



# ADVANCED TECHNOLOGICAL EDUCATION NETWORK FOR UTILITIES AND ENERGY TECHNICAL EDUCATION (UTILITIES AND ENERGY COORDINATION NETWORK)

## 2022 Network Survey Results

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# Background

Northeast Wisconsin Technical College (NWTC) is addressing workforce shortages in the energy and utilities sector through the development of the Utilities and Energy Coordination Network (UECN). This project is designed to expand training opportunities, create new programs, and develop curricula for high-demand energy-related roles across the nation by creating a platform for industry, higher education institutions, and other stakeholders to share resources and generate partnerships in gas, electrical power, and utilities engineering to address workforce shortages.

Specific project objectives are to:

1. Leverage the knowledge base of the NWTC Program Advisory Committees to cultivate a core leadership group consisting of stakeholders representing national and regional employers from across the electrical power, gas, and utility engineering industry, academia, and workforce development sectors to lead the formation of the Utilities and Energy Coordination Network (the Network);
2. Create a clear, shared vision that guides the evolution of the Network; and
3. Establish the structure and norms of the Network to build relationships and trust among members.

The UECN Network Survey (Appendix A) was distributed in Fall 2022 to a list of 434 individuals from industry organizations and educational institutions. This results report summarizes the results of the survey completed online by 86 individuals (20%) over the course of a three-week collection period.

The data from this survey are used in this report to identify the extent of connections and the types of relationships between industry and education using descriptive statistics and social network analysis (SNA). SNA provides a useful methodology for describing and evaluating both the structure and development of connections ("relational ties") between actors in a network.<sup>1</sup> In this project, the actors are industry organizations and educational institutions. The types of relational ties being evaluated include advisory board service, providing instruction or instructional support, employing graduates, providing educational resources, providing internship and apprenticeship opportunities, and faculty/professional development.

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<sup>1</sup> FitzGerald, M., Leeburg, E., and Rucks, L. (2020). *Using Social Network Analysis to Evaluate the Development of Professional Connectivity*. The Rucks Group. <https://therucksgroup.com/wp-content/uploads/2020/10/SNA-White-Paper.pdf>

# Findings

## Organizational Characteristics

Of the 86 respondents, over two-thirds were representatives from industry organizations (Figure 1).



Figure 1. Percentage of respondents by organizational type.

Wisconsin and neighboring states had the greatest density of industry and educational institutions among respondents (Figure 2).

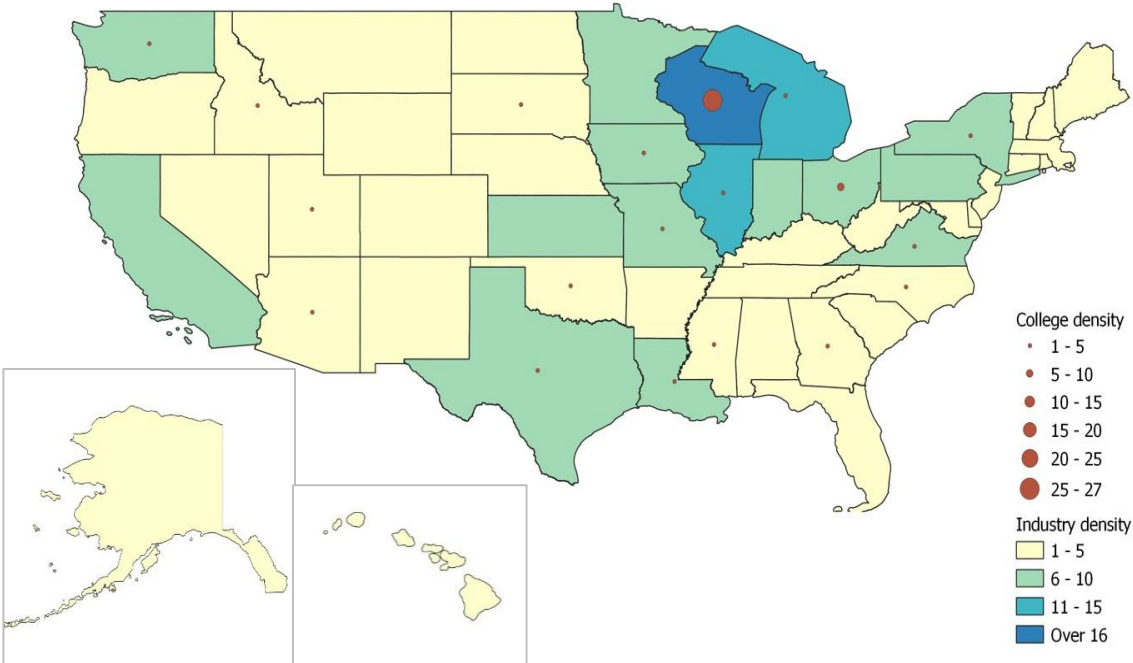
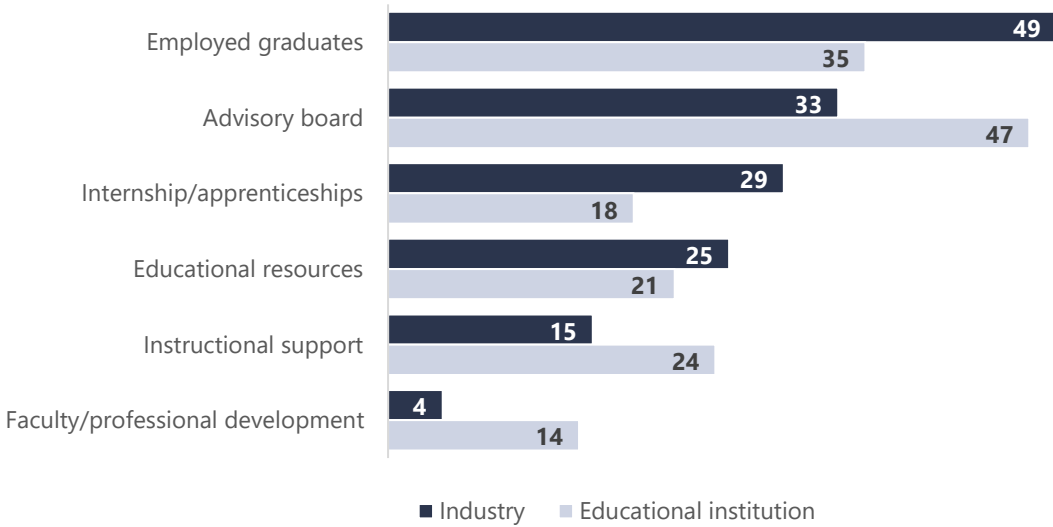


Figure 2. Location and density of industry and educational institutions.

## Industry-Education Partnership

Industry and educational respondents reported that they most frequently partner on employing graduates and through advisory boards (Figure 3).



**Figure 3.** Frequency of education-industry partnership types.

Employers reported that they hire for entry-level positions in a variety of administrative, apprentice, engineering, and technician categories; the most frequently noted roles are reported in Table 1. A complete list of responses is available as Appendix B.

Job Category	Roles
<b>Administrative</b>	<ul style="list-style-type: none"> <li>Sales (3)</li> <li>Administrative Assistant or coordinator (2)</li> <li>Billing Analyst (2)</li> <li>Call/Contact Center Representative (2)</li> </ul>
<b>Apprentice</b>	<ul style="list-style-type: none"> <li>Apprentice Lineman (5)</li> <li>Apprentice Meter Technicians (3)</li> <li>Apprentice Line Electrician (2)</li> </ul>
<b>Engineers</b>	<ul style="list-style-type: none"> <li>Engineer/Associate Engineer (2)</li> <li>Electrical Engineer (2)</li> <li>Mechanical Engineer (2)</li> </ul>
<b>Technicians</b>	<ul style="list-style-type: none"> <li>Field/Service Technician (3)</li> <li>Gas Technician (3)</li> <li>Line Technician (2)</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>General Laborer (5)</li> <li>Lineman (3)</li> <li>CAD drafter (2)</li> <li>Groundsman (2)</li> <li>Locator (2)</li> </ul>

**Table 1.** Industry hiring for entry-level roles.

The distribution of partnership activities differs by employer. Figure 4 provides an example of the varying emphases of those employers with the highest number of reported partnerships with educational institutions.

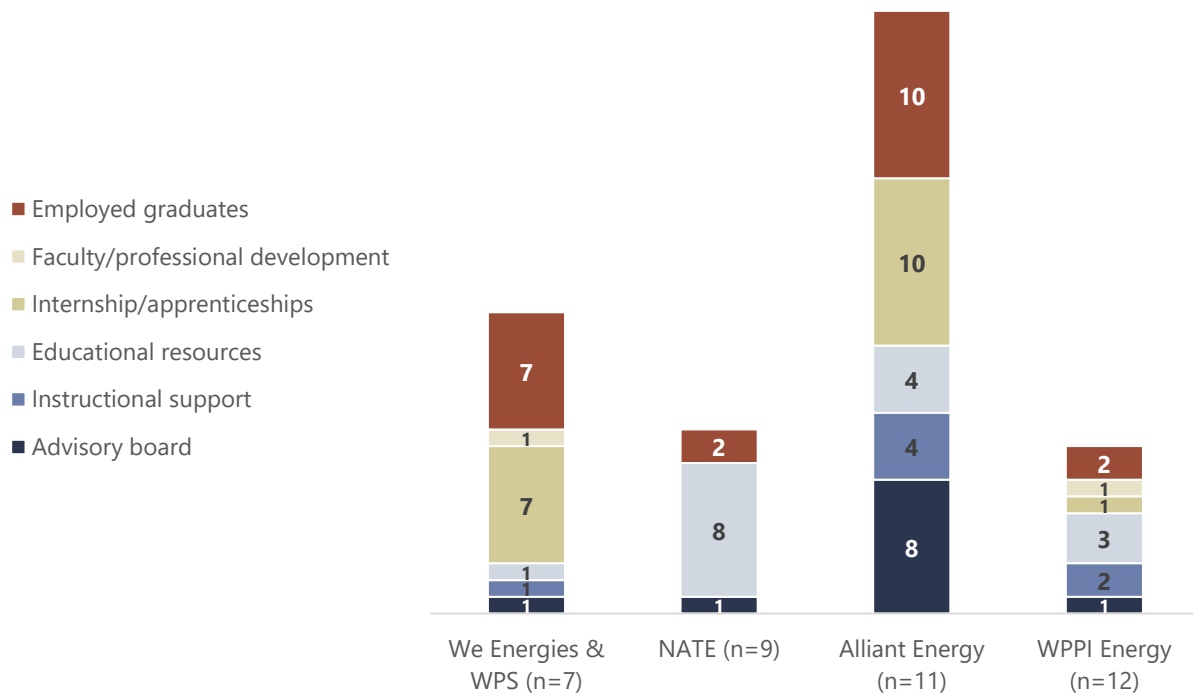


Figure 4. Example profiles of industry-reported partnership activities with educational institutions.

## Industry

The top five connected industry organizations named multiple educational institutions as connections (Table 2). Nine industry organizations indicated no known connections to educational institutions.

Industry Organization	# of connections	# of educational institutions that employer named as a connection	# of educational institutions that employer named as a connection
WPPI Energy	13	1	12
WEC Energy Group - We Energies & WPS	12	5	7
NATE: The Communications Infrastructure Contractors Association	9	0	9
Centuri Group, Inc	6	0	6
IBEW Local 2150	5	0	5

Table 2. Top five connected industry organizations.

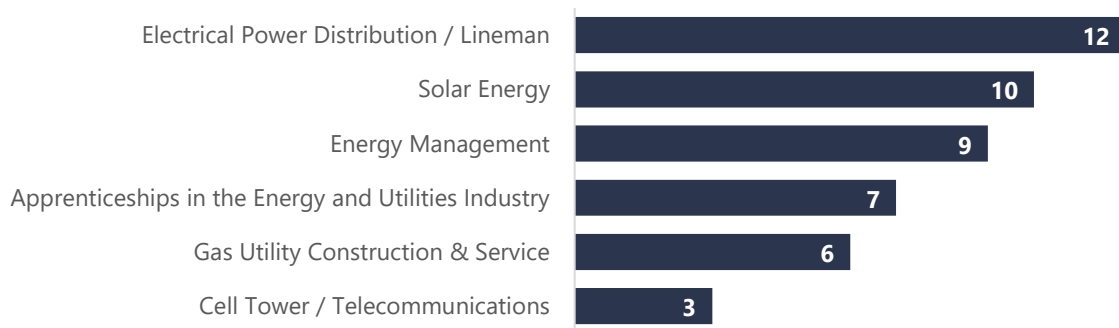
## Educational Programs

NWTC continues to be the most highly connected educational institution among survey respondents (Table 3).

Educational Institution	# of connections	# employers that named institution as a connection	# employers that institution named as a connection
Northeast Wisconsin Technical College	20	20	0
Chippewa Valley Technical College	13	4	11
Heartland Community College	8	0	8
Danville Community College	7	0	7
Lakeshore Technical College	7	0	7
Walla Walla Community College	7	0	7

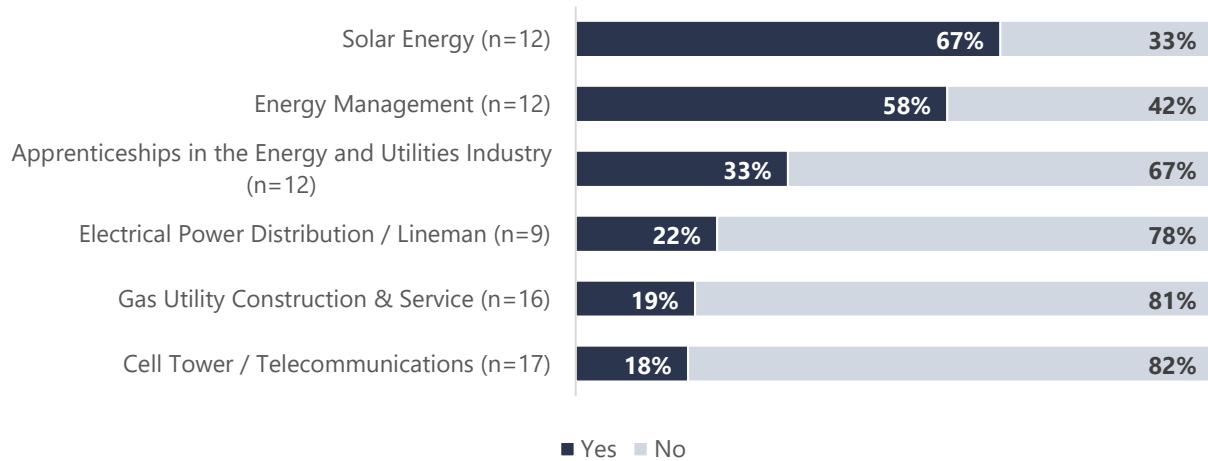
**Table 3.** Top six connected educational programs.

Respondents from educational institutions (n=27) report that they offer programs in Electrical Power Distribution/Lineman, Solar Energy, and Energy Management (Figure 5). Only seven institutions offer apprenticeships.



**Figure 5.** Programs currently offered by educational institutions.

Solar Energy and Energy Management are the programs most noted as being considered for implementation (Figure 6). One-third are considering the addition of apprenticeships.



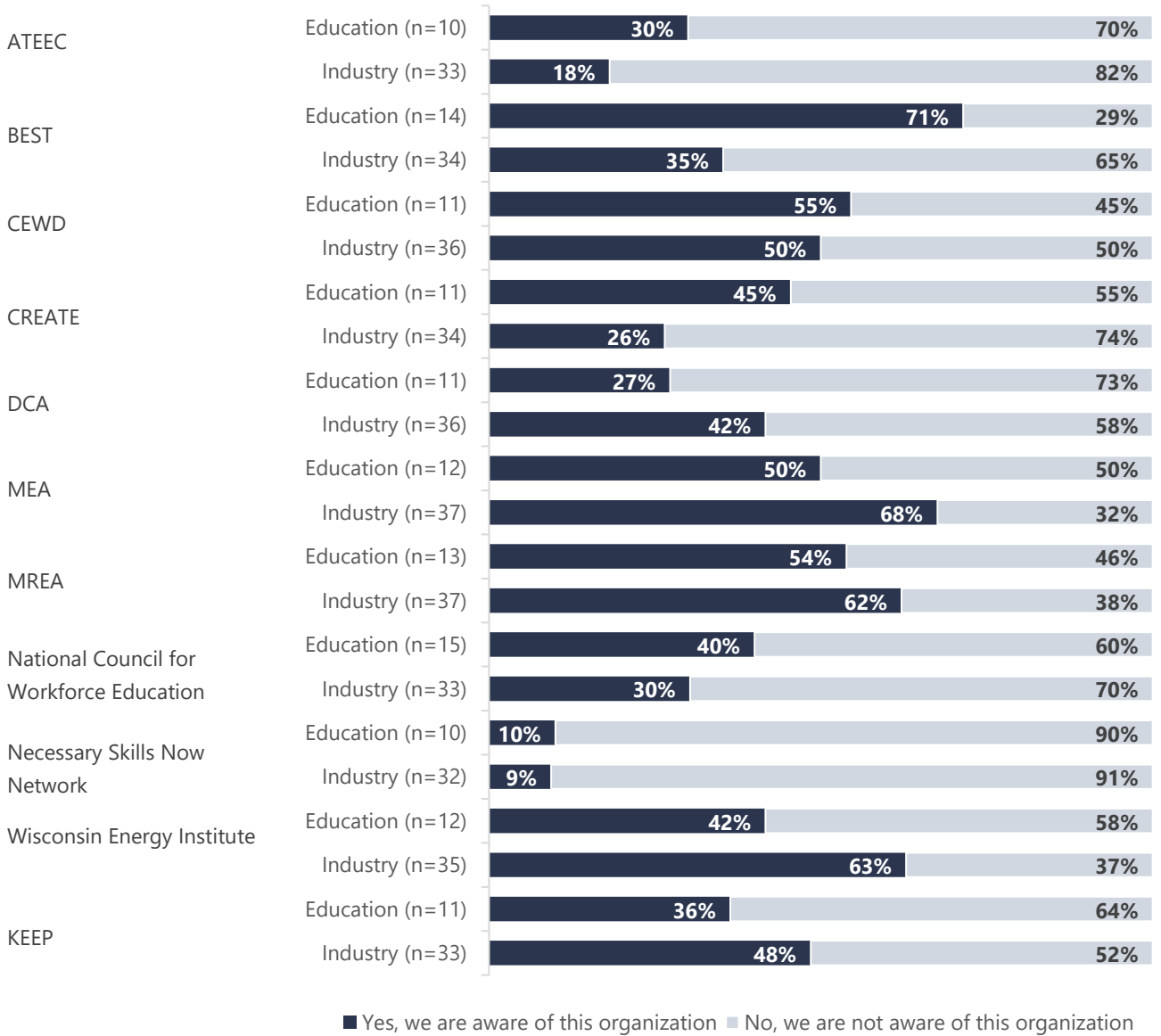
**Figure 6.** Programs being considered for implementation by educational institutions.

## Awareness

Survey participants were asked to indicate their level of awareness of other Network resources, including energy-related centers and professional organizations and the Network’s microsite.

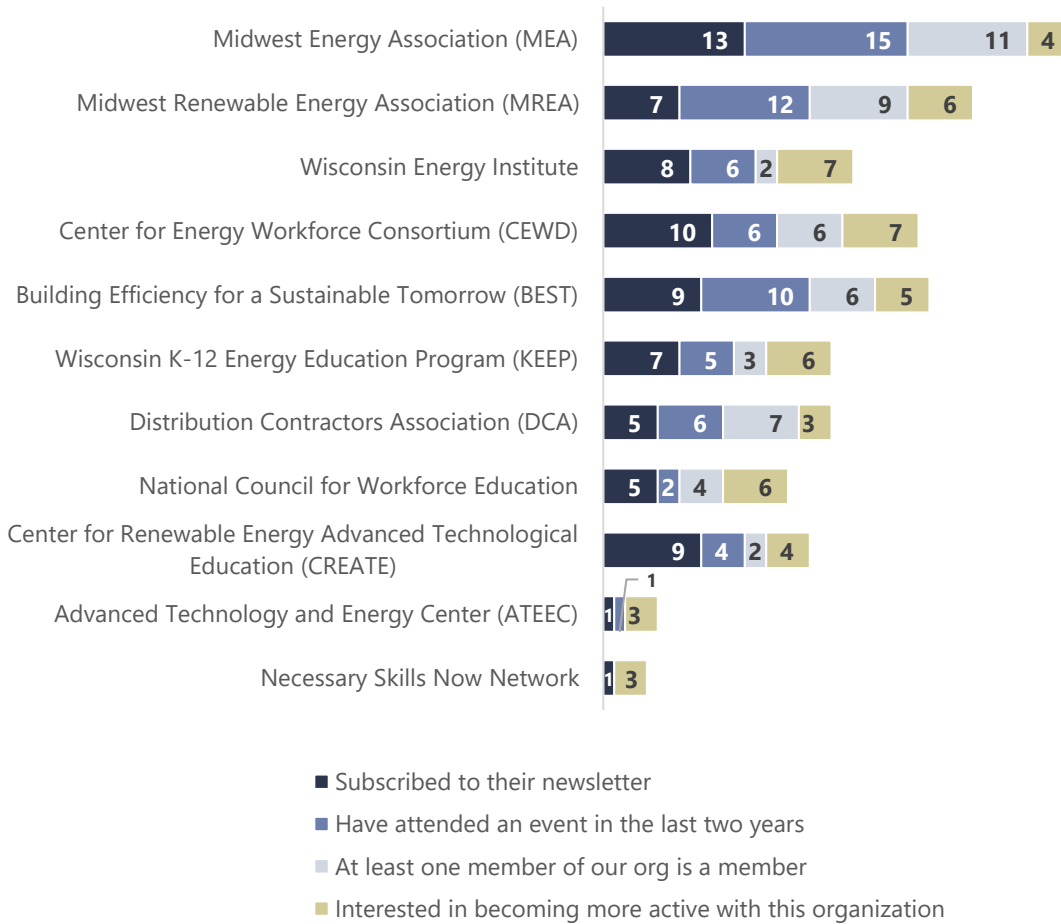
**Centers and Professional Organizations.** Most respondents were familiar with regional energy-related organizations, with awareness varying between industry organizations and educational institutions (Figure 7).





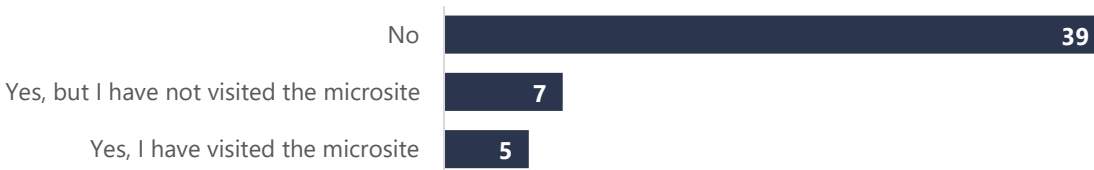
**Figure 7.** Respondents’ awareness of energy-related centers and professional organizations.

Respondents’ organizations are most active with the Midwest Energy Association and the Midwest Renewable Energy Association (Figure 8).



**Figure 8.** Respondent organizations' interactions with energy-related centers and professional organizations.

**UECN Microsite.** Most respondents reported that they are not aware of the Network microsite (Figure 9).



**Figure 9.** Respondents' awareness of the UECN microsite at (<https://atecentral.net/msi>).

## Industry Needs

When asked what needs they see in the Energy and Utilities industry, most respondents' comments centered on workforce development (n=19), education and training (n=9), and career awareness (n=6) (Table 4). A complete list of comments is available as Appendix C.

Themes	Examples
Workforce development	<ul style="list-style-type: none"> <li>• Ensuring enough craft labor in the pipeline to meet the industries long term needs</li> <li>• More young people interested in the trades</li> <li>• The electric power industry is facing changes the likes of which it has not seen since its inception. Qualified technical teams will be in great demand in the future</li> <li>• Workers with the desire to become skilled and show real concern for what they are doing</li> <li>• Younger line workers, solar techs, wind techs, more modern control standards and tools</li> <li>• More workforce development and awareness training at earlier school levels to remove stigma of skilled trades and encourage more interest</li> </ul>
Education and training	<ul style="list-style-type: none"> <li>• Educational programs for Engineering/Design of communication networks</li> <li>• Educational Studies in Technical areas such as Relay Technician, Equipment Specialist</li> <li>• More Natural Gas Training Programs, Better programs to get Gen Z into the industry</li> <li>• More specialized training on equipment many manufacturers do not provide training at a reasonable cost.</li> <li>• More Training</li> <li>• More training for field personnel</li> <li>• Technical computer based skill sets for relays and testing of equipment</li> <li>• common knowledge of the equipment in the field and what it does</li> </ul>
Career awareness	<ul style="list-style-type: none"> <li>• A better job must be done to improve the awareness of careers in these areas</li> <li>• Promoting career opportunities in the Energy industry</li> </ul>

**Table 4.** Responses to, "A need I see in the Energy and Utilities industry is:".

## Final Thoughts

The findings summarized in this results report provide a snapshot of survey responses to the 2022 UECN Network Survey. Full interpretation of the results of this and other aspects of the evaluation plan will be included in the Year 3 evaluation report.

# APPENDIX A: Utilities and Energy

## Coordination Network Survey – Fall 2022

### Start of Block: Intro

Q1.1 Thanks again for taking the time to complete this survey.

### Start of Block: Group and organization

Q2.1 Which best describes the organization that you represent?

- An employer or contractor in the Energy and Utilities Industry
- A product supplier in the Energy and Utilities Industry
- An educational institution

Q2.2 What is the name of the organization that you represent? \_\_\_\_\_

Q2.3 In what state(s) is your organization located? (select all that apply)

- |                                      |   |   |
|--------------------------------------|---|---|
| <input type="checkbox"/> Alabama     | <input type="checkbox"/> Louisiana      | <input type="checkbox"/> Ohio           |
| <input type="checkbox"/> Alaska      | <input type="checkbox"/> Maine          | <input type="checkbox"/> Oklahoma       |
| <input type="checkbox"/> Arizona     | <input type="checkbox"/> Maryland       | <input type="checkbox"/> Oregon         |
| <input type="checkbox"/> Arkansas    | <input type="checkbox"/> Massachusetts  | <input type="checkbox"/> Pennsylvania   |
| <input type="checkbox"/> California  | <input type="checkbox"/> Michigan       | <input type="checkbox"/> Rhode Island   |
| <input type="checkbox"/> Colorado    | <input type="checkbox"/> Minnesota      | <input type="checkbox"/> South Carolina |
| <input type="checkbox"/> Connecticut | <input type="checkbox"/> Mississippi    | <input type="checkbox"/> South Dakota   |
| <input type="checkbox"/> Delaware    | <input type="checkbox"/> Missouri       | <input type="checkbox"/> Tennessee      |
| <input type="checkbox"/> Florida     | <input type="checkbox"/> Montana        | <input type="checkbox"/> Texas          |
| <input type="checkbox"/> Georgia     | <input type="checkbox"/> Nebraska       | <input type="checkbox"/> Utah           |
| <input type="checkbox"/> Hawaii      | <input type="checkbox"/> Nevada         | <input type="checkbox"/> Vermont        |
| <input type="checkbox"/> Idaho       | <input type="checkbox"/> New Hampshire  | <input type="checkbox"/> Virginia       |
| <input type="checkbox"/> Illinois    | <input type="checkbox"/> New Jersey     | <input type="checkbox"/> Washington     |
| <input type="checkbox"/> Indiana     | <input type="checkbox"/> New Mexico     | <input type="checkbox"/> West Virginia  |
| <input type="checkbox"/> Iowa        | <input type="checkbox"/> New York       | <input type="checkbox"/> Wisconsin      |
| <input type="checkbox"/> Kansas      | <input type="checkbox"/> North Carolina | <input type="checkbox"/> Wyoming        |
| <input type="checkbox"/> Kentucky    | <input type="checkbox"/> North Dakota   |   |

*Display Q2.4 if Q2.1 = An employer or contractor in the Energy and Utilities Industry OR A product supplier in the Energy and Utilities Industry*

Q2.4 For what entry-level positions do you hire? (please list below) \_\_\_\_\_

Q2.5 Could you also please provide your contact information to help ensure that we are connecting your responses to the right organization?

Name: \_\_\_\_\_

Email address: \_\_\_\_\_

Phone: \_\_\_\_\_

**Start of Block: Employers**

Q3.1 As an employer, does your organization have an Energy and Utilities-related connection with any post-secondary educational institutions in your region? This would include community colleges, technical career colleges, and four-year institutions. Connections might include serving on advisory boards, providing educational resources, offering internship/apprenticeship opportunities, and so on.

- Yes
- No

*Skip To: End of Block if Q3.1 = No*

Q3.2 Please list EVERY post-secondary educational institution with whom your organization has some type of Energy and Utilities-related connection.

1 \_\_\_\_\_  
 |  
 20 \_\_\_\_\_

*Display Q3.3 if Q3.2 line 20 Is Not Empty*

Q3.3 You listed 20 institutions. Could you have listed more?

- Yes
- No

*Display Q3.4 if Q3.3 = Yes*

Q3.4 Please list those institutions here. \_\_\_\_\_

*Display Q3.5 if Q3.3 = Yes*

Q3.5 Could we follow up with you at a later time to walk through this survey with the additional institutions? We would provide you with a list of the institutions you already mentioned.

- Yes
- No

*Carry Forward All Choices - Entered Text from Q3.2*

Q3.6 During the past 12 months, what kinds of Energy and Utilities-related connection did your organization have with each of the educational institutions you listed? *(Select all that apply)*

	Advisory Board Service	Provided instruction or instructional support	Provided educational resources	Provided internship/apprenticeship opportunities	Provided faculty/professional development	Employed their graduates	Other
1							

20							
----	--	--	--	--	--	--	--

*Display Q3.7 if Q3.2 line 20 Is Empty*

Q3.7 Did you think of any additional institutions as you were completing the previous questions?

- Yes
- No

*Display Q3.8 if Q3.7 = Yes*

Q3.8 Please list those institutions here. \_\_\_\_\_

*Display Q3.9 if Q3.7 = Yes*

Q3.9 Could we follow up with you at a later time to walk through this survey with the additional institutions?

We would provide you with a list of the institutions you already mentioned.

- Yes
- No

**Start of Block: Educational institutions**

Q4.1 Which of the following educational programs does your educational institution currently offer to students?

(Select all that apply).

- Electrical Power Distribution / Lineman
- Gas Utility Construction & Service
- Energy Management
- Solar Energy
- Cell Tower / Telecommunications
- Apprenticeships in the Energy and Utilities Industry

*Carry Forward Unselected Choices from Q4.1*

Q4.2 Have you considered starting one or more of these educational programs?

	Yes	No
Electrical Power Distribution / Lineman	<input type="radio"/>	<input type="radio"/>
Gas Utility Construction & Service	<input type="radio"/>	<input type="radio"/>
Energy Management	<input type="radio"/>	<input type="radio"/>
Solar Energy	<input type="radio"/>	<input type="radio"/>
Cell Tower / Telecommunications	<input type="radio"/>	<input type="radio"/>
Apprenticeships in the Energy and Utilities Industry	<input type="radio"/>	<input type="radio"/>

Q4.3 As an educational institution, does your institution have any connections to any employers in the Energy and Utilities Industry? These connections might include members from these organizations on advisory boards connected with your institution, providing educational resources to your institution, offering internship/apprenticeship opportunities to your students, and so on.

- Yes
- No

*Skip To: End of Block If Q4.3= No*

Q4.4 Please list EVERY employer in the Energy and Utilities Industry with whom your educational institution has some type of connection.

1 \_\_\_\_\_  
 |  
 20 \_\_\_\_\_

*Display Q4.5 if Q4.4 line 20 Is Not Empty*

Q4.5 You listed 20 institutions. Could you have listed more?

- Yes
- No

*Display Q4.6 if Q4.5 = Yes*

Q4.6 Please list those institutions here. \_\_\_\_\_

*Display Q4.7 if Q4.5 = Yes*

Q4.7 Could we follow up with you at a later time to walk through this survey with the additional institutions? We would provide you with a list of the institutions you already mentioned.

- Yes
- No

*Carry Forward All Choices - Entered Text from Q4.4*

Q4.8 During the past 12 months, what kinds of Energy and Utilities-related connections did your institution have with each of the employers you listed? *(Select all that apply)*

	Advisory Board Service	Provided instruction or instructional support	Provided educational resources	Provided internship/apprenticeship opportunities	Provided faculty/professional development	Employed their graduates	Other
1							

20							
----	--	--	--	--	--	--	--

*Display Q4.9 if Q4.4 line 20 Is Empty*

Q4.9 Did you think of any additional institutions as you were completing the previous questions?

- Yes
- No

*Display Q4.10 if Q4.9 = Yes*

Q4.10 Please list those institutions here. \_\_\_\_\_

*Display Q4.11 if Q4.9 = Yes*

Q4.11 Could we follow up with you at a later time to walk through this survey with the additional institutions?

We would provide you with a list of the institutions you already mentioned.

- Yes
- No

**Start of Block: Employer and Educator awareness of ATE Centers or Professional Organizations**

Q5.1 For each of the Energy and Utilities-related professional organizations below, please indicate if your organization is aware of it.

	Yes, we are aware of this organization	No, we are not aware of this organization
Advanced Technology Environmental and Energy Center (ATEEC)	<input type="radio"/>	<input type="radio"/>
Building Efficiency for a Sustainable Tomorrow (BEST)	<input type="radio"/>	<input type="radio"/>
Center for Energy Workforce Consortium (CEWD)	<input type="radio"/>	<input type="radio"/>
Center for Renewable Energy Advanced Technological Education (CREATE)	<input type="radio"/>	<input type="radio"/>
Distribution Contractors Association (DCA)	<input type="radio"/>	<input type="radio"/>
Midwest Energy Association (MEA)	<input type="radio"/>	<input type="radio"/>
Midwest Renewable Energy Association (MREA)	<input type="radio"/>	<input type="radio"/>
National Council for Workforce Education	<input type="radio"/>	<input type="radio"/>
Necessary Skills Now Network	<input type="radio"/>	<input type="radio"/>
Wisconsin Energy Institute	<input type="radio"/>	<input type="radio"/>
Wisconsin K-12 Energy Education Program (KEEP)	<input type="radio"/>	<input type="radio"/>

*Display Q5.2 if Q5.1 [ Yes, we are aware of this organization] (Count) > 0*

*Carry Forward Selected Choices from Q5.1*

Q5.2 Please select each statement that is true with regards to your organization's relationship with each of the following Energy and Utilities-related professional organizations.



	We are subscribed to this organization's newsletter	We have attended at least one of this organization's events in the last two years	At least one member of our entity is a member of this organization	We are interested in becoming more active with this organization	None are true
Advanced Technology Environmental and Energy Center (ATEEC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building Efficiency for a Sustainable Tomorrow (BEST)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Center for Energy Workforce Consortium (CEWD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Center for Renewable Energy Advanced Technological Education (CREATE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distribution Contractors Association (DCA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Midwest Energy Association (MEA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Midwest Renewable Energy Association (MREA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National Council for Workforce Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Necessary Skills Now Network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wisconsin Energy Institute	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wisconsin K-12 Energy Education Program (KEEP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q33 Are there any additional Energy and Utilities-related professional organizations you are connected with that are not listed above?

- Yes
- No

*Display Q5.3 if Q33 = Yes*

Q5.3 Please list and describe the nature of the connection between your organization and any other Energy and Utilities-related professional organization.

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

4 \_\_\_\_\_

5 \_\_\_\_\_

Q32 A need I see in the Energy and Utilities industry is: \_\_\_\_\_

Q5.4 Are you aware of the Utilities and Energy Coordination Network microsite at <https://atecentral.net/msites/UECN>? **(right click to open in a new tab)**

- Yes, I have visited the microsite
- Yes, but I have not visited the microsite
- No

**Start of Block: Follow-up**

Q6.1 We might like to follow up with you if we have any questions or want to learn more regarding your responses to this survey. Would you be willing to have a brief 10-15 minute follow-up conversation at some point?

- Yes
- No

# APPENDIX B: Entry-level Positions

## Administrative:

- Administrative Assistant
- Billing Analyst (2)
- Call Center Representative
- Clerical
- Contact Center Representative
- Data Entry
- Delivery Drivers
- Energy, water, solar program administrative assistant or coordinator
- Inside Sales
- Outside Sales
- Sales Associate

## Apprentice:

- Apprentice Lineman (5)
- Apprentice Meter Technicians (3)
- Apprentice level electrical workers from the EPD class
- Apprentice Line Electrician
- Apprentice Line Technicians
- Apprentice Substation Technicians
- Apprentice Utility Estimators
- Apprentice Water Workers

## Engineers:

- Associate Engineer
- Electrical Engineer (2)
- Engineer
- Engineering Intern
- Fiber Optic Engineer
- Mechanical Engineer (2)
- OSP Engineer

## Technicians:

- AutoCAD Technician
- Commissioning Technician
- Electrical Line Technician
- Fiber Technician
- Field/Service Technician (3)
- Controls Technicians
- Gas Technician (3)
- GIS Technician

- Line Technician (2)
- Metering Technician
- Power Line Technician
- Renewable Technician
- Service Mechanics
- Substation Technician
- Technician

Laborers:

- Gas Laborer
- General Laborer (5)
- Seasonal Laborer
- Skilled Laborer

Other:

- CAD drafter (2)
- Direct Installed
- Dispatcher
- Distribution Systems Operator
- Electrical Distribution
- Energy Advisory
- Equipment Operator
- Fielders
- Forecaster
- Gas Distribution Mechanic
- Gas Service
- Gas Utility Mechanic
- Groundsman (2)
- Inspector
- Lineman (3)
- Locator (2)
- Meter and Connection
- Operator
- Outside Plant Designer
- Performance Assurance Consultant (4-year degree)
- Planning Analyst
- Power Supply Analysis
- Project Coordinator
- Splicers
- Telecom Tower Climber
- Warehouse

# APPENDIX C: Open-Ended Responses – Energy and Utility Industry Needs

Theme	Comments
<b>Career awareness</b>	<ul style="list-style-type: none"> <li>• A better job must be done to improve the awareness of careers in these areas.</li> <li>• Awareness of career paths</li> <li>• Awareness, skilled talent</li> <li>• Increasing job awareness</li> <li>• Promoting career opportunities in the Energy industry</li> </ul>
<b>Education and training</b>	<ul style="list-style-type: none"> <li>• Educational programs for Engineering/Design of communication networks</li> <li>• Educational Studies in Technical areas such as Relay Technician, Equipment Specialist</li> <li>• More Natural Gas Training Programs, Better programs to get Gen Z into the industry</li> <li>• More specialized training on equipment many manufacturers do not provide training at a reasonable cost.</li> <li>• More training</li> <li>• More training for field personnel</li> <li>• Technical computer based skill sets for relays and testing of equipment</li> <li>• common knowledge of the equipment in the field and what it does.</li> </ul>
<b>Employee mindset</b>	<ul style="list-style-type: none"> <li>• Employees that want to travel. Also work weekends &amp; Holidays.</li> <li>• Addressing the boy/man crisis in which men are relegated as expendable/disposable second-class citizens as compared to woman and having no options other than to work in one of the 'death professions' to earn a significant living. And us, who teach and train one of those professions, must retrain the brains of these young men to see their own value and worth and stop taking unnecessary risks as if they were being sent into combat to die anyway.</li> <li>• Gathering employees with a proper attitude for work and safety</li> </ul>
<b>Workforce development</b>	<ul style="list-style-type: none"> <li>• Developing new workforce</li> <li>• Ensuring enough craft labor in the pipeline to meet the industries long term needs.</li> <li>• Future workforce</li> <li>• Labor force; Experience and trust in digital platforms and electronic devices.</li> <li>• more employees</li> <li>• More staff</li> <li>• More trained personnel</li> <li>• more workers</li> <li>• More workforce development and awareness training at earlier school levels to remove stigma of skilled trades and encourage more interest.</li> <li>• More young people interested in the trades</li> </ul>

Theme	Comments
	<ul style="list-style-type: none"> <li>• People</li> <li>• Qualifies Energy Managers</li> <li>• The electric power industry is facing changes the likes of which it has not seen since its inception. Qualified technical teams will be in great demand in the future. As more and more systems switch to electricity as their energy source with the expectation that renewable energy source become the norm, reliability will become paramount.</li> <li>• Two year degree technical employees</li> <li>• Utilities to provide greater financial support to non-traditional utility careers</li> <li>• Workers with the desire to become skilled and show real concern for what they are doing.</li> <li>• Workforce development, training, infrastructure, navigating renewables and decarbonization, lots.</li> <li>• Younger line workers, solar techs, wind techs, more modern control standards and tools</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>• A definitive plan to provide carbon free and reliable the sources of electricity</li> <li>• Qualified Instructors</li> <li>• Energy industry (legacy generation, renewable and storage) support for middle school and high school field trips to their locations. This goes beyond financial support &amp; in WI can be modeled on what Manufacturing does for these groups of students</li> <li>• More meter and regulator schooling</li> <li>• Micro grid</li> <li>• Education about the use of battery storage</li> <li>• Stronger educational outreach and engagement for customers. The energy issues we face are complex, and we need better ways of engaging in meaningful conversation with people in and out of the industry.</li> <li>• Nothing comes to mind</li> </ul>