



ENERGY & SUSTAINABILITY SERVICES

WEBINAR SERIES

Renewable Energy Apprenticeships & On-the-Job Training in NC



Allison Carr
NCCETC



Lee Spruill
Blue Ridge Power



Eric Grant
Blue Ridge Power



**Wanda
Ramos-Mcpherson**
ApprenticeshipNC



Brian Lips
NCCETC

Inflation Reduction Act Labor Provisions

Brian Lips

NC Clean Energy Technology Center

Applicable Tax Incentives

- Production Tax Credit (45/45Y)
 - Compliance with Labor Provisions: **1.3 – 2.6 cents/kWh**
 - Non-Compliance with Labor Provisions: **0.5 cents/kWh**
- Investment Tax Credit (48/48E)
 - Compliance with Labor Provisions: **30% of cost**
 - Non-Compliance with Labor Provisions: **6% of cost**
- Alternative Fuel Vehicle Refueling Property Tax Credit (30C)
 - Compliance with Labor Provisions: **30% of cost**
 - Non-Compliance with Labor Provisions: **6% of cost**

Applicable Tax Incentives

- Carbon Oxide Sequestration Tax Credit (45Q)
 - Compliance with Labor Provisions: \$60 - \$85 / ton
 - Non-Compliance with Labor Provisions: \$12 - \$17 / ton
- Clean Hydrogen Production Tax Credit (45V)
 - Compliance with Labor Provisions: 30% of cost
 - Non-Compliance with Labor Provisions: 6% of cost
- Commercial Buildings Energy-Efficiency Tax Deduction
 - Compliance with Labor Provisions: \$2.50 - \$5.00 / sq-ft
 - Non-Compliance with Labor Provisions: \$0.50 - \$1.00 / sq-ft

Labor Requirements – Prevailing Wage Requirement

Effective for projects placed in service January 30, 2023 or later

Prevailing Wage Requirements

- Laborers used in the construction, alteration, or repair of a project in first 5 years (ITC) or 10 years (PTC)
- Prevailing wages determined by the Secretary of Labor

IRS Guidance:

<https://www.govinfo.gov/content/pkg/FR-2022-11-30/pdf/2022-26108.pdf>

Labor Requirements – Apprenticeship Requirement

Percentage of total labor hours for project must be completed by qualified apprentices

- 2023: 12.5%
- Thereafter: 15%

Federal Apprenticeship Website:

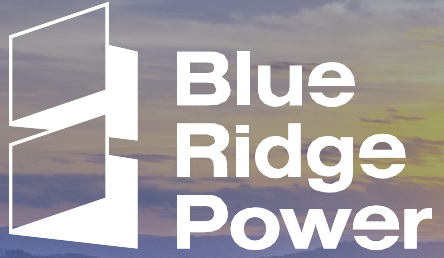
<https://www.apprenticeship.gov/>

North Carolina Apprenticeship Website

<https://www.apprenticeshipnc.com/>

IRS Guidance:

<https://www.govinfo.gov/content/pkg/FR-2022-11-30/pdf/2022-26108.pdf>



— POWER UP —

Building The Future



What is PowerUp?

PowerUp Overview

Whether you start with Blue Ridge Power as an intern or a full-time employee, our PowerUp Programs are designed to give you mobility within the solar construction sector. You'll expand your knowledge of the solar industry, work collaboratively across areas, and continue your education through various learning and development opportunities.



Internships

PowerUp High School Internships provide high school students the opportunity to earn academic credit and money while learning about various roles in our Asheville, NC and Fayetteville, NC offices, including marketing, IT, fleet maintenance, mechanical shop, field engineering, and construction.



PowerUp Academy

PowerUp Academy is a one-week training program focused on providing all construction employees with hands-on experience in constructing a solar array.

You will learn the safety, tool skills, and mechanics of solar site construction, as well as understand how you contribute to Blue Ridge Power's goals and vision.



Apprenticeships

Following PowerUp Academy, employees can apply for our PowerUp Apprenticeship Program.

You will spend your first year with Blue Ridge Power cycling through each division of solar construction, accelerating your career progression and increasing your eligibility for leadership roles.

PowerUp Overview

Whether you start with Blue Ridge Power as an intern or a full-time employee, our PowerUp Programs are designed to give you mobility within the solar construction sector. You'll expand your knowledge of the solar industry, work collaboratively across areas, and continue your education through various learning and development opportunities.



Internships



PowerUp Academy

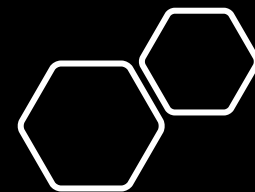


Apprenticeships





Impact



N.C. A&T GRANT DEVELOPS CLEAN ENERGY APPRENTICESHIP, FIRST OF ITS KIND IN NATION

By Alexander Saunders / 07/02/2021 [Research and Economic Development](#), [College of Engineering](#)



PIEDMONT TRIAD REGION

ALAMANCE, CASWELL, DAVIDSON, DAVIE, FORSYTH,
GUILFORD, RANDOLPH, ROCKINGHAM, STOKES, SURRY,
YADKIN COUNTIES

Wanda Ramos-McPherson
Apprenticeship Consultant
ramos-mcphersonw@nccommunitycolleges.edu

Cindy Messer
Apprenticeship Coordinator
messerc@nccommunitycolleges.edu

Tiffany Jacobs
Apprenticeship Coordinator
jacobst@nccommunitycolleges.edu

March 2023

Build a Competitive Workforce

Employers Face Complex Workforce Challenges in Competitive Domestic and Global Markets and with the Current Skills Gap

Time-Tested Model

Proven Strategy for Recruiting, Training and Retaining World-Class Talent Used by Industry for Decades (and longer!)

Adaptable and Flexible

Registered Apprenticeship is a Solution and Can Be Integrated into existing Training and Human Resources Development Strategies!!!

Integrated Into Existing Training

Why & How Can an Apprenticeship Program Benefit You?

Explore how other employers have benefited from apprenticeship by clicking "View Case Study" on each benefit.



Skilled Workforce

Recruit and develop a diverse and highly-skilled workforce

[VIEW CASE STUDY](#)



Improve Productivity

Improve profitability and positive impact to your bottom line

[VIEW CASE STUDY](#)



Reduced Turnover

Minimize cost with reduced turnover and liability

[VIEW CASE STUDY](#)



Customizable Training

Create flexible training options that ensure workers develop the right skills

[VIEW CASE STUDY](#)



Retain Workers

92% of apprentices continue employment after completing an apprenticeship

[VIEW CASE STUDY](#)



Diversity

Foster a diverse and inclusive culture

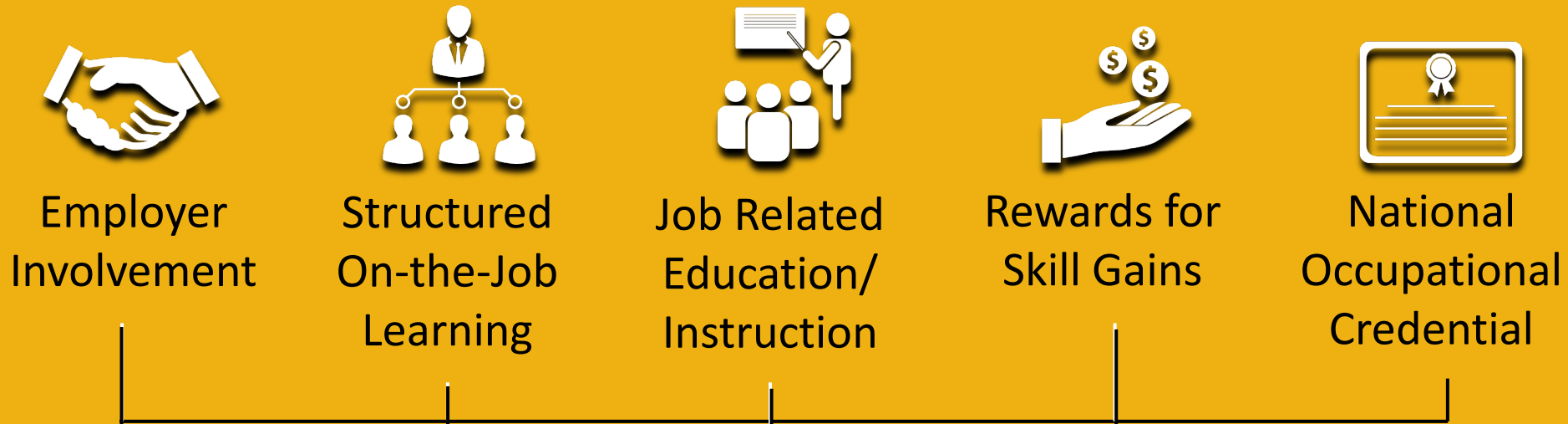
[VIEW CASE STUDY](#)

<https://www.apprenticeship.gov/employers/explore-apprenticeship>

What is a Registered Apprenticeship?

Registered Apprenticeship is a training program that consists of a system of work-based learning designed to meet the training needs of the employer by providing the employee with structured on-the-job learning, related instruction, and a progressive wage scale.

Components for an Registered Apprenticeship Program



**Five Core Components of
Registered Apprenticeship**

Apprentice Minimum Requirements

- Minimum eligible age for an Apprentice is 16 years old
- **Apprentices 16 & 17** years of age **must** have parental consent
- Apprentices must have: U.S. Citizenship, permanent residency status, or a Visa that permits employment in the U.S.
- Ability to Satisfy Sponsor Additional Minimum Requirements:
 - Education, Physical Ability, Background Checks, Drug Testing, etc.
- Ability to successfully complete their On-the-Job Learning and Job-Related Education

Basic Employer/Sponsor Responsibilities

Provide Job Related Education/Instruction for Apprentices

- Apprentices do **not** have to be paid for related education/instruction hours
- Job Related Education/Instruction is conducted during or after work at the discretion of the employer
- Partnerships can be made with high schools through college readiness curriculum, Career and Technical Education, and work-based learning programs

Desire to Develop Skilled Workforce!

- Registered Programs Require Minimal Sponsor Administrative Activities
- Technical Assistance Services to Employers from ApprenticeshipNC Staff
- Support from strategic partners

Apprentices & Occupations

Adults

New Employees/Incumbent
Veterans
Re-Entry, Justice Served
Individuals with Disabilities
Women in Non-Traditional Roles

Youth

High School (16+)
Young Adults (18-24)
1200+ Apprenticeable Occupations

Industry Break Down Category

Energy Star and Lighting
Traditional HVAC
High Efficiency HVAC & Renewable H&C
Advanced Materials
Clean Energy Fields
Clean Energy - Solar
Clean Energy- Wind
Clean Energy- Geothermal
Clean Energy- BioEnergy Fuels
Low-Impact Hydro
Hybrid Electric Vehicles
Plug-In Hybrid Vehicles
Electric Vehicles
Natural Gas Vehicles
Hydrogen & Fuel Cell
Smart Grid
Micro GRid

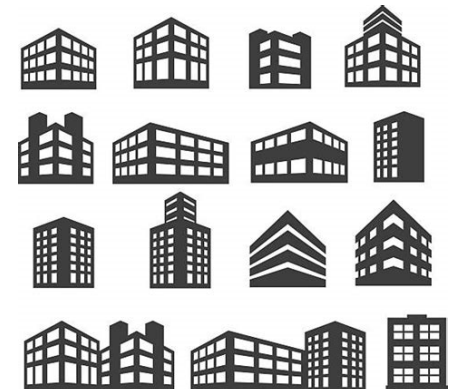
Funding Opportunities

- Apprenticeship Expansion Funds
 - \$12M to support qualifying employers with apprenticeship programs:
 - Training Costs, Education Costs, and Wage Reimbursements
- Community College Tuition Waiver
- Workforce Innovation and Opportunity Act (WIOA)
 - On-the-Job Learning
 - Books, Tuition and Supplies
 - Supportive Services, i.e., Transportation, Day Care
- Work Opportunity Tax Credit (WOTC)

Apprenticeship Programs Models

Industry Sector Consortium: Local industry employers partner to meet a shared need for skilled employees in a particular industry

- Determine the occupations they will register
- Create a combined marketing strategy
- Select the related education to leverage community college resources
- Agree upon the wage scale
- Build recruiting, screening and selection tools



Apprenticeship Programs/Models

Industry Sector Consortium:

• **YOUTH CONSORTIA – Piedmont Triad Region**

- Apprenticeship Randolph – Randolph CC
- Career Accelerated Program (CAP) Alamance CC
- Davidson-Davie Apprenticeship Consortia (DDAC) Davidson-Davie CC
- Guilford Apprenticeship Partners (GAP – Guilford Tech CC)
- Learn & Earn Apprenticeship Program (L.E.A.P.) Forsyth CC (Young Adult 18+)
- Rock-A-Top – Rockingham CC



*GAP-GTCC – A.A.S. Manufacturing Technology
 1st Cohort Completed 4 Yr. Apprenticeship
 Program*

• **YOUTH APPRENTICES**

- High School Students (16 Yrs.)
- Earn while you Learn
- **Community College Tuition Waiver**

Apprenticeship Programs Models

Workforce Development Consortium: form as an “umbrella” of interested employers, educators, and community partners who support and promote apprenticeship in their local area

- Create a combined marketing strategy
- Build recruiting, screening and selection tools
- Register independent apprenticeship programs or be an Employer Partner
- Work with community college, employers, universities, third-party facilitators to develop the related education



Apprenticeship Programs/Models

NC Clean Energy & Solar (Steps4Growth)

- 2021-2022 A&T NC Clean Energy & Solar Apprenticeship Program created
- Collaborative Effort, Partners
- Target Population
 - Adults, Youth, Dislocated Workers, Underrepresented, Veterans, Etc.
- Employer Partners (10+)
- Occupations –
 - Energy Efficiency (HVAC)
 - Solar Technician
 - HVAC Installer, Maintenance
 - Electrical Lineman
 - *New – Construction Laborer, Construction Heavy Equipment, Weatherization, Cybersecurity, Electrician, & more*
- Related Education – community college, in-house, 3rd party, etc.
- Wages – provided by employer
- Pre-Apprenticeship Program

NC Clean Energy& Solar Apprenticeship Program – Steps4Growth



ApprenticeshipNC
North Carolina Community College System
200 W. Jones St., 5001 Mail Service Center
Raleigh, NC 27699-4301
Phone: 919-807-7100
apprenticeshipNC@nccommunitycolleges.edu

Apprenticeship Program Request Form

RA-001917
NC Clean Energy Program-NC A&T
Sponsor

1601 E Market St., Fort IRC 110
Greensboro, NC 27411

County: **Guilford**
Location: **Same**
Supervisor: **Balakrishna (Balu) Gokaraju**
Title: **Associate Director, Visualizations and**
Computing Advanced Research Center
Email: **bgokaraju@ncat.edu**
Telephone: **(336) 285-3210**

Number of Employees: **300**
Program Type: **Individual Not Joint**
Indenture: **N**
Workers Compensation: **Y**
VA Approved: **N**
Affirmative Action Pledge on File: **Y**

49-9021.00 - Energy Efficiency (HVAC) Status: *In Progress*

OJL Term: **6000** Minimum hours **8000** Total hours
RI Contact Hours: **1702**

of Journeyworkers: **10** Quota: **10** Ratio: **1 to 1**

Wage Scale: **Standard** Journeyworker Rate: **\$00.00** Rate Date: **01/13/2022**
Interval Time Rate

49-9021.00 - HVAC Installer, Maintenance Status: *In Progress*

OJL Term: **4500** Minimum hours **6000** Total hours
RI Contact Hours: **736**

of Journeyworkers: **10** Quota: **10** Ratio: **1 to 1**

Wage Scale: **Standard** Journeyworker Rate: **\$00.00** Rate Date: **01/13/2022**
Interval Time Rate

49-2094.00 - Solar Electrical Technician Status: *In Progress*

OJL Term: **4000** Minimum hours **5000** Total hours
RI Contact Hours: **624**

of Journeyworkers: **10** Quota: **10** Ratio: **1 to 1**

Wage Scale: **Standard** Journeyworker Rate: **00.00** Rate Date: **01/13/2022**
Interval Time Rate

47-4099.03 - Weatherization Installers Status: *In Progress*

OJL Term: **2000** Total hours

RI Contact Hours: **0**

of Journeyworkers: **1** Quota: **2** Ratio: **2 to 1**

Wage Scale: **Standard** Journeyworker Rate: **\$00.00** Rate Date: **02/01/2023**
Interval Time Rate

47-2061.00 - Construction Laborer Status: *In Progress*

OJL Term: **3000** Minimum hours **4000** Total hours

RI Contact Hours: **0**

of Journeyworkers: **1** Quota: **1** Ratio: **1 to 1**

Wage Scale: **Standard** Journeyworker Rate: **\$00.00** Rate Date: **02/01/2023**
Interval Time Rate

49-3042.00 - Construction Heavy Equipment Status: *In Progress*

OJL Term: **6000** Minimum hours **8000** Total hours

RI Contact Hours: **0**

of Journeyworkers: **1** Quota: **1** Ratio: **1 to 1**

Wage Scale: **Standard** Journeyworker Rate: **\$00.00** Rate Date: **02/01/2023**
Interval Time Rate

49-9051.00 - Electric Lineworker Status: *In Progress*

OJL Term: **0** Total hours

RI Contact Hours: **0**

of Journeyworkers: Quota: **0** Ratio:

Wage Scale: **Standard** Journeyworker Rate: **\$00.00** Rate Date: **03/14/2023**
Interval Time Rate

This document may be executed in counterparts, each of which will be deemed an original and all of which will constitute one and the same document. The parties may exchange signature pages electronically or by facsimile, and such signatures will be effective to bind the parties to all the terms contained in this document.

Signature of Sponsor or Representative

Signature of Apprentice Consultant

Signature of Director's Approval

Wanda Ramos-Mepherston

Date:

Date: 03/14/2023

Date:

NC Clean Energy& Solar Apprenticeship Program – *Steps4Growth*



Appendix D

EMPLOYER ACCEPTANCE AGREEMENT

The undersigned employer hereby subscribes to the provisions of the Apprenticeship Standards formulated and registered by the *Sponsor Name* and agree(s) to carry out the intent and purpose of said Standards for *Occupation...* and accompanying Appendices and to abide by the rules and decisions of the Sponsor established under these Apprenticeship Standards. *Employer Partner* have been furnished a copy of the Standards and have read and understood them, and request certification to train apprentices under the provisions of these Standards. On-the-job, the apprentice is hereby assured qualified training personnel and adequate supervision during the apprenticeship. The training should follow the approved Work Process Schedule and Related Instruction Outline including the rotation of tasks. The employer further agrees to follow the selection procedures per the approved Standards or develop alternative selection procedures in the Employer Acceptance Agreement that are consistent with the requirements set forth in 29 CFR § 30.10(b). This employer acceptance agreement will remain in effect until canceled voluntarily or revoked by the Sponsor, Employer or ApprenticeshipNC.

(Print Name of Employer Representative)

Signed: _____
(On Behalf of Employer)

Date: _____

Employer Title: _____

Name of Company: _____

Address: _____

City/State/Zip Code: _____

Phone Number: _____

Fax: _____

Email: _____

cc: Registration Agency

Employer Acceptance Agreement Data:

Insert Occupation (s): _____ (use one per occupation)

(Print Name of Sponsor Representative)

Signed: _____
(On Behalf of Sponsor)

Date: _____



APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly Journeyworker wage rate, which is \$ _____. Starting wage is \$ _____.

Enter progressive wage schedule here. 4-Year Term Example:

1st 6 months + hours =	2nd 6 months + hours =	3rd 6 months + hours =
4th 6 months + hours =	5th 6 months + hours =	6th 6 months + hours =
7th 6 months + hours =	8th 6 months + hours =	

PROBATIONARY PERIOD

Every applicant selected for apprenticeship will serve a probationary period of # 500/hours

TOTAL WORKFORCE

Total Workers Employed: _____ Journeyworkers: _____ Female: _____ Minority: _____ Youth: _____

TOTAL APPRENTICES TO BE EMPLOYED: _____

RATIO: ____1____ Apprentice(s) to ____1____ Journeyworker(s)

MINIMUM QUALIFICATIONS:

An apprentice must be at least # years (Enter an age of at least 16 years) of age, except where a higher age is required by law, and must be employed to learn an apprenticeable occupation. Please include any additional qualification requirements as appropriate (optional):

- ☒ There is an educational requirement of High School Diploma, GED
- ☐ There is a physical requirement of _____
- ☐ The following aptitude test(s) will be administered _____
- ☐ A valid driver's license is required.

Other: i.e. Applicants will pass a [physical agility test, fitness test, or screen for the current illegal use of drugs (select all, some, or none, if applicable)] on acceptance into the program and prior to being employed.

RELATED TECHNICAL INSTRUCTION PROVIDED BY: *Community College, Employer, or Sponsor*

Pre-Apprenticeship Benefits

- Clean Energy Youth Apprenticeship

- These pre-apprenticeship programs offer students interested in pursuing careers in clean energy and environmental efficiency a launching pad into an "earn while you learn" career pathway. These programs will link clean energy based curriculum taken in high school with post-secondary credentialing, degree attainment and paid on-the-job learning. [<https://www.nccareerlaunch.org/>]

EMPLOYER PARTNERS:

- Pre-screens a qualified, job-ready apprentice pool
- Streamlines the recruitment process
- Increases retention rates for registered apprenticeship participants
- Recruits a diverse pool of prepared candidates

PARTICIPANTS: (Apprentice)

- Explore and learn about exciting careers, and technology-based training
- Build Literacy, Math, English, and work-readiness skills employers desire
- Advance into a Registered Apprenticeship program



**NORTH CAROLINA APPRENTICESHIP EXPANSION FUNDS
SESSION LAW 2021-180 SECTION 16.4**

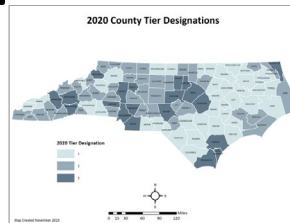
Background and General Information

Funding Source: North Carolina General Assembly



\$12 million in non-recurring funds to be spent through December 31, 2026

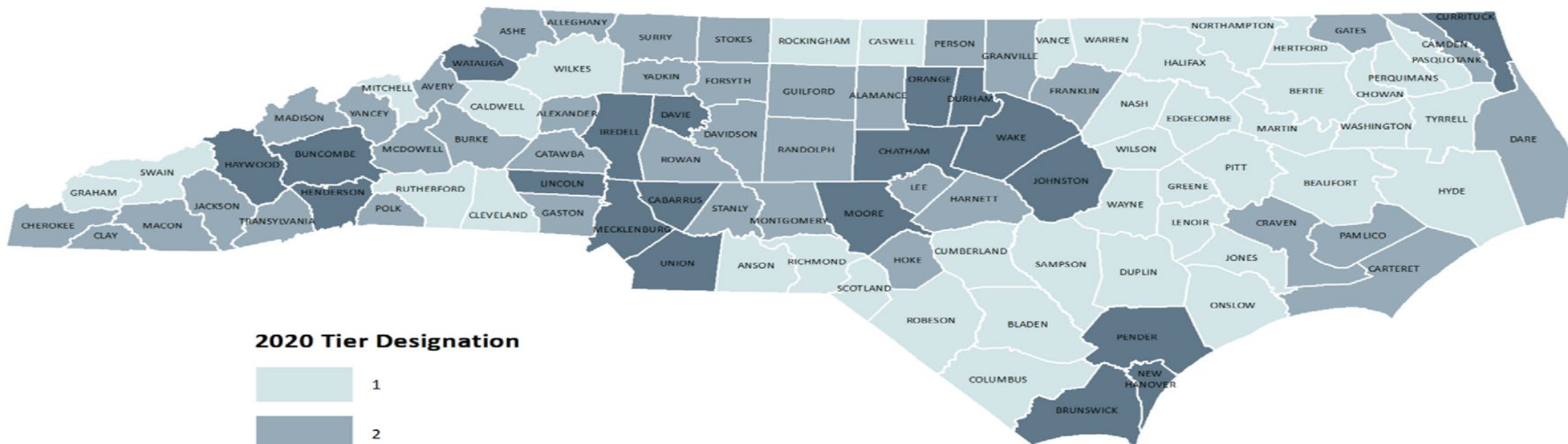
Funding Target:



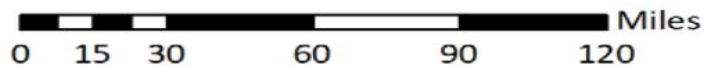
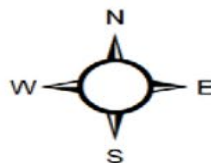
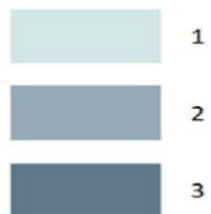
All four criteria are required:

- 1) Business is in a Tier 1 or Tier 2 County
- 2) Business is a “small business” with less than 500 employees
- 3) Business is hiring new apprentices ages 16-25 [May 20,2022]
- 4) Business is registering an occupation in a career considered “high demand”

2020 County Tier Designations



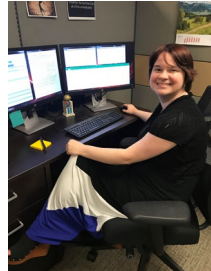
2020 Tier Designation



Background and General Information:

High Demand Careers List for General Assembly Apprenticeship Funding

2-Digit Occupation Codes



(15-0000) Computer and Mathematical (includes IT)

(17-0000) Architecture and Engineering

(25-0000) Education

(29-0000) Healthcare Technicians

(31-0000) Healthcare Support

(33-0000) Protective Service

(35-0000) Food Preparation and Service

(43-0000) Office and Administrative Support

(47-0000) Construction and Extraction

(49-0000) Installation, Maintenance, and Repairs

(51-0000) Production

(53-0000) Transportation

Training Costs

\$2,000 Per NEW Apprentice for the first year

Paid to: Employer by Local Community College



Tuition, Books, and Fees

\$2,500 per year per NEW Apprentice for two years (\$5,000 max)

Paid to: Employer by Local Community College

Funding Permissives



Salary Match for 1 Year:

NEW Apprentices who are NOT in high school

50% reimbursement based on the
registered wage scale *reimbursement
cap of \$15/hr.

Paid to: Employer by Local Community College



Salary Match for 1 Year:

NEW Apprentices who ARE in high school

50% reimbursement based on the
registered wage scale *reimbursement
cap of \$14/hr.

Paid to: Employer by Local Community College

Funding Permissives



Funding Requirements

Funds must be obligated by December 31, 2024

Funds must be spent by December 31, 2026

Invoices must be processed at the local Community College within 45 days of the first day of class

Yearly monitoring reviews will be held each June with ApprenticeshipNC and the Community College



Registered Apprenticeship Program Development Process – How to get Started!

Step 1 Contact Us



**Contact
ApprenticeshipNC
Representative
Consultant**

Step 2 Build Program



**Collaboration
with Sponsor to
develop Training
Program**

Step 3 Program Check



**Review and
Approval of
Customized
Standards of
Apprenticeship
Developed Based
on Sponsor's
Operational Input**

Step 4 Program Registered



**Sponsor
Receives Finalized
Standards of
Apprenticeship
and Certificate of
Registration
Documents**

Step 5 Launch Program



**Employer
Implements
Registered
Apprenticeship
Program**

Questions? Thank you!

Wanda Ramos-McPherson
Apprenticeship Consultant
ramos-mcphersonw@nccommunitycolleges.edu

Cindy Messer
Apprenticeship Coordinator
messerc@nccommunitycolleges.edu

Tiffany Jacobs
Apprenticeship Coordinator
jacobst@nccommunitycolleges.edu



NC CLEAN ENERGY
TECHNOLOGY CENTER



STEPS^s4GROWTH

**A comprehensive clean energy workforce development project -
creating the next generation of clean energy talent**

Allison Carr, NCCETC Training Program Manager

Our role? Renewable Energy Backbone

Solar

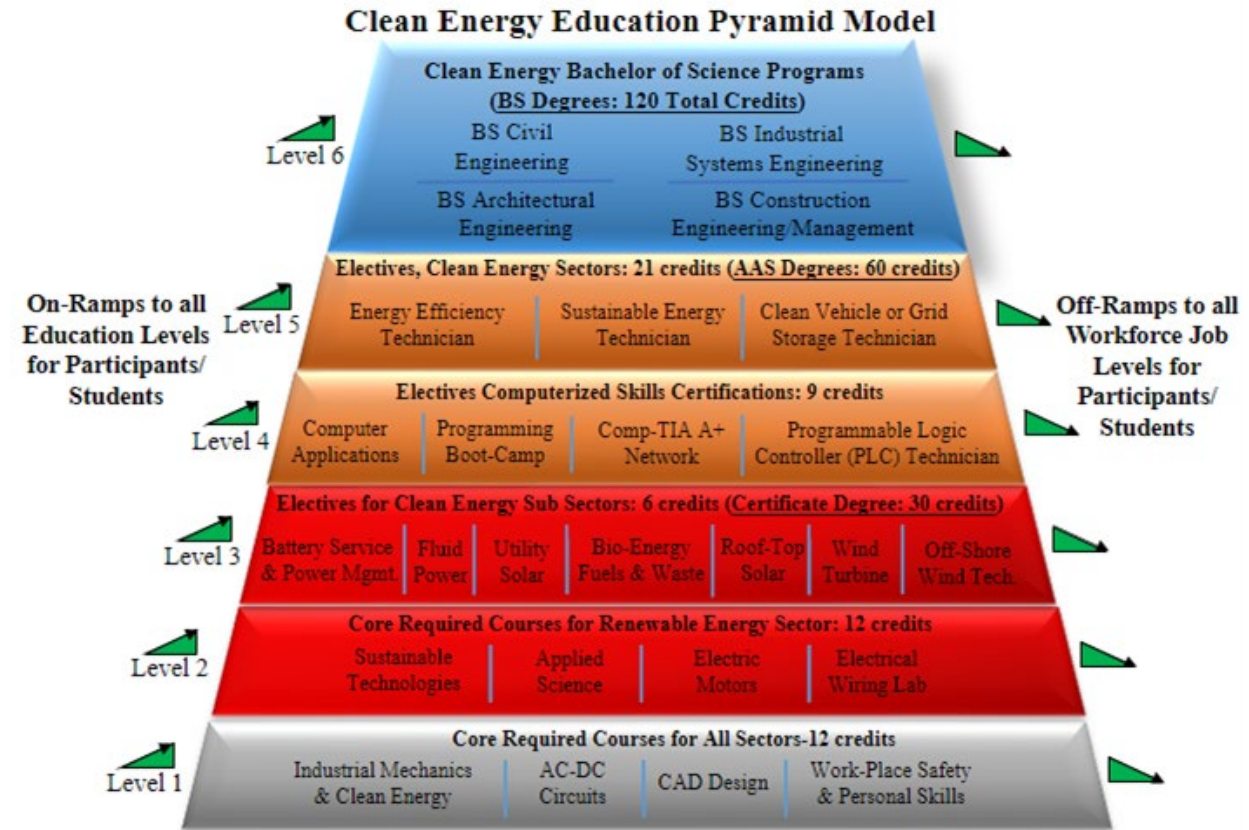
Wind

Bio-energy

- ***Developing educational models:***
Working with employers to identify training needs and gaps for the growing workforce.
- ***Coordinating and convening:***
Bringing industry and education partners together
- ***Training:*** Supporting regional partners and community college partners in coastal, northeastern NC.
- ***Inviting industry partnerships for job placements***

Industry Partner Role

Education Pyramid Model(s)



Industry Partner Role

Summer Pre-apprenticeships
Apprenticeships
PT & FT Job Placements



Industry Partner Commitment

Needs from solar companies and employers

- **Willingness to hire STEPs4GROWTH Clean Energy / Solar Graduates** as they complete training, certificate programs, and/or on-the-job training
- **Industry partner to commit to one or more full-time or part-time placements** with opportunities for summer placements by May 2023. Additional need for job placements in Fall 2023 and beyond.
- **Cost to the industry partner is between \$2,250-4,500** for summer sponsorship and beyond for each participant. Project partners are seeking additional resources from many funding sources.
- Take advantage of the **opportunity to help craft the curriculum** for solar and clean energy technology industry across NC.

Want to be involved? We are...

- 1. Seeking & confirming industry partner participation for Summer 2023**
- 2. Developing Solar Education Pyramid Model(s) with your feedback**
- 3. Planning for future meetings**



NC CLEAN ENERGY
TECHNOLOGY CENTER



Thank You

For more information, please contact:

Allison Carr (akcarr@ncsu.edu) and Samantha Gibson (sgibson3@ncsu.edu)



ENERGY & SUSTAINABILITY SERVICES

WEBINAR
SERIES

Renewable Energy Apprenticeships & On-the-Job Training in NC



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