be put into practice in the classroom. Interns were given the best hands-on experiences possible to prepare them for entrance into a competitive workforce. More importantly, interns are entering the job market with adaptable skills they did not learn in a textbook, but rather through real-life experience.

## HIGHLIGHT

“One of our former interns was applying for graduate school and needed letters of recommendation. We wrote several describing the internship program and the leadership role he played while at Easy Energy Systems. Later, we found out he was accepted to the program he had wanted to be in. He credited our letter and his summer experience with being the most crucial part of his entrance!”

- Jayden G., EESI Staff

“My time spent as an intern at Easy Energy Systems was invaluable in terms of the experience it provided me. Working as a laboratory research intern, I was able to develop skills that allowed me to excel in my college education. Perhaps the most important aspect of working with EES was introducing me to a field of work I previously had not considered. Largely because of my research with renewable biofuels at EES, I pursued a degree in Environmental Science at the University of St. Thomas. Although my interests have shifted slightly (I will be an incoming Ph.D. student in the Geosciences Department at Virginia Tech where I will study arsenic contamination of groundwater), I credit EES for fostering my interest in environmental issues that has led me to find my passion for researching groundwater contamination.”

- Brady Z., Intern

## PARTICIPANT OUTCOMES

Project End Date 7/31/2012

13 TRAINED  
through the internship program

13 CERTIFIED  
after completion of the program

3 GAINED EMPLOYMENT

10 COMPLETING EDUCATION  
at the postsecondary level

## CREDENTIALS EARNED

Certificate of completion of the Easy Energy Systems Internship (EESI) Program

# Energy Efficient Technician Training

Minnesota State Energy  
Sector Partnership

## GRANTEE

Summit Academy OIC

## GRANT AMOUNT

\$250,000

## EMPLOYER PARTNERS

C25 Construction

Mortenson Construction

Thor Construction

Veit Companies

## KEY PARTNERS

International Brotherhood of  
Electrical Workers

Minneapolis Electrical Joint  
Apprenticeship Training  
Committee (JATC)

Minneapolis Employment and  
Training Program

## CONTACT

Leroy West  
Summit Academy OIC  
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lwest@saoic.org



## PROJECT SUMMARY

Summit Academy OIC, an adult education vocational training school located in North Minneapolis, is training underserved and priority populations, minorities, ex-offenders, and low-income adults for jobs in energy efficient construction, including electrical work, weatherization, and green roofing. The area of focus is the Minneapolis seven-county metropolitan area (Hennepin, Scott, Ramsey, Dakota, Anoka, Washington, and Carver counties). Summit's hiring partners for this project include C25 Construction, Mortenson Construction, Thor Construction, and Veit Companies. Summit's training partner in this project is the International Brotherhood of Electrical Workers (IBEW) Local 292. Using the training center built by the Minneapolis Chapter of National Electrical Contractors Association (NECA) and Local Union 292 IBEW, Summit's innovative partnership with the IBEW will seamlessly integrate education and training with skill attainment and sustainable career pathways for energy-efficient technicians. Phase II training at the JATC training center will familiarize students with the electrical construction industry and give them information and a direct connection to the electrical apprenticeship selection process at JATC. The Minneapolis Employment and Training Program and its North Minneapolis One-Stop-Center will play a key role in both the early and end phases of the project, most notably as sources of referral and recruitment.

## BACKGROUND

Minneapolis is ripe for rapid economic growth in the green construction sector. The region shows increasing consumer demand for green technologies, as well as heightened business awareness and sensitivity to the high cost of excess energy consumption and the return on energy-saving investments. Summit has close, ongoing advisory relationships with its hiring partners, who have articulated their need for workers trained in green construction. Union cooperation is an innovative component of Summit's program



essential to creating a realistic, functioning career lattice, as workers will benefit tremendously from an acceptable point of entry into existing union structures. This partnership will provide expert training and crucial professional networking and job placement opportunities to Summit graduates. It represents a new access point for minorities, the financially disadvantaged, and women into the electrical trades and a pathway to union membership.

With over \$2 billion in major capital construction projects underway or slated to break ground by mid-2011, the Twin Cities metropolitan area can expect to see a considerable increase in the demand for skilled labor in construction-related fields. One project alone, the Central Corridor Light Rail system linking St. Paul and Minneapolis, will translate into over \$950 million in project expenses, expected to employ nearly 1,000 workers. Beyond that, many commercial construction contractors taking state or federally funded contracts are currently failing to meet legally mandated minority hiring goals. Because 82 percent of Summit's student body is minority, there is a special demand for Summit graduates.

## HIGHLIGHT

Increased student engagement—via brown bag lunches, student assemblies, and work readiness efforts—have improved student retention and program completion. As part of the work readiness process, students are practicing interviewing skills in mock interviews with individual volunteers from the construction industry. Volunteers conducting the interviews say that student readiness and performance in the interviews have improved. Occasionally, employers find potential job candidates in such a setting.

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

171 TO COMPLETE TRAINING\*  
in energy efficient construction

171 TO BE CERTIFIED\*  
in at least one credential below

118 TO GAIN EMPLOYMENT\*

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

Summit Academy OIC—Carpentry/  
Weatherization

Summit Academy OIC—Carpentry/Heavy  
Equipment Operator

Summit Academy OIC—Carpentry/Electrician  
OSHA 30

OSHA 30 & Confined Space MSHA



# Energy Training for Tribal Communities

## Minnesota State Energy Sector Partnership

### GRANTEE

Fond du Lac Tribal and Community College

### GRANT AMOUNT

\$200,000

### EMPLOYER PARTNERS

Rural Renewable Energy Alliance (RREAL)

### KEY PARTNERS

Arrowhead Economic Opportunity Agency

Duluth Energy Efficiency Program

Fond du Lac Environmental Department

Northeast Minnesota Office of Job Training

### CONTACT

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Fond du Lac Tribal and Community College  
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## PROJECT SUMMARY

Fond du Lac Tribal and Community College (FDLTCC) is providing building performance training for the employees and members of the Fond du Lac Band of Lake Superior Chippewa, as well as area dislocated, unemployed, and underemployed individuals. The training is designed for construction novices and includes training in basic electrical, residential construction, and home energy auditing techniques, leading to certification testing through the Building Performance Institute, Inc. (BPI).

In addition, FDLTCC is providing Energy Training for Comfortable Communities. This training is needed by the Housing and Weatherization Department at the Fond du Lac Band of Lake Superior Chippewa and others interested in entering into the building performance workforce. This training program is designed to provide the skills necessary to diagnose, recommend, implement, install, and maintain energy efficient and renewable energy systems. Students will earn academic credits that can be applied toward a Clean Energy Technician certificate and will be able to seek certification through BPI.

## BACKGROUND

Regional industry and nonprofit partners have indicated that there is a need for training beyond the current five-day home energy auditing classes offered throughout the state. Further, FDLTCC's own recent experience in the area of home energy auditing has identified an educational need to train individuals in construction techniques and the steps a homeowner can take past initial diagnostics. This training need can be easily addressed with minimal modification to FDLTCC's current electricity course, by adding a three-credit residential building construction techniques course, a noncredit test prep course, and mentorship opportunities for those seeking BPI certification.





## HIGHLIGHT

“When we started taking new entrants, we found people that didn’t have the basics. That didn’t mean that they weren’t capable, just that we had to change the way we taught. So we developed this concept of getting them into some basic classes (carpentry, electricity, etc.), and added that into a longer term, credit-based, home auditing class. Our long-term goal: to get BPI certified.

“Then we heard from our students that they had gotten the BPI certification, but didn’t feel comfortable walking into a house to do an audit. So we applied for the second part of the grant, to get those students out in the field and provide internships and practical experience.”

- Kevin Maki, Instructor

“With having the building science and BPI background, I became a more marketable candidate. My employer saw that I had a good knowledge background of how buildings work – it gave me a firm foundation for my job.”

- Ben Salmi, Participant

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

- 15 TO COMPLETE TRAINING\*  
in building construction techniques and home energy auditing
- 10 TO BE CERTIFIED\*  
earning at least one credential
- 5 TO GAIN EMPLOYMENT\*
- 10 INCUMBENT WORKERS\*  
to retain employment

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

BPI certification in both Building Analyst and Envelope Professional

BPI certification in Residential Building Envelope Whole House Air Leakage Control Installer Certification (RBE-WH-ALC) Crew Chief

Up to 12 college credits (stackable credentials) that apply toward academic certificates, diplomas, and/or degrees

## OTHER OUTCOMES

A credit-based building construction techniques curriculum has been developed.

# Enhancing the Energy Industry Pathway to Employment

## Minnesota State Energy Sector Partnership

### GRANTEE

Workforce Development, Inc.

### GRANT AMOUNT

\$92,115

### EMPLOYER PARTNERS

Area Electrical Contractors  
Solar Connection

### KEY PARTNERS

Riverland Community College  
Southern Minnesota Joint  
Apprenticeship Training  
Committee

### CONTACT

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Workforce Development, Inc.  
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## PROJECT SUMMARY

This project developed and delivered a 22-credit Solar Installer program through Riverland Community College's Albert Lea campus. In addition, the project provided two opportunities to complete actual solar installations which is a prerequisite to take the North American Board of Certified Energy Practitioners (NABCEP) Solar Installer certification. Students were recruited from International Brotherhood of Electrical Workers (IBEW) lists of journeyman electricians and Riverland Wind Technology students interested in additional training in the solar industry. The training was intended to give these mostly incumbent workers solar experience to help their contractor employers who are adding solar installations to their businesses. A two-day solar industry workshop was offered to contractors to raise their awareness about adding solar energy installations to their business. This knowledge will help to increase the use of solar power in the area. Equipment was purchased and installed to allow area electrical contractors to see the equipment firsthand, how it is installed, and how they can enter the solar market.

## BACKGROUND

Workforce Development, Inc. (WDI) and Riverland Community College partnered on previous renewable energy projects to develop the Wind Technician program. The Solar Installer project grew out of that work when Riverland proposed the training be available to Construction Electrician students who are targeted for union apprenticeship upon graduation. During the past two years, public awareness of solar energy and industry





impact have grown steadily, and will continue to grow as the economy emerges from the recession.

With demand for solar power in the region growing, the local electrical union was very interested in being involved in the development of additional training for its members. IBEW Local 343 and Riverland Community College (who offered the Construction Electrician program in the region) held discussions and decided to target electrical contractors to raise their awareness of the opportunities available in this emerging industry.

## HIGHLIGHT

This project installed a solar array on site at the IBEW Local 292 training facility in Rochester. The solar equipment has been used as part of the grant project to offer training workshops to area electrical contractors to help them understand the opportunities and risks of adding solar installations to their business mix. Two sessions have been held with contractors across the region. Three contractors have increased their product mix by offering this service. In addition, the owner of one of the electrical contracting companies is investigating installation of a solar array on his own home.

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

23 TRAINED

8 CERTIFIED  
awarded 22 credits and eligible to take the NABCEP Solar Installer credential

7 GAINED EMPLOYMENT

15 INCUMBENT WORKERS  
retained employment; one researching starting her own business

## CREDENTIALS EARNED

22 credits—Riverland Solar Installer Program  
NABCEP Solar Installer credential

## OTHER OUTCOMES

The training center developed the curriculum including information on the operation and potential of solar power, requirements for installation, and how to purchase and sell solar equipment. The workshop included on-site tours of Rochester area solar installations.

A 30-panel solar array was installed at the training center in Rochester for ongoing education of apprentice electricians, Energy Trades Academy students and contractors.

A solar-powered charging station was installed at Riverland Community College as part of the NABCEP classes. The charging station allows students to see firsthand how solar equipment operates.

# Get Into Energy Career Pathways

## Minnesota State Energy Sector Partnership

### GRANTEE

Southwest Minnesota Private  
Industry Council, Inc.

### GRANT AMOUNT

\$250,000

### EMPLOYER PARTNERS

Minnesota Energy Consortium  
(MEC)

Minnesota Power, an ALLETE  
Company

Xcel Energy

### KEY PARTNERS

Dakota County Technical College

Fond du Lac Tribal and  
Community College

Hibbing Community College

Itasca Community College

Mesabi Range Community &  
Technical College

Minnesota West Community &  
Technical College

Northeast Minnesota Office of  
Job Training

St. Cloud Community & Technical  
College

Workforce Development, Inc.

### CONTACT

Eriann Faris  
Southwest Minnesota Private  
Industry Council  
507-537-6236  
efaris@swmnpic.org



## PROJECT SUMMARY

The Get Into Energy Career Pathways (GIECP) project is designed to help low-income students in energy degree programs get ready for their job search and provide support with coaching/navigating through the first few months of employment. Career coaches help with the job search by improving job search skills, introducing participants to employers and industry leaders, and helping them complete a series of stackable credentials. The program is currently operating throughout the state, including the Northeast, Southeast, and Southwest. The Southwest Minnesota Private Industry Council (SW MN PIC) serves as the administrative entity for the grant.

## BACKGROUND

Through the Minnesota Energy Consortium, Minnesota was selected by the Center for Energy Workforce Development (CEWD) to pilot the GIECP Project. Industry partnered with workforce development and MnSCU to implement a coaching model to help energy degree students at MnSCU campuses complete assessments resulting in stackable credentials and licensure, and to provide support services and coaching. This model will enhance success for students completing their degree program, and help them connect with energy industry employers.

With the help of the Minnesota State Energy Sector Partnership (MSESP) grant, the SW MN PIC and partner workforce service areas took the lead in building and implementing the coaching model, and engaging and building stronger partnerships with





MnSCU campuses. The anticipated outcomes are a higher success rate in degree attainment, better connection with employment, and stronger communication and networks among workforce, industry and education partners.

## HIGHLIGHT

“In the Northeast Minnesota region we are partnering with the Grand Rapids Chamber of Commerce to help the GIECP students with interviewing skills, using actual employers to assist with the presentation. This industry-led model provides a roadmap for entry into positions in the traditional and renewable energy careers with pathways to higher-level jobs.

“The multiple levels of communication required between project partners regarding contract details and grant goals have provided some challenges in this project. Partners have different systems, and substantial time was spent connecting workforce service areas and colleges, in cases where they have not previously worked together. This challenge still exists but the level at which it exists is much less and will most likely disappear. Great partnerships are being built with this project!”

- Eriann Faris, GIECP Project Manager

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

77 TO COMPLETE TRAINING\*  
earning a degree in an energy-related  
postsecondary educational program

77 TO BE CERTIFIED\*  
earning at least one industry-recognized  
credential

50 TO GAIN EMPLOYMENT\*

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

Energy Industry Employability Skills  
Certificate

Boilers License

Waste Site Worker

Industrial Ergonomics Specialist

OSHA 30

Class A CDL

National Career Readiness Credential

A.A.S. Degrees/Diplomas/Certificates in various  
energy-related programs, including Energy  
Technical Specialist, Nuclear Energy, Clean Energy  
Certificate, Wind Energy Technology, etc.

## OTHER OUTCOMES

The Energy Industry Fundamentals Curriculum  
was reviewed by MnSCU staff (at Minnesota West  
Community & Technical College and St. Cloud  
Community & Technical College) for integration  
into the Energy Technician Specialist degree  
program.

# Green Construction and Sustainability Awareness

Minnesota State Energy  
Sector Partnership

## GRANTEE

Cement Masons, Plasterers  
and Shophands Local 633 Joint  
Apprenticeship & Training  
Committee (JATC)

## GRANT AMOUNT

\$74,625

## EMPLOYER PARTNERS

Donlar Construction  
North Country Concrete, Inc.  
Ryan Companies U.S., Inc.

## KEY PARTNERS

BlueGreen Alliance Foundation  
International Concrete Repair  
Institute  
Merrick Community Services  
Minnesota Concrete & Masonry  
Contractors Association  
Minnesota Concrete Council  
Minnesota WorkForce Centers

## CONTACT

Tom Reger  
Cement Masons JATC  
651-783-8422  
Local633@mtn.org



## PROJECT SUMMARY

Local 633 is working with Merrick Community Services, Minnesota WorkForce Centers, and Local 633 apprentices to train 92 individuals in green construction awareness and concrete techniques. This training will increase the employability of these participants within the construction field. The coursework includes hands-on LEED awareness training, a CPR course and Occupational Safety and Health Administration (OSHA) 30 training. Training is provided by the BlueGreen Alliance Foundation and Local 633 trainers, and is offered to Local 633 apprentices and participants from Merrick Community Services and Minnesota WorkForce Centers.

## BACKGROUND

In recent years, the construction industry has recognized the need for environmentally sustainable practices. Noting this trend, the Local 633 JATC has increased the number of courses that educate our members on various environmentally-friendly construction methods. In developing our Green Construction and Sustainability Awareness course, we have combined many of our courses with the Operative Plasterers' and Cement Masons' International Association's The Green Five curriculum and OSHA training. This unique combination will allow our members to meet federal and local requirements by teaching them how to safely install and maintain durable products, manage water runoff, filter associated pollutants and reduce lighting needs thereby conserving energy and improving indoor air quality.

Our contractors rely on our training to ensure they are hiring well-trained professionals. This program will provide them with even more confidence when hiring Local 633 members. In addition, they will not have to absorb any costs of on-the-job-training to



get their workers knowledgeable in LEED construction.

The benefits to those members who obtain the LEED training are numerous. Most obviously, this will greatly increase their marketability to potential LEED employers. Additionally, members will have increased awareness of environmental safety, which will apply on any construction site and in their daily lives.

## HIGHLIGHT

“Local 633 will be able to use the LEED green awareness training for years to come. We will be implementing these classes in our state certified apprenticeship program and our journeyman upgrade classes in the future. Our local union will be stronger and more ready to work on LEED projects throughout the state, which will allow our members more work opportunities. Our commitment to LEED training will also be used as a recruiting tool for new members. We have learned during this grant that the younger candidates who are interested in becoming a cement mason are asking more questions about LEED and what we are doing in green practices. We have been marketing our training and the work we do to these groups.

“This program has opened our members, contractors and customer’s eyes wide open on the importance of green and LEED construction practices in our industry. We will use our trainings to educate the future of our industry and hope that they do the same. We will see our immediate impact on the large commercial buildings, the Vikings stadium, and the St. Paul Saint’s stadium that are going up in 2013.”

- Apprenticeship Coordinator, Local 633

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

**92** TO COMPLETE TRAINING\*  
on the use of the edge vacuum grinders that increase air quality at the construction site. These individuals will receive LEED Certification preparation training. The training will focus on on-site work and how to use these new skills to obtain employment.

**92** TO BE CERTIFIED\*  
in LEED awareness, CPR and OSHA

**73** TO GAIN EMPLOYMENT\*  
in the cement masons and plastering fields

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

CPR/First Aid/AED

OSHA 30/PRO 10/SMART Mark



# Green Construction Awareness: LEED Green Associate Class

Minnesota State Energy  
Sector Partnership

## GRANTEE

Metro Area Sheet Metal  
Joint Apprenticeship Training  
Committee (JATC)

## GRANT AMOUNT

\$17,015

## EMPLOYER PARTNERS

Sheet Metal, Air Conditioning  
& Roofing Contractors of  
Minnesota (SMARCA)

## KEY PARTNERS

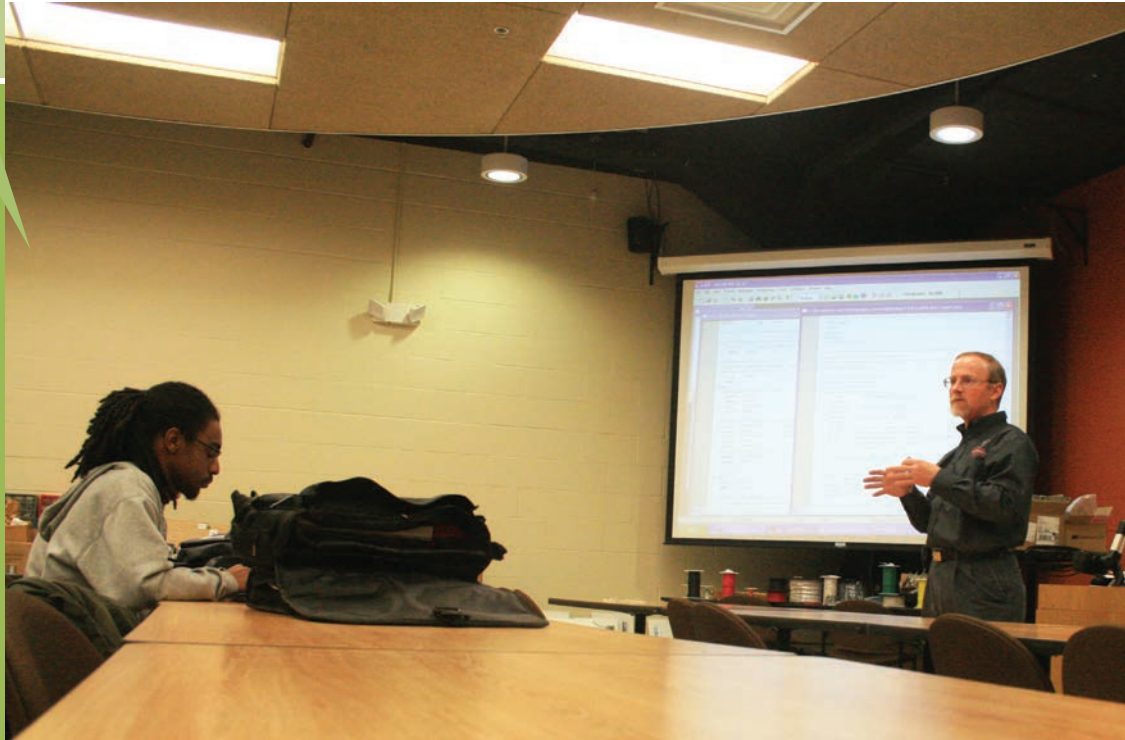
Apprenticeship Opportunities  
Project

Minnesota Building &  
Construction Trades Council

Sheet Metal Workers Local  
10/SMARCA Joint Labor  
Management Cooperation Trust

## CONTACT

Buck Paulsrud  
Sheet Metal Workers Local 10  
651-779-6264  
bpaulsrud@metrojadc.org



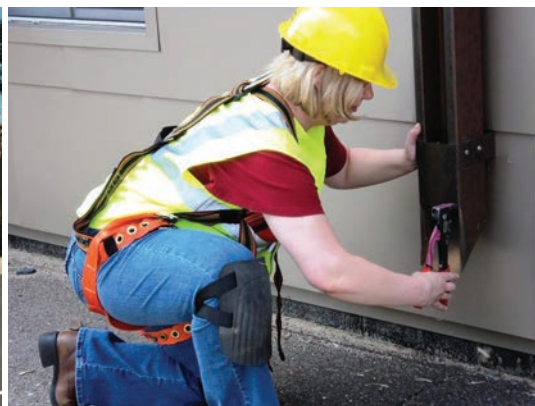
## PROJECT SUMMARY

The JATC has designed a 24-hour LEED Green Associate (GA) class that is available for all Local 10 sheet metal workers, which includes 2600 journey-level members and 460 apprentice members in Minnesota, North Dakota, and South Dakota. The class teaches the members about sustainability, LEED, and green construction practices and projects. The class also helps prepare those members interested in pursuing the LEED GA credential. As a result of this grant, Green/LEED classes are now part of the curriculum for all of our apprentices, and are an important part of our J-level class offerings as well.

## BACKGROUND

The construction industry is being transformed by the greening of our economy. This project provides our members with information and skills that will allow them to build healthier buildings and communities. Having members in our industry receive this training helps the union to be progressive and move into areas of the construction market not previously available to sheet metal workers. In so doing, more job opportunities have become available to union members. Opportunities will only grow with the increase in green building practices.





## HIGHLIGHT

One of the apprentices, “Johnny,” was on the unemployed list back in 2010, at the depth of the construction industry depression. There were about 50 apprentices on the list that would get called out to work ahead of Johnny. He was facing a year or more of unemployment. He decided to get some additional training and certifications to differentiate himself from the others on the list. Johnny took the Green/LEED classes that were offered, due in large part to the Minnesota State Energy Sector Partnership grant. One certification he attained was the LEED Green Associate credential. The exam for this credential is quite rigorous, with a relatively high ratio of first time test takers failing to pass. To prepare himself for this exam, Johnny took the 24-hour Green/LEED class and then spent many hours, fifty or more, at the kitchen table, doing specialized self-study. He then scheduled the exam, plunked down \$250 of his own money, and passed on his first try! The payoff: about a month after he attained this credential, one of the contractors called the union hall looking for a LEED GA. Johnny went out to work the next day, and he continues on quite successfully today with the same employer.

## PARTICIPANT OUTCOMES

Project End Date 6/30/2012

199 TRAINED

185 CERTIFIED  
earning an industry-recognized credential; 19 earned a LEED credential

53 GAINED EMPLOYMENT  
in the sheet metal industry

110 INCUMBENT WORKERS  
retained employment

## CREDENTIALS EARNED

LEED Green Associate

## OTHER OUTCOMES

New partnership developed with City Academy in St. Paul, an alternative high school

# Green Construction for Youth

Minnesota State Energy  
Sector Partnership

## GRANTEE

City Academy

## GRANT AMOUNT

\$200,000

## EMPLOYER PARTNERS

City Academy

Dayton's Bluff Neighborhood  
Housing Services

## KEY PARTNERS

Century College

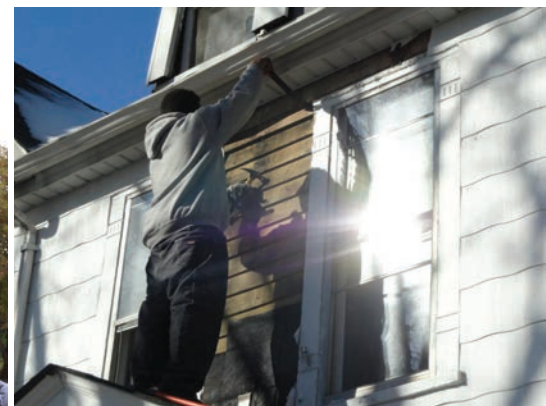
## CONTACT

Milo Cutter  
City Academy  
651-298-4624  
miloc@cityacademy.org



## PROJECT SUMMARY

City Academy (CA), located on the east side of St. Paul, Minnesota, designed this project to provide coursework for an individual to earn a Minnesota High School Diploma, accredited by the North Central Association of Colleges and Schools (NCA); career training in Green Construction with a National Center for Construction Education and Research (NCCER) certification, Lead Worker Certification and Occupational Safety and Health Administration (OSHA) 10 certification; and paid “on-the-job” construction training. The project goal is to prepare St. Paul’s most disadvantaged youth for jobs in energy efficient construction. CA serves high school dropouts with multiple employment barriers, including poverty, a juvenile or criminal record, and disability or basic skills deficiency. Nearly 90 percent of CA students are minorities, primarily Hmong and African American youth, ages 16-24.



## BACKGROUND

City Academy, the nation's first charter school, is committed to preparing St. Paul's most disadvantaged youth for jobs in energy efficient construction. CA serves high school dropouts with multiple employment barriers, to complete their high school degree and prepare for employment or postsecondary training. Through this project, CA is training youth and young adults in energy-efficient building, construction, and retrofit industries while providing basic education, support services, and work readiness skills.

The growing need for skilled construction workers with green industry training provided opportunities for the program to incorporate the required education and training components. Housing in need of rehabilitation in the immediate neighborhood provided the "on-the-job" training component.

## HIGHLIGHT

As a result of the partnerships developed through this project, CA students now have access to at least a dozen different apprenticeships. Excitement around the trades has tripled.

Sakul Xiong exemplifies the success of students in the program. He is working his "dream job" and is ready to be apprenticed as a carpenter. With certification programs now in place, project partners can continue to provide energy efficient construction training for youth like Sakul Xiong.

## PARTICIPANT OUTCOMES

Project End Date 12/31/2012

110 TRAINED  
in construction

110 CERTIFIED  
earning a minimum of three credentials,  
including 17 earning their high school  
diploma

55 GAINED EMPLOYMENT

23 CONTINUING EDUCATION  
at the postsecondary level

## CREDENTIALS EARNED

Minnesota High School Diploma  
NCCER Certification  
OSHA-10 Certification  
Lead Worker Certification



# Green Employment Initiative

## Minnesota State Energy Sector Partnership

### GRANTEE

RESOURCE, Inc.

### GRANT AMOUNT

\$366,968

### EMPLOYER PARTNERS

Aerotek

Caterpillar Paving Products

Hope Presbyterian Church

Morrissey, Inc.

Nexpro Personnel Services, Inc.  
ProStaff

RESOURCE, Inc.

### KEY PARTNERS

Dakota County Technical College

### CONTACT

Kim Feller

MRC (Minnesota Resource  
Center)

A division of RESOURCE, Inc.

612-752-8102

kfeller@Resource-MN.org

## PROJECT SUMMARY

The Green Employment Initiative (GEI) provides two short-term training tracks including Green Building Facilities and Core Manufacturing to low-income individuals in the Twin Cities metro and St. Cloud, Minnesota area. Individuals receive industry-recognized credentials and graduates will be qualified for employment options in maintenance/building facilities management, and electronic soldering/assembly.

## BACKGROUND

RESOURCE, Inc. along with Dakota County Technical College, Aerotek, Caterpillar Paving, Morrissey, Inc. and Nexpro Personnel Services, Inc. collaborated to develop the Green Employment Initiative to provide training and placement in the energy-efficient building construction and retrofit industries, the energy efficiency assessment industry, and with manufacturers that produce sustainable products using environmentally sustainable processes and materials.

The Green Employment Initiative offered two training tracks to 80 individuals: Green Building Facilities training and Green Core Manufacturing Skills training. Both training programs were designed with significant input from the initiative's business partners in order to meet their workforce needs. Business partners have identified workforce gaps in green manufacturing processes and have designed the Green Core Manufacturing Skills training to create a pool of qualified workers for positions such as soldering technicians, CNC operators, quality inspectors, mechanical assemblers, and press operators. Business partners also identified a need for workers who can help their operations meet their recycling, waste management, and energy efficiency goals.

Training was provided by Minnesota Resource Center (MRC), a division of RESOURCE, Inc. that is accredited as a postsecondary educational institution. The Green Core Manufacturing Skills program included instruction provided by Dakota County Technical College. Students in the Green Building/Facilities training program received three industry-recognized credentials: Special Class Engineer License (Boilers License), Certified Pool Operator, and Energy Auditor Certification. Students in the Green Core Manufacturing Skills training program received two credentials: Joint Industry Standard and A-610 Standard IPC certifications.

The Green Employment Initiative utilized a career pathways model. Training included contextualized learning, particularly in basic and applied math, as well as hands-on experience through on-the-job training (Green Building/Facilities) and a hands-on soldering lab (Green Core Manufacturing Skills). RESOURCE, Inc. provided targeted outreach to low-income jobseekers. Business partners were also involved in all phases of the project, from training design through placement.



## HIGHLIGHT

Lia Yang served in the National Guard as a chemical specialist for seven years and was discharged in April of 2010 due to a medical condition. Following his discharge, he worked a temporary production job which ended in August of 2012. Being the primary bread winner for his family, Lia was concerned about how he would continue providing for them and was having a difficult time securing permanent employment. Lia reached out to Veterans Services with the State of Minnesota and was connected to a Veterans Representative, Rachel. Rachel connected Lia to the RESOURCE, Inc. Green Employment Initiative because of his interest in manufacturing. He enrolled in the project and began Core Manufacturing Skills training in September of 2012. He was thrilled to find out that his particular training was being held at the Wellstone Center through Neighborhood House in West St. Paul right in his own neighborhood!

Lia successfully completed the 60-hour Workplace Essentials training class and enrolled in the second of three program courses, Core Manufacturing 101 course. This 128-hour course trained him on Basic Machine Shop, clean room, LEAN and OSHA standards, and Blueprint reading. He learned about measurements, manufacturing math, machine tools and their use, and manufacturing materials.

The third and final class, Core Manufacturing 102 began on November 26th. This 100-hour hands-on course was facilitated by staff from Dakota County Technical College and focused on electronic soldering on circuit boards. Lia received two industry-specific soldering certifications through this class, the IPC-J-Standard and IPC-A 610D.

Immediately following his graduation in December of 2012, RESOURCE staff working with Green Employment Initiative helped Lia with job placement. With staff assistance, Lia developed a resume, participated in weekly job clubs where he and the other job seekers interact with RESOURCE business partners, and has had numerous mock interviews.

Lia recently accepted a position with a local manufacturing company as an Operations II Production Specialist, building connectors and inspecting and cleaning soldering parts. His starting wage is \$15 and hour.

Lia states, "Because of this project, and the training that I received, I feel more confident in my abilities to work in the manufacturing field. I am thankful that I discovered the Green Employment Initiative and RESOURCE! The skills I received are essential to be competitive today and I would recommend this course and RESOURCE to anyone who wants or needs to move quickly through the training process while getting one-to-one assistance whenever needed. It has been a very good experience."

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

75

### TRAINED

including Workplace Essentials training, Green Building Facilities training, and Green Core Manufacturing Skills training

75

### CERTIFIED

earning at least one industry-recognized credential

64

TO GAIN EMPLOYMENT\*  
in building facilities and manufacturing

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

Green Building and Facilities Management certificate from Minnesota Resource Center (accredited as a postsecondary institution)

Green Core Manufacturing certificate from MRC (accredited as a post secondary institution)

Special Class Engineer License (Boilers License)

Certified Pool Operator Certification

Residential Energy Auditor Certification

IPC-J-STD Credential

A-610 Credential

# Lean Green Manufacturing

Minnesota State Energy  
Sector Partnership

## GRANTEE

Rebuild Resources/Project for  
Pride in Living Enterprises

## GRANT AMOUNT

\$162,250

## EMPLOYER PARTNERS

Enterprise Minnesota  
Rebuild Resources/Project for  
Pride in Living Enterprises

## KEY PARTNERS

Enterprise Minnesota

## CONTACT

Lori Stee  
Project for Pride in Living  
Enterprises  
651-255-5657  
lste@rebuildresources.com



## PROJECT SUMMARY

Rebuild Resources/PPL Enterprises provides personal empowerment training and transitional employment to help trainees acquire high-quality employability skills, technical skills, and Lean/Green certification in a supportive, positive environment. Trainees learned process improvement, 5S simulation, value stream mapping, and related Lean Green manufacturing processes through hands-on training while working in a warehouse/manufacturing environment. Participants are prepared to become reliable long-term employees in new positions earning better wages with benefits.

## BACKGROUND

This project was developed to provide practical training and certification to increase the employability of trainees and maximize the efficiency of businesses. The specific programmatic focus also responds directly to the Minnesota Department of Employment and Economic Development's Green Jobs Report, 2011, Chapter 10:

"The increasing popularity of LEAN production methods is another potential source of job growth in this sector. While a minority of lean initiatives is currently focused on green purposes such as waste minimization, green is being embraced as an "extra bonus" to improve a company's environmental standing. Even service-sector firms see the benefit of hiring workers specializing in applying waste minimization approaches to logistics and supply chain operations."





## HIGHLIGHT

"I started using drugs at age 13. My father died that year and I wanted to escape my difficult life. It started my downward spiral into a life of drug addiction, alcoholism, crime and several prison sentences. The last time I went to prison was for 11 years. I knew something had to change so I took a job in prison as a clerk to learn real job skills and stayed clean during my sentence.

"When I left prison almost two years ago, I was committed to my sobriety and to building a new life. I heard about Rebuild Resources/ PPL Enterprises at my halfway house and decided to apply for a job. I started out working in the wood shop and soon received forklift training and certification.

"While working in the shop, I also attended training and received certification in Lean/Green manufacturing processes. The lessons we learned one day in the classroom were applied to real work situations on the production floor the next day.

"A few months later there was an opportunity to work at the front desk and I took it. I have been a good employee during my time here so I was promoted to an apprenticeship position, in large part because of the skills I learned during the Lean/Green training. I'm very excited to be learning additional skills and building my resume. When I finish my apprenticeship I hope to get a similar job managing a front desk or a shipping and receiving department. I enjoy coming to work every day and everyone here is friendly and supportive. I honestly feel like this job and training have given me the opportunity to finally turn my life around."

- Donald, Lean Green Manufacturing Participant

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

64 TRAINED

64 CERTIFIED  
earning a Lean Green Manufacturing certification from Enterprise Minnesota, a renowned manufacturing training and consultation firm

64 GAINED EMPLOYMENT  
in manufacturing or zero-landfill recycling businesses

## CREDENTIALS EARNED

Lean/Green Manufacturing Certificate

# LEED and 50001 Training

## Minnesota State Energy Sector Partnership

### GRANTEE

South Central College

### GRANT AMOUNT

\$27,947

### EMPLOYER PARTNERS

Cedar Lake Electric, Inc.

Met-Con Construction

MTU Onsite Energy

RW Carlstrom Co., Inc.

### KEY PARTNERS

Minnesota Valley Action Council

South Central Workforce Council

### CONTACT

Dr. Ryan Langemeier  
South Central College  
507-389-7260  
[ryan.langemeier@southcentral.edu](mailto:ryan.langemeier@southcentral.edu)



## PROJECT SUMMARY

As a result of grant funding, faculty at South Central College (SCC) attained LEED certification, increasing SCC's capacity to create educational opportunities in the energy efficiency/renewable energy (EE/RE) fields and to help organizations prepare for the newest ISO standard (environmental focus). Since that time, SCC has provided LEED Green Associate exam prep training to 13 participants from various industry employer partners; sent two of SCC's Center for Business and Industry instructors to a Plexus International ISO 50001 training; and offered ISO 50001 training to 14 incumbent workers at MTU Onsite Energy.

## BACKGROUND

The push for stricter environmental regulations and legislation has driven the construction industry to become more environmentally friendly and energy conscious at the national, state, and regional level. As a provider of accessible higher education that promotes student growth and regional economic development to a thirteen-county area in south central Minnesota, SCC found it imperative that their faculty become LEED certified so they have the capacity to create curriculum that is relevant and reflects current industry priorities. This directly benefits future students in the engineering and construction technology programs (including HVAC, carpentry, civil engineering technology, mechatronics engineering technology, construction field supervision, and soon to be developed building energy technology), who are prepared to take LEED certification exams upon graduation. Exam prep training was also delivered to employees from area industry partners so that they were eligible to take the Green Associates exam.

At a time when consumers are constantly demanding environmentally responsible services and products, business and industry organizations are searching for ways to integrate green initiatives into their systems and processes. In response to this new demand,

SCC has used grant funding to train our Center for Business and Industry manufacturing consultant and adjunct faculty in the newest environmental standard—International Standard Organization (ISO) 50001—through Plexus International.

The 50001 standard, which helps companies realize potential savings and other benefits by implementing and monitoring energy-saving systems and processes, requires that companies do both an internal and external audit. SCC has been a leading provider of preparatory training for these audits in the past; however, the brand new standard meant our consultants had to receive the training before they could serve regional industry organizations. Once they completed the Plexus courses, they were able to develop the Understanding ISO 50001 and Internal Auditor Training for ISO 50001 curricula and deliver them to 14 participants at industry partner, MTU Onsite Energy.

## HIGHLIGHT

Kent Otte is a consultant for SCC's Center for Business and Industry. Kent completed the Plexus International ISO 50001 training and helped write the curriculum for training our industry partner, MTU Onsite Energy:

“The ISO 50001 Energy Management Systems Standard was released in 2011. This standard presents organizations, of any size, a road map to follow in identifying their energy consumption sources, energy usage, and methods for implementing a path to energy reduction. The Minnesota State Energy Sector Partnership Grant provided me an opportunity to receive formalized and in-depth training on preparing to conduct energy management assessments and the process a typical organization would follow in achieving conformance to the standard. The potential economic benefit an organization may receive from successful implementation of the standard is extremely significant. Most organizations lack a true grasp of their energy consumption sources and the resulting costs to operate these sources. Additionally, successful implementation of the standard results in sizeable environmental benefits through the reduction of energy production. The training program developed by SCC as an outcome of this grant can aid any organization in understanding the true benefits of implementing the standard and the efforts involved to complete it. After completion of the work involved with this grant and the roll-out of the training program to an inaugural organization, it is clear that most organizations would not regret taking the initiative to move forward with implementing an energy management system.”

## PARTICIPANT OUTCOMES

Project End Date 9/30/2012

29 TRAINED

19 CERTIFIED  
earning at least one credential

1 GAINED EMPLOYMENT

28 INCUMBENT WORKERS  
retained employment

## CREDENTIALS EARNED

LEED Green Associate

ISO 50001

ISO 50001 Internal Auditor

## OTHER OUTCOMES

Understanding ISO 50001 and Internal Auditing for ISO 50001 curricula were developed and submitted to the U. S. Department of Labor. They will be offered to future industry partners through SCC's customized training division, the Center for Business and Industry



# LEEDERS in Sustainable Construction

Minnesota State Energy  
Sector Partnership

## GRANTEE

Anoka County Job Training  
Center

## GRANT AMOUNT

\$82,325

## EMPLOYER PARTNERS

Kraus-Anderson Construction  
Company

## KEY PARTNERS

Anoka-Hennepin Secondary  
Technical Education Program  
(STEP)

Anoka Technical College

## CONTACT

Sandy Froiland  
Anoka County Job Training  
Center  
763-783-4819  
Sandy.Froiland@co.anoka.mn.us



## PROJECT SUMMARY

This project provides training to help participants earn an industry-recognized LEED credential. As the business leader for the project, Kraus-Anderson is providing their expertise in developing and launching training opportunities focused on green building, and preparing trainees to earn LEED certification through the U.S. Green Building Council. Project activities are industry-driven with training solutions aligned to the green economy.

## BACKGROUND

Industry leaders report that more and more building projects include sustainable energy building features, thus increasing the need for skilled workers in this area. LEED certification is one of the most common certification programs for environmentally-friendly construction in Minnesota, and will likely be required for every construction worker as LEED-certified projects become the standard throughout the state.



Kraus-Anderson Construction Company and the Anoka County Job Training Center collaborated to develop a training strategy that would increase access to LEED Green Associate training for incumbent workers of Kraus-Anderson and displaced workers from the construction industry. This project provided trainees the opportunity to earn the LEED Green Associate credential. This makes them more marketable and creates new opportunities as environmental standards and certification for buildings and construction are changing. In addition, Secondary Technical Education Program (STEP) students were exposed to the Green Building Overview and their instructors were trained in this area.

One of the objectives of this partnership between workforce development and a leading employer in sustainable construction is to “skill up” the workforce and to align training solutions to meet industry needs. The LEEDers in Sustainable Construction Project will prepare current and future workers to be leaders in renewable energy and energy efficiencies.

## HIGHLIGHT

According to Kraus-Anderson, the project has had a positive impact on their workforce. Employees had the opportunity to learn and grow in the area of green building. Each day, the degree of sustainable practices implemented in the construction industry increases, and valuable construction employees must increase their knowledge and skill in this field. The trained LEED Green Associates have been included on green project teams and have become subject matter experts. They will continue to offer classes in the future and will encourage former trainees to brush up if they have not taken their exam.

## PARTICIPANT OUTCOMES

Project End Date 11/30/2011

- 107 TRAINED  
including the Green Building Overview and LEED Green Associate (GA) Training
- 107 CERTIFIED  
earning an industry-recognized credential, including the LEED GA Certificate
- 40 GAINED EMPLOYMENT  
in construction and construction-related occupations
- 56 INCUMBENT WORKERS  
retained employment

## CREDENTIALS EARNED

LEED Certification

## OTHER OUTCOMES

Project curriculum has been shared with Anoka Technical College and STEP instructors who will make enhancements to meet the needs of learners.



# Mechanical Insulation Green Jobs Training Initiative

Minnesota State Energy  
Sector Partnership

## GRANTEE

Twin City Area Heat & Frost  
Insulators Local 34 Joint  
Apprenticeship Committee (JAC)

## GRANT AMOUNT

\$72,091

## EMPLOYER PARTNERS

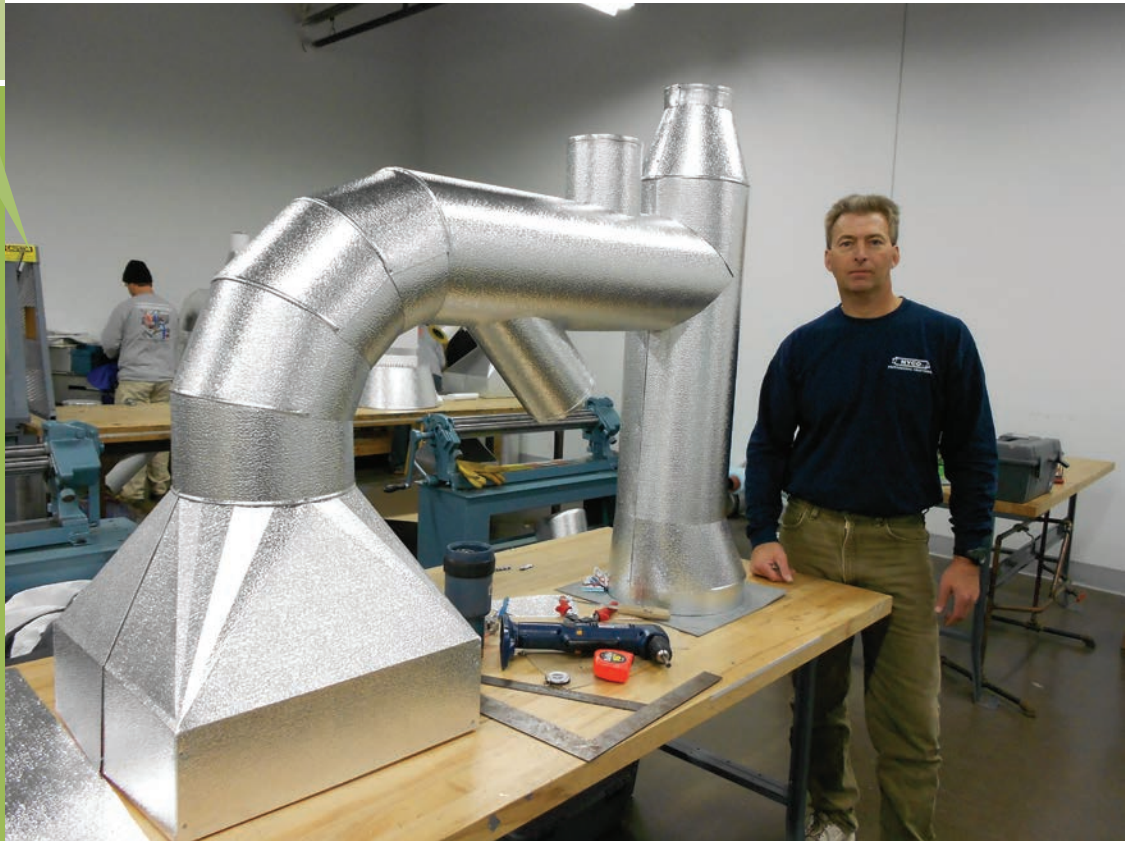
Kusske Mechanical Insulation  
MAVO Systems, Inc.  
NYCO, Inc.

## KEY PARTNERS

Thermal Insulation Contractors  
Association (TICA)  
Heat and Frost Insulators and  
Allied Workers Local 34

## CONTACT

Eric Houske  
Heat & Frost Insulators Local 34  
651-312-1249  
jac@insulators34.net



## PROJECT SUMMARY

The Twin City Area Heat and Frost Insulators and Allied Workers Local 34 membership is made up of residents from both the metro area and Greater Minnesota. Local 34's Joint Apprenticeship Committee (JAC) introduced the Green Awareness in the Mechanical Insulation Industry training to its curriculum in the 2011–2012 term. Minnesota State Energy Sector Partnership (MSESP) grant funding also helped the JAC enroll an apprenticeship class for the 2011–2012 term. The apprentices started on a path to become mechanical members of the Heat and Frost Insulators and Allied Workers Local 34. With historically high rates of employment the apprentices can look forward to a career in a field that is not only personally rewarding, but also help the state of Minnesota meet the challenges of energy conservation and environmental protection.

## BACKGROUND

The Green Awareness in the Mechanical Insulation Industry training was developed in response to LEED certification of new construction and the remodeling of existing buildings. Mechanical Insulation is a proven green technology that not only conserves





energy, but also reduces greenhouse gas emissions. The Green Awareness in the Mechanical Insulation Industry training will help the JAC provide highly skilled workers to its TICA contractors while helping Minnesota meet the challenges of rising energy costs and environmental concerns.

## HIGHLIGHT

The project allowed the JAC to continue taking in apprentices during an economic downturn. All of the JAC's apprentices are currently employed and the projected outlook for the next few years is a return to post-downturn numbers for hours worked and workers needed.

The grant has introduced the JAC to a bigger audience, since not too many people even know what a mechanical insulator is. It has also increased the JAC's diversity; during the last two apprentice selection cycles the percentage of minority students has risen to 14 percent; the most recent class reached 31 percent.

## PARTICIPANT OUTCOMES

Project End Date 12/1/2012

- 82 TRAINED  
completing the Green Awareness in the Mechanical Insulation Industry training
- 82 CERTIFIED  
by the International Association of Heat and Frost Insulators and Allied Workers, the National Labor College and the United States Green Building Council (USGBC); participants eligible to take the Green Associate exam developed by the USGBC
- 81 GAINED EMPLOYMENT

## CREDENTIALS EARNED

LEED 101: USGBC

Green Associate Credential: USGBC

## OTHER OUTCOMES

The Green Awareness in the Mechanical Insulation Industry training was developed by International Association of Heat and Frost Insulators and Allied Workers, and the USGBC. It was distributed to all of its member locals.

# NEMN Renewable Energy Project

Minnesota State Energy  
Sector Partnership

## GRANTEE

Northeast Minnesota Office of  
Job Training

## GRANT AMOUNT

\$207,288

## EMPLOYER PARTNERS

IRE Electrical Contractors  
Rural Renewable Energy Alliance  
(RREAL)  
Silicon Energy

## KEY PARTNERS

Hibbing Community College  
Rural Renewable Energy Alliance  
(RREAL)

## CONTACT

Michelle H. Ufford  
Northeast Minnesota Office of  
Job Training  
218-735-6173  
michelle.ufford@nemojt.org



## PROJECT SUMMARY

The Northeast Minnesota Office of Job Training is providing individuals with training in renewable solar energy through a comprehensive package of career pathway coaching, soft skills identification, tuition support, paid internships and connections to related renewable energy employment. In partnership with Hibbing Community College's advanced customized training program, the Renewable Energy Technician Certificate and the Solar Photovoltaic (PV) Installer Certification programs were developed. These programs train students for the North American Board of Certified Energy Practitioners (NABCEP) PV Entry Level Exam and the NABCEP PV Installer Certificate, along with OSHA safety training.

## BACKGROUND

Renewable Energy is an emerging field in northeastern Minnesota. The Renewable Energy Project was developed to serve veterans; minorities; low-income individuals; and unemployed, underemployed, and incumbent workers. It provides training for better jobs and a higher standard of living, and assists in closing some of Northeast Minnesota's skill gaps by increasing credential attainment. Hibbing Community College developed a hybrid credit/noncredit-based Renewable Energy Certificate in partnership with the Northeast Minnesota Office of Job Training. The certificate and additional industry-recognized credentials benefit employers by providing employees who have a willingness to learn, and new skills in renewable energy and safety.

In addition, individuals receive one-on-one career pathway guidance and complete a job search curriculum with special emphasis on renewable energy employment. Individuals also have an opportunity for a hands-on experience with a paid internship at a renewable energy employer.

For some, this career pathway is the beginning of stackable credential; for others, it augments past education or experience and leads to employment or advancement in renewable energy and related fields.

## HIGHLIGHT

The project showcases a model for effective collaboration between education, workforce partnerships and government. Up-to-date, innovative education by Hibbing Community College (HCC) was central to the project, and the Rural Renewable Energy Alliance (RREAL), a key industry partner, complemented the curriculum with hands-on paid internship opportunities, administered by the Northeast Minnesota Office of Job Training (NEMOJT).

As a manufacturer of solar furnaces, RREAL provided HCC instructional staff and project participants with tours. RREAL staff shared how their renewable practices can be used on large scale in a manufacturing facility, and highlighted its mission of installing both solar heat and solar photovoltaic systems.

Anticipating future workforce needs, NEMOJT provided career guidance and additional hands-on experience. Combined with HCC and RREAL's efforts, a well-trained workforce is ready to foster future solar growth.

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

27 TO COMPLETE TRAINING\*  
for the Renewable Energy Technician (RET)  
Certificate and OSHA certificate training

27 TO BE CERTIFIED\*  
earning at least one industry-recognized  
credential

20 TO GAIN EMPLOYMENT\*

9 TO COMPLETE INTERNSHIPS\*

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

Renewable Energy Technician Certificate  
NABCEP PV Entry Level Certification Credential  
Solar Photovoltaic (PV) Installer Certificate  
NABCEP PV Installer Certification Credential  
OSHA 10 Certificate



# Northern Minnesota Green Training

Minnesota State Energy  
Sector Partnership

## GRANTEE

Northwest Technical College

## GRANT AMOUNT

\$250,000

## EMPLOYER PARTNERS

Dick's Plumbing & Heating of  
Bemidji, Inc.

Gregg's Plumbing & Heating, Ltd.

Kraus-Anderson Construction  
Company

Todavich Electric, Inc.

Wagner Plumbing & Heating, Inc.

Wiebolt Electric, Inc.

Zetah Construction, Inc.

## KEY PARTNERS

North Central States Regional  
Council of Carpenters (Bemidji  
Local #1934)

Bemidji YouthBuild

Red Lake Nation YouthBuild

## CONTACT

Grant Foss  
Northwest Technical College  
218-333-6643  
Grant.foss@ntcmn.edu



## PROJECT SUMMARY

Located in Bemidji, Northwest Technical College (NTC) offered four certificates through the MESP Grant: Solar Photovoltaic (PV) Associate, Solar Thermal, Small Wind, and LEED Green Associate. Training was offered to participants from Red Lake Nation YouthBuild, Bemidji YouthBuild and many industry partners.

## BACKGROUND

This project was developed in partnership with a variety of industry partners to help meet the need for Green Energy-trained employees. The Green Energy training will be incorporated into NTC's new Center for Sustainable Environmental Technologies. In addition, a Mobile Green Energy Lab will be used throughout the region to train students and communities that are not able to travel to NTC for training.



## HIGHLIGHT

As a result of the training, nine participants of the YouthBuild Program gained skills to advance in a sustainable energy course. They also gained college credit, college course experience, and extra skills to place on a resume to make their chances of getting hired greater. Also, they gained knowledge of the possibilities of solar applications that can be utilized in the community and within our construction-based training.

Best practices that highlight Northern Minnesota Green Training:

- » Evening classes were offered to meet the needs of incumbent workers and self-employed participants.
- » A mobile trainer was developed to facilitate the offering of training for groups that were not able to come to Bemidji for classes.

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

**78** TRAINED  
in either Solar Photovoltaic Associate, Solar Thermal, Small Wind, and LEED Green Associate

**78** CERTIFIED  
earning at least one industry-recognized credential

**35** TO GAIN EMPLOYMENT\*

**35** INCUMBENT WORKERS  
retaining employment

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

LEED Green Associate

PV Installer

Solar Thermal Installer

Wind Turbine Installer



# Red Lake Green Construction

Minnesota State Energy  
Sector Partnership

## GRANTEE

Red Lake Band of Chippewa  
Indians

## GRANT AMOUNT

\$55,869

## EMPLOYER PARTNERS

Red Lake Housing Authority  
Nor-Son, Inc.

## KEY PARTNERS

Bemidji State University  
New Beginnings of Red Lake  
Northwest Technical College  
Red Lake CAP/Weatherization  
Program  
Red Lake Housing Authority  
Red Lake Nation College  
TERO (Tribal Employment Rights  
Ordinance)

## CONTACT

Mike Loud  
Red Lake YouthBuild/AmeriCorps  
218-679-3350  
Mikeloud54@yahoo.com



## PROJECT SUMMARY

This project established an occupational training and skills development program focused on the construction of energy efficient residential dwelling units incorporating elements of the Green Communities model. The program combines basic education with technical training and on-the-job training for unemployed youth from the Red Lake Indian Reservation, to increase their chances of finding quality employment. Low-income families on the reservation will be offered services that increase the comfort level and energy efficiency of their homes.

## BACKGROUND

Many partners, including Optivation (the customized training college of Bemidji State University) came together to develop this project to meet the employment and training needs of youth on the Red Lake Indian reservation, and the housing needs of the Red Lake communities. Red Lake's housing stock is insufficient for the needs its people. As new homes are built, the project helps to incorporate new green building techniques, including LEED certification. The project also ensures that existing homes are weatherized and made healthy and efficient. Participants learned skills that can be used for immediate employment, especially in the growth area of construction on the reservation. Many of the skills developed during this training are transferable to other areas of employment.





## HIGHLIGHT

“The partnerships with agencies that are working on similar goals are the best partners. The ability to work with them over the long term, in order to develop the partnership through the growing period is important. The support given to establish quality partnerships that recognize the best practices and the best roles that can be developed is the concept that I have attributed to the goals of the Minnesota State Energy Sector Partnership grant. It has taken our program the entire grant period to come to this end. I believe the partnerships that were developed and will continue past this grant will be a valuable asset to the Red Lake Community.”

- Project Manager, Red Lake Green Construction Project

## PARTICIPANT OUTCOMES

Project End Date 6/30/2012

- 36 TRAINED  
in energy efficiency, including weatherization and residential energy auditing
- 35 CERTIFIED  
in at least one industry-recognized credential, including six earning their GED
- 8 GAINED EMPLOYMENT
- 7 CONTINUING EDUCATION  
at the postsecondary level

## CREDENTIALS EARNED

GED

Stackable college credits that apply towards academic certificates, diplomas, and degrees

# RENEW Green Homes North

Minnesota State Energy  
Sector Partnership

## GRANTEE

City of Minneapolis Employment  
& Training Program (METP)

## GRANT AMOUNT

\$231,990

## EMPLOYER PARTNERS

Mitchell Construction  
Sherman Associates  
Urban Homeworks

## KEY PARTNERS

Dunwoody College of  
Technology

EMERGE Community  
Development

Employment Action Center (a  
division of RESOURCE, Inc.)

Goodwill Easter Seals of  
Minnesota

Minneapolis Community &  
Technical College

Minneapolis Community  
Planning and Economic  
Development's Housing and  
Policy Unit

Minnesota Resource Center (a  
division of RESOURCE, Inc.)

Project for Pride in Living

University of Minnesota Center  
for Sustainable Building

## CONTACT

Marie Larson  
City of Minneapolis Employment  
and Training Program  
612-673-5292  
marie.larson@minneapolismn.gov



## PROJECT SUMMARY

The City of Minneapolis Employment & Training Program (METP) is providing free training, site-based internships and job placement services through RENEW—Green Homes North, delivering high-quality workforce development focused on green construction skills.

RENEW—Green Homes North engages Minneapolis residents in industry-driven job training programs, ensuring a well-prepared and certified labor pool. Through this process, METP is establishing best practices for interns and contractors receiving instruction in Minnesota Green Communities building criteria, as well as other key site-based certifications. Training options include green residential construction, building systems maintenance, and more.

## BACKGROUND

This innovative program is designed to move low-income residents of Minneapolis' North Side from poverty to family-supporting, living wage jobs. The initiative is spearheaded by the City of Minneapolis Community Planning and Economic Development (CPED) Housing Policy Division, in partnership with METP.

Workforce development opportunities have come from the local labor market demand created by a new residential project called Green Homes North. This project provides resources for the redevelopment of nearly 400 vacant lots in North Minneapolis. New green homes will be built over five years, at the projected rate of 20 homes per year, beginning in spring 2013. All construction will conform to Minnesota Green



Communities standards. CPED will establish a Green Building Fund (GBF) to support green residential development. Both private for-profit and nonprofit developers will be recruited through an RFQ (request for quotation) process; currently, 66 private developers work with CPED in the area of residential construction. The Green Homes North RFQ will include requirements for local workforce hiring, incorporating Minneapolis Green Workforce Plans, as well as targeted redevelopment to the area affected by the May 22, 2011, tornado. A portion of the City of Minneapolis' Tornado Recovery dollars will be used to fund the green construction effort. Trainees receive instruction in residential green building, sustainability and the Minnesota construction code, green operations and maintenance, and Minnesota Green Communities Standards.

## HIGHLIGHT

The combination of paid internships offered concurrently with customized classes (occurring in the evening) is proving beneficial. While it was a demanding schedule for participants, they found opportunities to blend training and work. Training provided a forum to discuss principles and procedures while the internships provided hands-on, practical applications. The combination of class instruction, peer interaction, site supervisor input, intern liaison guidance, and hands-on work provided a concentrated learning experience and proved to be a powerful synergy.

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

- 30 TO COMPLETE TRAINING\*  
in energy-efficient building maintenance and construction
- 30 TO BE CERTIFIED\*  
in the area of energy-efficient building systems maintenance, green construction methods
- 15 TO COMPLETE INTERNSHIPS\*  
in conjunction with training, supporting skill acquisition through contextualized learning opportunities
- 20 TO GAIN EMPLOYMENT\*

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

- LEED Green Associate
- Repair, Renovation and Painting certification (EPA required)
- BPI Single Family Building Analyst
- BPI Envelope Professional
- Residential Energy Auditor/Minnesota Energy Scorecard
- OSHA Boiler Operators licensure
- Green Building Operations Manager



# Renewable Energy & Energy Efficiency Training Program

Minnesota State Energy  
Sector Partnership

## GRANTEE

Central Lakes College

## GRANT AMOUNT

\$41,778

## EMPLOYER PARTNERS

Jim's Electric Company, Inc.

Rural Renewable Energy Alliance

Zenergy by West Central  
Telephone Association

Various Others

## KEY PARTNERS

Region Five Development  
Commission

Rural Minnesota Concentrated  
Employment Program (RMCEP)

## CONTACT

Kori Busho  
Central Lakes College  
218-855-8139  
kbusho@clcmn.edu



## PROJECT SUMMARY

This project utilized a regional collaborative model to provide short-term job readiness and industry-specific information to incumbent and dislocated workers. Services were delivered in the five-county region (Cass, Wadena, Crow Wing, Todd, and Morrison) of Central Minnesota. Training included Residential Energy Auditor Certification and Tools and Tool Safety (10-Hour OSHA Construction Safety Certification), as well as coursework in oral and written communication, business etiquette and ethics, basic computer skills, technical math, and energy sales. Also included were training courses in Introduction to Renewable/Sustainable Energy and Introduction to Green/Retro Green Construction. The training provides experiential opportunities, exploration and short-term certifications that add “green” knowledge and skill layers to many traditional occupations.



## BACKGROUND

This project was developed in collaboration with industry and workforce and economic development partners. Training participants will gain additional knowledge, skills, and certifications that will benefit them if they are currently employed, and will add to their portable skills and knowledge as they seek employment opportunities in the future.

## HIGHLIGHT

“This project helped to further develop our relationships with RREAL, WERC, and other energy businesses in the region; they were used as resources for the training program and also as instructors for some of the curriculum. It also helped businesses and community members in the area realize that Central Lakes College is on the forefront of green, energy-related training. The hands-on training experiences participants had were second to none. The instructors did an outstanding job at connecting students to current work projects and helping them learn about different applications. Energy and other training sessions will continue to be offered based on interest and demand in the region.”

- Project Coordinator, Central Lakes College

## PARTICIPANT OUTCOMES

Project End Date 3/31/2012

31	TRAINED
10	CERTIFIED earning an industry-recognized credential
3	GAINED EMPLOYMENT
28	INCUMBENT WORKERS retained employment

## CREDENTIALS EARNED

OSHA-10 Industry Certification

Residential Energy Auditor Industry Certification

College Credits (3 for each course): Introduction to Renewable/Sustainable Energy; Introduction to Green/Retro Green Construction

College CEUS: Oral Communications; Written Communications; Business Etiquette/Ethics; Basic Computer Skills; Energy Sales

# Renewable Energy Maintenance Technician Training

Minnesota State Energy  
Sector Partnership

## GRANTEE

Southwest Minnesota Private  
Industry Council, Inc.

## GRANT AMOUNT

\$264,700

## EMPLOYER PARTNERS

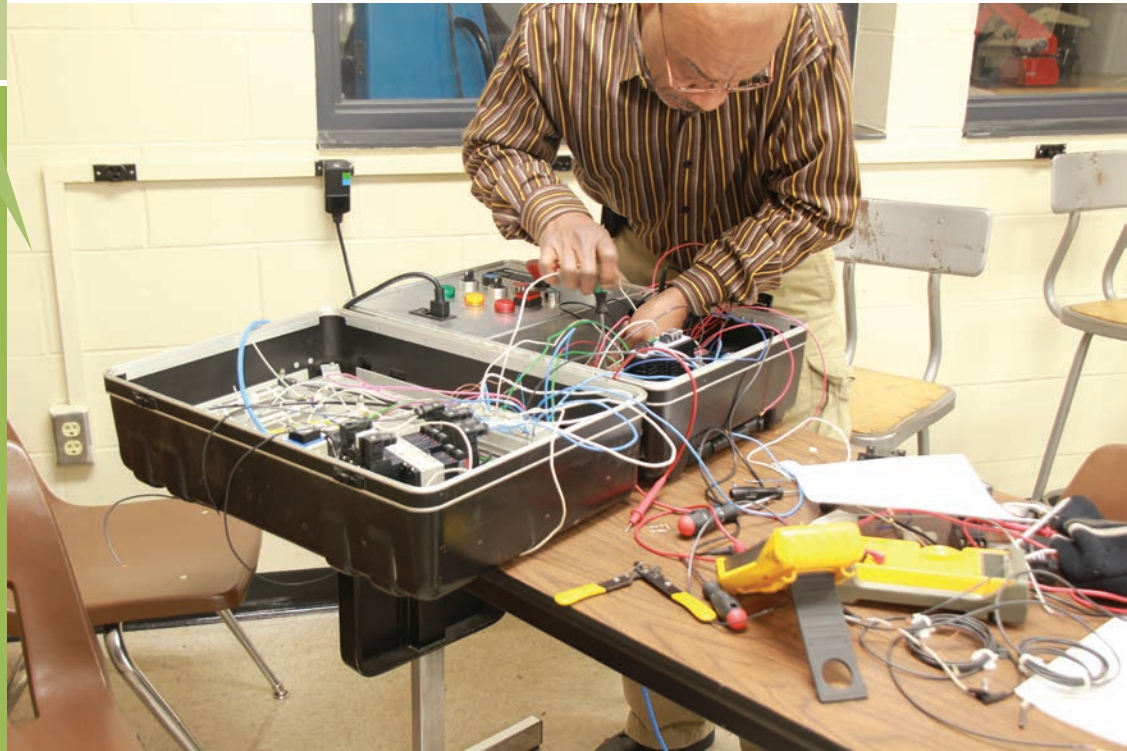
ADM Corn Processing  
AES Wind Generation  
FibroMinn, LLC.  
Granite Falls Energy, LLC.

## KEY PARTNERS

Marshall Adult Basic Education  
Minnesota West Community &  
Technical College

## CONTACT

Sara Karbo  
Southwest Minnesota Private  
Industry Council  
507-537-6236  
skarbo@swmnpic.org



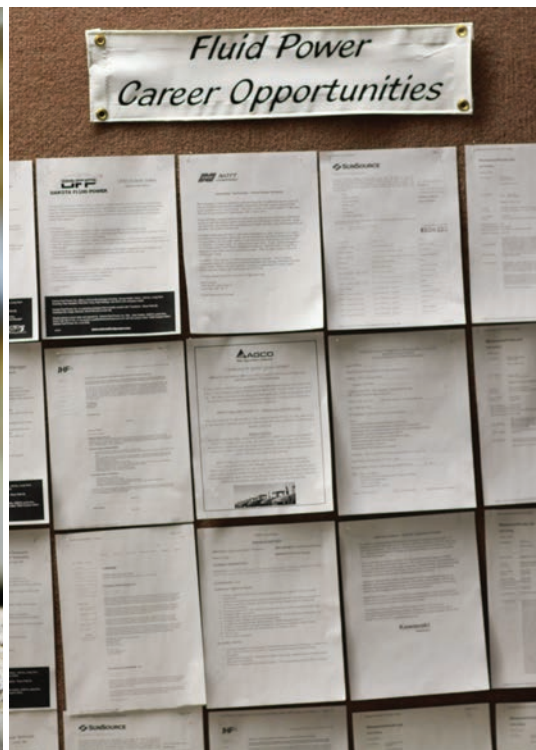
## PROJECT SUMMARY

Industrial maintenance jobs in Southwest Minnesota are on the rise. This project serves low-wage, low-skilled adults and older youth who are either unemployed or underemployed, and utilizes partnerships with area manufacturing and renewable energy industries to provide skill enhancement for incumbent workers. Training was developed based on industry input, and includes Mechanical Power Transmission, Industrial Safety, Electrical Controls, Programmable Logic Controls, Fluid Power, Welding, and Boiler Engineering. The curriculum in Industrial Safety, Electrical Controls, and Programmable Logic Controls is consistent with and meets the requirements for several of the college courses in the Biofuels Technology A.A.S. degree offered at Minnesota West Community and Technical College and the Energy Technical Specialist A.A.S. degree offered online.

## BACKGROUND

By developing a skilled workforce and encouraging participants to pursue further education, a long-term career path is developed and will help ensure the immediate and long-term success of new and incumbent workers in the manufacturing and renewable energy industries. Employers continue to participate in the planning and identification of regional needs and have agreed to participate in industry tours, employment assistance, and speaking to classes regarding typical skills and abilities required to be successful industrial maintenance mechanics.





## HIGHLIGHT

Through this course, Enrique discovered that he really enjoyed welding. The training has also sparked his interest in additional education in renewable energy:

“It was a good experience to learn about industrial machines electric control, how to manipulate cylinders by air, hydraulic and electric, and the basic knowledge to understand the repetitive movements on manufacture.

“And mostly was a great experience to do first time for me welding because I have never before, and not only that I think it’s a good paid job, I didn’t think was going to enjoy welding was really excited.

“On general how I felt on course was really good, actually teachers were too much patients (sic) and they explained even twice or three times when was related with something important topic.

“Thank a lot for the course.”

- Enrique, Training Participant

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

89 TRAINED  
in Industrial Maintenance

89 CERTIFIED  
earning an industry-recognized credential

66 GAINED EMPLOYMENT

## CREDENTIALS EARNED

Boilers License  
Industrial Maintenance Certificate  
Welding Certificate

# Saint Paul Sustainable Building Policy Training

Minnesota State Energy  
Sector Partnership

## GRANTEE

City of Saint Paul

## GRANT AMOUNT

\$46,709

## EMPLOYER PARTNERS

City of Saint Paul

## KEY PARTNERS

Center for Sustainable Building  
Research/University of Minnesota

Greater Saint Paul Building  
Owners and Managers  
Association

Saint Paul Port Authority

## CONTACT

Kurt Schultz  
City of Saint Paul  
651-266-6590  
[kurt.schultz@ci.stpaul.mn.us](mailto:kurt.schultz@ci.stpaul.mn.us)



## PROJECT SUMMARY

The purpose of this project is to develop curriculum and train individuals in the private and public sectors, in Saint Paul and elsewhere, who will need to understand and comply with the city's new Sustainable Building Policy. A grant from the Minnesota Pollution Control Agency helped the City of Saint Paul adopt the policy in 2010, which is intended to serve as a model for other municipalities.

## BACKGROUND

Saint Paul's mayor and city council adopted a sustainable building policy that applies to all newly constructed municipal buildings and privately developed buildings that receive more than \$200,000 in public investment. City staff and professionals in the development/construction industry need to understand and comply with the policy and the fundamentals of sustainable development. The purpose of this project is to develop the curriculum and provide the training necessary to attain these goals. The policy was designed to be a model for other municipalities, so the training and materials will be made available online. These resources will help ensure that every sustainable building project in Saint Paul complies with the policy. Current projects include commercial and multi-family residential developments, a municipal recreation center and library, and a new ballpark.





## HIGHLIGHT

The Kendall's Hardware Store on Saint Paul's Eastside is a successful small, family-owned business on Payne Avenue. When its building was acquired and demolished to make room for street widening and a large community project, Kendall's made the commitment to stay in the neighborhood. The new hardware store was required to comply with the Sustainable Building Policy; the relocation and reconstruction received public financing. Members of the development team attended the training funded through MSEP, and made use of the online resources available, and now, Saint Paul's Eastside has a wonderful new green hardware store. Moreover, members of the development team are now marketing themselves as having successfully complied with the Sustainable Building Policy, thereby giving them a competitive advantage.

## PARTICIPANT OUTCOMES

Project End Date 6/30/2012

- 53 TRAINED  
on the Saint Paul Sustainable Building Policy
- 53 INCUMBENT WORKERS  
retained employment

## OTHER OUTCOMES

Curriculum and training materials developed by the Center for Sustainable Building Research and the City of Saint Paul, available online and as handouts

Training available to people in the private and public sectors who need to understand and comply with the Saint Paul Sustainable Building Policy



# Solar Photovoltaic Technical Sales and Installation

Minnesota State Energy  
Sector Partnership

## GRANTEE

HIRED

## GRANT AMOUNT

\$225,000

## EMPLOYER PARTNERS

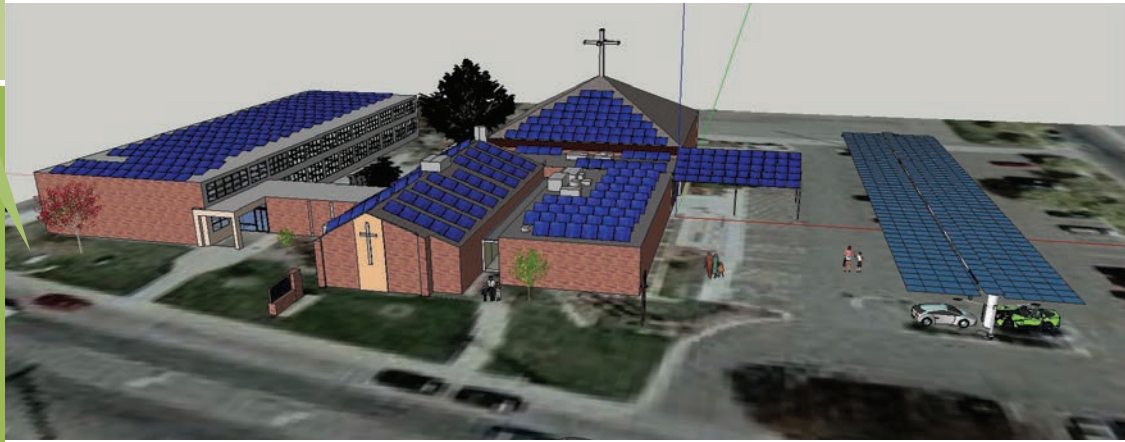
Applied Energy Innovations  
Dickinson Associates  
Solar Farm, LLC.  
Sundial Solar

## KEY PARTNERS

Saint Paul College Customized  
Training & Continuing Education

## CONTACT

Judy Swanson  
HIRED  
952-303-8307  
Judy.Swanson@HIRED.org



## PROJECT SUMMARY

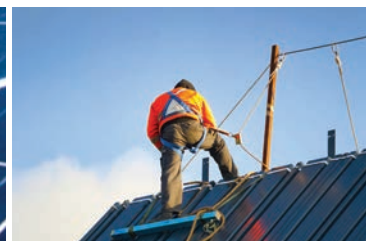
The Solar Photovoltaic (PV) Technical Sales and Installation program connects unemployed individuals in the Twin Cities metro area to high-wage, high-demand positions in Minnesota's rapidly growing solar energy sector. In partnership with four employer partners, training is delivered by Saint Paul College Customized Training & Continuing Education and leads to certification by the North American Board of Certified Energy Practitioners (NABCEP). The program incorporates expert employment-related assistance by HIRED and a high level of business engagement. In addition, a partnership has been developed with the Builders Association of the Twin Cities and the Woodworking Academy of the North Country Workshop to offer an eight-week green construction training program.

## BACKGROUND

Since 2009, Saint Paul College Customized Training and Continuing Education has been a national leader in developing and implementing rigorous training in the installation of solar PV systems, which convert sunlight to electricity. Through its current program, which leads to certification from the North American Board of Certified Energy Practitioners (NABCEP), the college has added 25 certified solar PV installers to the workforce.

The Minnesota State Energy Sector Partnership (MSESP) grant opportunity provided Saint Paul College, HIRED and the other Solar PV program partners with an opportunity to expand the reach of the current Solar PV training program, and develop its job placement potential. Furthermore, because an enhanced program will prepare individuals to effectively promote and sell solar PV systems, it is well-positioned to drive additional homeowner and business demand for solar PV systems in Minnesota.

Saint Paul College has developed numerous relationships with solar PV businesses, and leveraged these relationships through work experience opportunities for participants.



HIRED, with its expertise in making job placements that are mutually beneficial to job seekers and businesses, provided the necessary bridge between training and job placement. HIRED also offered experience-tested support services that increased training completion, job attainment and job retention rates. HIRED is an internationally recognized leader in sector-based training programs, and brought a wealth of experience as the partners expanded opportunities through the Solar PV training program within Minnesota's growing solar energy sector.

## HIGHLIGHT

A student from the 2012 class shares his ideas for improving the opportunities available to students who complete the Solar PV and Technical Sales training:

"There are some ideas I have about how to help the course participants who are pursuing careers, especially those that are attempting to hang their own shingle, in the solar field succeed. Some of the hurdles that I have had to jump to get going and some of the mistakes I have made lead me to the conclusion that there are a number of areas that we should be working together on and creating the synergy needed to survive. We can't do it all and many times we are all recreating the same wheel. Things like websites, marketing material, presentation material, memberships in various organizations, trade shows, are some of the things we could and should be combining efforts on.

"I can't express to you how much this program has helped me and how grateful I am for the opportunity. Although out of the scope of the HIRED program, I do see that there are a large number of people getting into the field for a very limited amount of business. I do think that the solar field has a great future, but is a number of years away from being a viable business for most. More needs to be done in creating demand, and I believe that is going to be best accomplished through education, mainly at the middle and high school levels to create a fundamental shift in the way we view energy."

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

34 TRAINED

34 CERTIFIED  
earning an industry-recognized credential

28 TO GAIN EMPLOYMENT\*

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

OSHA 10 Certificate

NABCEP Solar PV Entry Level Exam Certificate

NABCEP Solar PV Technical Sales Certificate

# Trades Academy to Apprenticeship Pathway

Minnesota State Energy  
Sector Partnership

## GRANTEE

Workforce Development, Inc.

## GRANT AMOUNT

\$575,620

## EMPLOYER PARTNERS

Alamco Wood Products, LLC.  
Commercial Water Distributing  
Hullopeter Construction  
Master Plumbing Services  
McNeilus Steel, Inc.  
POET Sustainable Industries  
RDM of Minnesota  
Rochester Area Construction  
Partnership  
TRC Construction, Inc.

## KEY PARTNERS

Owatonna High School  
Riverland Community College  
Rochester Community and  
Technical College  
South Central College  
Southeast Technical College  
Southern Minnesota Joint  
Apprenticeship Training  
Committee

## CONTACT

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## PROJECT SUMMARY

The Pre-employment Trades Academy is a career preparation program taught by local trade industry personnel focusing primarily on safety within the industry. Students who successfully complete the academy also complete the OSHA-10 credential. As the project evolved over the course of the grant and the academy classes expanded outside Rochester, students also developed basic welding skills. Occupations targeted included electricians, welders, and entry-level maintenance personnel. On-the-job training was delivered by employers to further develop the skills of these entry-level workers and to enhance employment opportunities for the students.

## BACKGROUND

As local companies work to become “green,” jobseekers benefit from having current, relevant information about the renewable and energy industries.

Students completing the Pre-employment Trades Academies earned a minimum of a silver-level National Career Readiness credential, a current forklift license and the OSHA-10 credential. These credentials will assist them in finding employment in this emerging industry.





## HIGHLIGHT

Workforce Development, Inc. partnered with Riverland Community College and Owatonna High School to resolve an issue that has hindered collaboration between the college and school district for several years. The Riverland campus in Owatonna does not have a welding lab; with new staff at both institutions, discussions were held about the possibility of the college using the Owatonna High School welding lab for its classes. With the assistance of this grant, two sessions of welding have been held at the high school welding lab and the facilities may be shared again in the future.

In addition, the on-the-job training contracts available under this project were key to creating lasting relationships with area energy-related employers. Some of those employers were assisted in the expansion of their workforce and business.

An unsolicited thank you from a former student is always a highlight. The following e-mail was received from a manufacturing academy and welding graduate:

“I would like to thank you for the welding short course classes. The experience I have gained through that has got me a job. I will be working at McNeilus as a welder. I start on Feb 18th.”

## PARTICIPANT OUTCOMES

Project End Date 5/31/2013

159 TO COMPLETE TRAINING\*

134 TO BE CERTIFIED\*  
earning an industry-recognized credential

135 TO GAIN EMPLOYMENT\*

\*Report published before project end; ongoing outcomes are projected

## CREDENTIALS EARNED

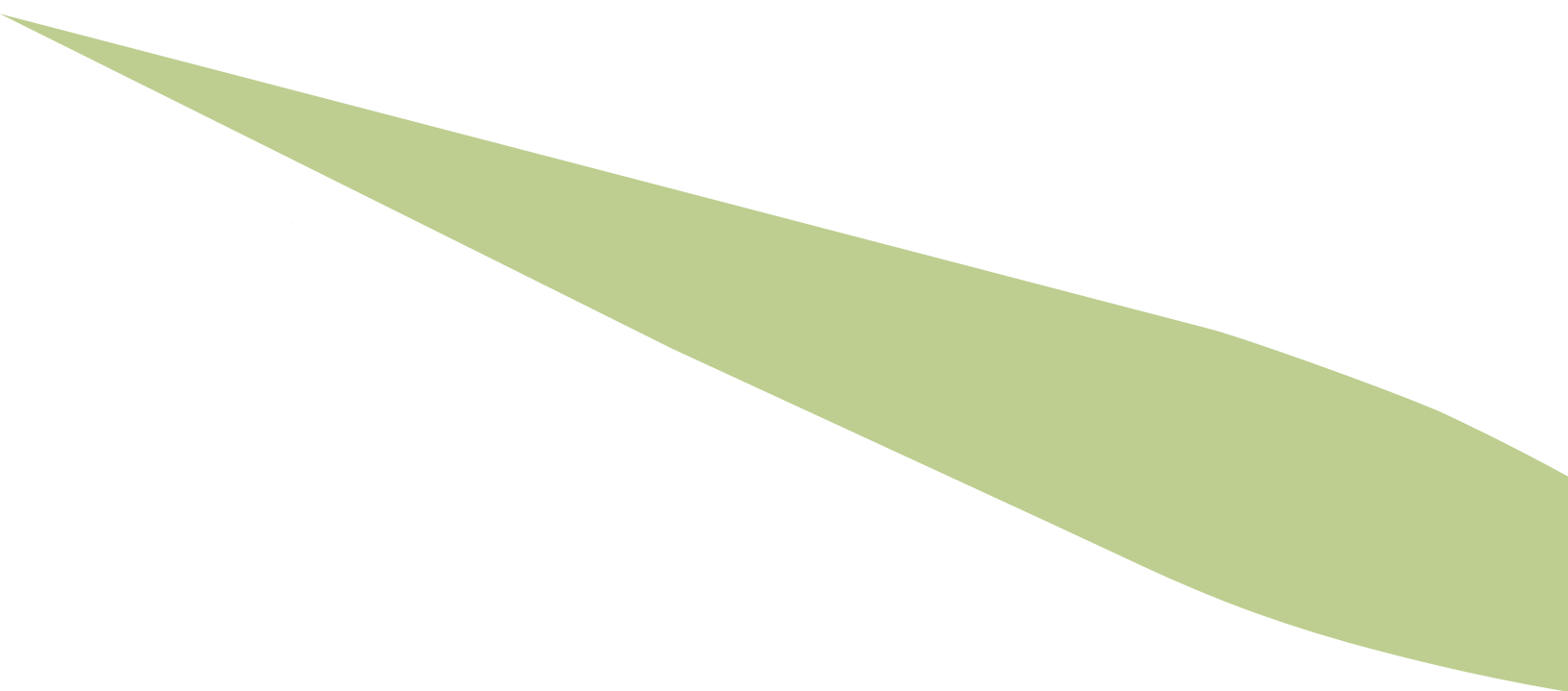
OSHA-10 Safety Credential

American Welding Society 1.1 certification

Minimum Silver-level National Career Readiness  
Credential

## OTHER OUTCOMES

A very basic safety curriculum and an overview of green trades were developed for the academies. The OSHA-10 curriculum is standard, required curriculum. Academy curriculum is available to share nationwide.



## Charter Adopted by the Minnesota State Energy Sector Partnership

October 2009

### Strategic Vision

Minnesota is a global leader in energy efficiency and renewable energy industries.

### Mission Statement

Forge an integrated and demand-driven system of education, training, and support services in energy efficiency and renewable energy industries that anticipates and advances skill attainment and sustainable career pathways.

### Goals

- » *Meeting demand – recruitment and training:* Establish a workforce engagement plan for future and incumbent workers that expands the clean energy industry and workforce in Minnesota.
- » *Placement and retention:* Create industry sector partnerships to facilitate placement and on-going education and support needs of workers to assure high-levels of retention.
- » *Alignment and coordination:* Align industry, education, and employment resources at the regional and state level to leverage and maximize existing and new opportunities.
- » *Industry sector growth:* Identify and incur measurable growth in industry, workforce, and education sectors, leveraging Minnesota's unique human and natural resources.
- » *Sustaining the mission:* 1) Communicate regularly and capitalize on the Partnership's individual and collective strengths. 2) Sustain funding for mission by demonstrating return on investment and ensuring career pathways are accessible, flexible, and accountable to industry demand.

### Guiding Principles

- » *Demand-driven solutions:* Recognize that the needs of industry and learner-workers drive the design and delivery of education and training programs.
- » *Industry participation:* Encourage industry and public entities to proactively collaborate on research and development, anticipating future trends, and provide continuing education to ensure job security for workers and prosperity in Minnesota.
- » *Coordination and collaboration:* 1) Avoid duplication, enhance consistent long-term communication among all stakeholders, and promote regional customization. 2) New initiatives must build off existing educational delivery mechanisms and institutions, specifically including apprenticeship programs, to ensure they supplement and do not supplant them.
- » *Fairness and equity:* 1) Leverage the talents of the Partnership to engage in extraordinary dissemination, inclusion, and technical assistance strategies. 2) Programs shall be inclusive for and accessible to all working learners in Minnesota.
- » *Continuous improvement:* Regularly inventory and monitor strengths and weaknesses of current initiatives and develop a systematic approach for needs identification, effectiveness of initiatives, and the Partnership.









## MESP in Action

See videos featuring each MESP green training project and download this publication:

[www.gwdc.org/MESP](http://www.gwdc.org/MESP)



**Governor's Workforce Development Council**  
Policy Solutions that Work for Minnesota



**POSITIVELY  
Minnesota**  
Department of Employment and Economic Development

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