

EVSE Curriculum and Career Pathways
EV SECTORAL PARTNERSHIP MEETING 2/28/24 RALEIGH, NC AND
ONLINE VIRTUAL OPTION

Debrief of Raleigh and Charlotte Sectoral Partnership Meetings

- SAE credential and testing finally live
 - o Question if companies in NC and nationally will recognize SAE credential (even with its development being industry-backed)
- NCBCE piloting job training program over the summer at Wake Tech
 - o Goal to expand pilot to other community colleges in phased rollout beginning in Fall 2024

Overview of Current Draft EVSE Curriculum

- Overview of curriculum
 - o General structure
 - Hours requirements (110 Hours)
 - What is the format
 - o Schedule dependent on students and professors
 - Flexibility for students to learn at own pace
 - Dependent on how many hours a week a student can do
 - o Some availability to do remote work, majority hands-on
 - Transferability of curriculum
 - Will non-profits be able to run this training (no)
 - o Can sponsor student to attend the training
 - o Instructor may not want to share their course information publicly
 - Size and scope of training programing
 - Concerns that too many add-ons will balloon the program to 300+ hours
 - Instructors

- At least competing instructors electrical course (130 hours)
 - OR**
 - CTE concentrators in electrical
 - Transferability of skills
 - If already have work experience or certificate, how will it be counted as credit?
- Section 1: Codes, Standards, and Regulations (28 Hours)
 - Consider Including:
 - Local codes
 - Clean tech center looking at model ordinances
 - ADA accommodations
 - Language access
 - NFPA 70e- Arc Flash
 - ANSI Standards (may be forthcoming)
 - Already included but raised:
 - Sight safety includes fire (EMS not included)
 - OSHA 10
- Section 2: Electrical Energy Fundamentals (36 Hours)
 - Consider including:
 - Power grid integration
 - Interoperability of EV and its systems
 - Already included by raised:
 - Innovation in this realm makes this a moving target
 - Built in updates for all curriculum to stay relevant
- Section 3: Electrical Vehicles and Batteries (8 Hours)
 - Consider including:
 - Bidirectional charging technology
 - Already included but raised:
 - Bidirectional charging technologies
 - Chemistry and Battery Type
 - Different types of connectors
- Section 4: Charging Stations and EVSE (12 Hours)

- Cyber security protocol
 - Section 5: Commissioning (12 Hours)
 - Topics raised (uncertain if already included in curriculum draft)
 - Payment interfaces
 - EVSP Backend
 - RFID Setup
 - OEM Specifics
 - Section 6: Preventative Maintenance (8 Hours)
 - Topics raised (uncertain if already included in curriculum draft)
 - OEM specifics
 - Parts management
 - Warranties
 - Disaster response (post-weather restoration)
 - Section 7: Corrective Maintenance (6 Hours)
 - Topics raised (uncertain if already included in curriculum draft)
 - Reading schematics/how to use a meter
- Hands-on Learning
 - Site visited
 - Field trips to industries
 - Work on repairing charging points
 - Experience acting like an EV driver = drive, pull into charging station, plug in
- Recruitment
 - Mobile entry point to reach new audience
 - Gamify the recruitment process
 - Build out social media
 - Trusted community partners
 - Who can we reach out to in community both traditional (NCWorks) and other social organizations (churches, affinity groups, others)
 - Tax incentives to provide training on
 - Advance NC

Career Pathways and Needs from Industry

- Need to understand the array of jobs companies are recruiting for, not just technicians
- Structure of Training Program
 - o Individuals come in with a foundation (prerequisites)
 - Complete the EVSE training program for technician pathway
 - Other training modules or connecting programs may be developed for other pathways
 - Battery manufacturing
 - EV Manufacturing
 - Solar
 - IT Tech
 - Certified electrician
 - Call Center

Clean Energy Talent Hub

The **Clean Energy NC Talent Hub** under Governor Roy Cooper and [STEPs4GROWTH](#) is now online and part of the Clean Energy Workforce Development Initiative here in North Carolina!

The Clean Energy NC Talent Hub is a new outlet for both job seekers and employers/associations to connect regarding clean energy career opportunities in our state. As a benefit of being a part of our STEP's4GROWTH network, employers and associations can post open job opportunities at no cost, be showcased as a featured employer, search for candidate resumes, and connect with job seekers.

Job seekers can also search for open job opportunities, upload their resume, set up job alerts, learn more about career paths, and research companies in our state at no cost. This is a great opportunity for job seekers to learn more about what job opportunities and companies exist here in North Carolina!

Whether you are a job seeker, or employer/ association, please register and join our Clean

Clean Energy NC Talent Hub - Job Posting Request Form

<https://bit.ly/jobpostrequestCENC>



Thanks so much,

Caroline Sullivan and Joanne Sullivan

Steps4GROWTH Update

- S4G continues to operate and run its existing initiatives while it undergoes a reassessment of its management structure in Q2.
- In the spring/summer, we are planning on organizing a sectoral initiative for the advanced battery industry and the battery supply chain in NC, coordinating such an effort with the Carolina Battery Institute, NC Commerce, and others. Stay tuned!

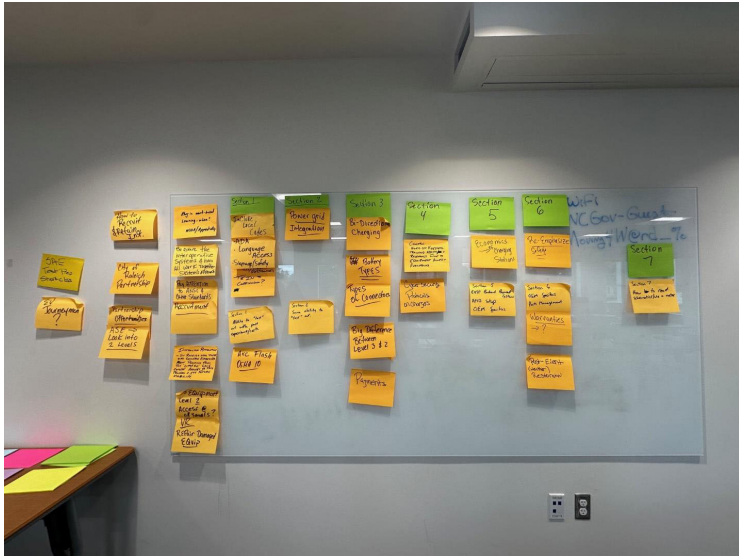
Training and Equipment Needs and Updates

- **Community colleges should continue sending in equipment requests to NCBCE**
 - o Only 2 of 58 community colleges sent in equipment needs thus far
 - o Types of equipment that may be needed
 - Chargers
 - Connectors
 - Safety equipment
 - Other?
 - o Lenoir County Community College: Unfamiliar with what equipment is needed for the training program in the first == challenge responding to the email asking what they may need
- Equipment procurement in process
 - o DOT has secured broke equipment to train on
 - o NCBCE securing Level 1 and Level 2 chargers from Siemens

- Could the [CFAT grant program](#) be used to fund equipment?
- Could a partnership occur with the City of Raleigh to train on their DC Fast Chargers and use buses from Siemens already in the city?
- How can we secure deals to get equipment in bulk?

WHITE BOARD WORK/ IMAGES FROM THE POST IT NOTES





SAE
Test Prep
Short class

EV
Journeyman
?

How to
Recruit
& Retain
Inst.

City of
Raleigh
Partnership

Partnership
Opportunities

ASE →
Look into
2 Levels

Phys in work-based
Learning - when?
WIA/Apprenticeship

Be aware the
inter operative
Systems & how
All work Together
Systems Approach

Pay ATTENTION
to ANSC &
Other Standards
Recruitment

DISPERSED REVENUE
- IN RALEIGH AREA THERE
WAS CONCERN EXPRESSED
ABOUT TRAINING SKILL
THEY LOST AND SAME
CONCERN APPLIES TO THIS
PROBLEM & ITS FUTURE
VIABILITY.

Equipment
Level 2
Access @
all levels?
VR
Repair Damaged
Equip

Section 1

Include
Local

ADA
Lang

Signage
TRAIN
CURRICULUM

Section 1
Ability to "to
out with past
experience/level

ARC F
OSHA 11

Section 1

Include local Codes

- ADA
- Language Access
- Signage/Safety

RESPODER
TE IN TO CURRICULUM?

Section 1
Ability to "test" out with past experience/certs

Arc Flash
OSHA 10

Section 2

Power grid
Integration

Section 2
Same ability to "test" out.

Section 3

Bi-Directional
Charging

~~AT~~ Battery
TYPES

Types
of Connectors

Big Difference
Between
Level 3 & 2

Payments

Section 4

CONCEPTS
HANDS
TRAINING
REQUIREMENTS
EQUIPMENT
AVAILABLE

Cyber
Protection
on Charge

Section 4

CONCERN:
HANDS ON KINETIC
TRAINING ABILITY +
RELEVANCY DUE TO
EQUIPMENT ACCESS +
AVAILABILITY

Cyber security
Protocols
on charges

Section 5

Economics
→ of Charging
Stations

Section 5
EVSP Backend Payment
Systems
RFID Setup
OEM Specifics

Section 6

Re-Emphasize
Safety

Section 6
OEM Specifics
Parts Management

Warranties
→ ?

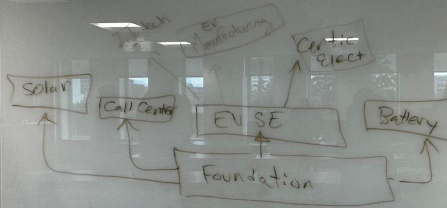
Post-Event
(weather)
Restoration

WiFi
VCG
Moving

4W@rd_70

Section
7

Section 7
How to read
schematic/use a meter



Control - Operation
 → 100% Pro.
 10 - 20% Dis.

Activities on
 Activities

Hydrogen

Repair of
 Damaged
 - VR?

• Behind the
 Wheel of an EV
 To Station

Mobile
Entry
Attractive
to Pop.

Trusted
Community
Partners