

Sectoral Partnership Meeting- Charlotte 12/11/23

Purpose: Bring together industry partners to identify challenges to sustaining and growing the EV charging workforce now and in 5 years, and solutions to create a thriving and growing EV workforce through partnership between education, government, and companies. The ongoing conversation and ‘family’ developed through the sectoral partnership will work to lift up underserved populations and continue to grow the EV industry.

NCBCE Grant

NCBCE received a grant from the Siemens Foundation (Everyone Charging Forward) to create apprenticeship and credential-based training programs for the EV installation sector. The grant prioritizes underserved and rural individuals in Justice40 communities.

Pilot program will be designed, implemented, and evaluated to address the communities’ and sector’s workforce needs. Grant funding will be used to provide wrap around services and improve access to the EV career pathway.

SUPPORT PARTNERS FROM INDUSTRY

- CLEVELAND COMMUNITY COLLEGE
- WAKE TECH
- PUBLIC SCHOOLS
- NC WORKS
- CHARLOTTE WORKS
- CLEAN ENERGY TECHNOLOGY CENTER (NCSU)
- URBAN LEAGUE
- CITY OF CHARLOTTE
- UNCC
- EV ASSOCIATION

ATTENDANCE

- | | |
|---|--|
| 1. Caroline Sullivan, NCBCE/ S4G | 14. Lorena Patterson, Hispanic Chamber of Commerce |
| 2. Joanne Sullivan, NCBCE/ S4G | 15. Joe Shook, Blue Ridge CC |
| 3. Matt Meyer, NCBCE/ Hispanic Chamber Of Commerce | 16. Tod Skinner, AEG International |
| 4. Stephen Gerhardt CPCC | 17. Jeff Cohen, Tritium Charging |
| 5. Brian Lucas, CPCC | 18. Jamie Ruscher, UNCC Epic Center |
| 6. Michelle Horton, Goodwill Industries Southern Piedmont | 19. Patrick Regan, UPA |
| 7. Juan Benitez, Wake Tech | 20. Rick Sapienza, NCSU Clean Energy Technology Center |

27. Johnny Pi, UPA
28. Andrew Davila, Charlotte Works
29. Kesha Dawson, CMS
30. Heather Bolick, City of Charlotte
31. Laura Martyna, Atom Power
32. Susan Gann-Caroll, CMS
33. Aleena Oakley, SEI

34. Brett Fansler, CPCC
35. Matt Sadinsky, Prep International
36. Clarence Scott, Goodwill Industries
37. Kate Throneburg, AEG International
38. Rebecca Betram, Pinkham Cyr Inc
39. Ole Olsen, Koulomb Fast EV Charging

RECAP OF THE RALEIGH MEETING

- Matt Meyer and Caroline Sullivan recapped the Raleigh Meeting (you can reference previous notes attached)

MAJOR QUESTIONS ASKED

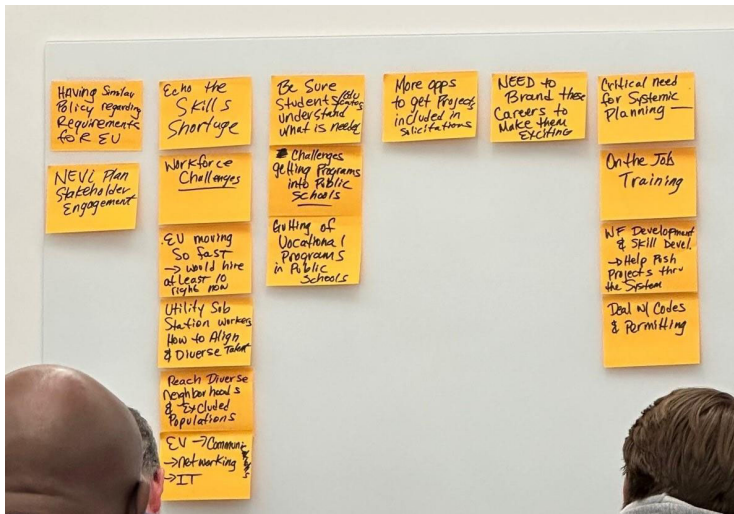
- What are the critical jobs for your companies?
- What are the technical skills we need? What are the core skills?
- Allow support partners to talk and share.

FOLLOW UP SINCE 11/9 (INDUSTRY PARTNERS) WHAT DID WE MISS? CHALLENGES/ ISSUES?

- Have similar policies across the board if you can what is required for EV.
- Skills shortage
- Be sure students understand what is needed.
- NEVI plan miscommunication, opportunities to have projects to be submitted by their organization not via DOT on behalf of everyone.
- CMS vs HS conflict on programs offered in public schools.
- Vocational careers stigma (everyone must go to college) – let's brand these in a positive way.
- Brand careers and make them exciting.
- Site planning, installation, post maintenance, put chargers in that don't work – make it more full cycle (project managers, trade electricians)
- Field service agents needed by OEM – dispatch to a NEVI site, etc. (shortage of these agents)
- If there are no projects, people cannot train in real-time.
- OJT is the best job training.
- Need for certified technicians (they have jobs, but not enough people to do them).
 - Call in center roles also (for when they're down) vs. Tier 1 vs. Tier 2
- CDL, Crane operators, they need certifications which is expensive.
- Diversity in talent is needed.
- Engineers from HBCUs, MITs, GTs, Johnson C. Smith are our talent pool, but grants are not going to certain populations (excluded).
- Dealing with codes and permitting.
- Firmware engineers (hardest role to fill). They design the communication from car to substation.

- What other industries can we model after? Biotechnology/ Pharmaceuticals, Bioworks Certification (<https://www.ncbionetwork.org/biowork>)
- IDEAS ABOUT PROGRAMS:
 - Go to rural areas to a smaller school/ college (let's look at these rural schools to pilot)
 - Be intentional working with the companies because kids going to these schools and what jobs can we do?
- EV Charging
 - Register on NC DOT site and you can tell them what you specialize in (mailing list)
- How do we supply line workers (during the shortage)
 - They looked at rural area, Cleveland community college.
 - Sat down with employers came up with 10-week program, 40 hours, pre-apprenticeship program then they go up to apprenticeship. (2016 or 2017), offered 4 times a year and 100% job placement. 17-25 in a cohort (Pike, Duke, etc.). "Heavy Equipment Program" (OSHA, CDLS, etc.)

THEMES/ CHALLENGES FROM ABOVE – IN-PERSON EXERCISE
(GROUP LIKE-THEMES TOGETHER)



- Certified Techs
- EV Install
- EV Maintenance
- Firmware Engineer
- Field Service Agents
- Electricians
- Call Center
- Asset Manager
- Home Office Reporting Monitoring
- Carbon Credit Manager
- Project Manager
- Customer Support Service
- Safety Supervisor
- Engineers (Applications Engineers)
- Sales Engineers
- EVSE Manager
- Construction Estimator
- Security Various
- Training Manager
- Example service call for Johnny Pi's group (UPA)
 - EV, Certified Techs, EV Maintenance, Firmware Engineer (update software)
 - Electricians (foreman), then licensed electrician
 - Call Center (Customer Service Agent) – what is wrong with screen, etc., it's not charging
- Maintenance of Chargers
 - Need to know how to install and have knowledge of electrical to do these jobs (know the electrical systems, etc.).
 - Some are not the same developer or manufacturer of the equipment.
- Reporting/ Monitoring Evaluation of program
- Asset Manager
 - Keep up with warranties each one, assign techs to repair it.
- Engineers
 - Application Engineers – work with utility figure out bandwidth of power
 - Sales engineers talk to a person.
 - Manufacturing Engineers
- Tesla (good example of their well-oiled machine, can we model after their org)

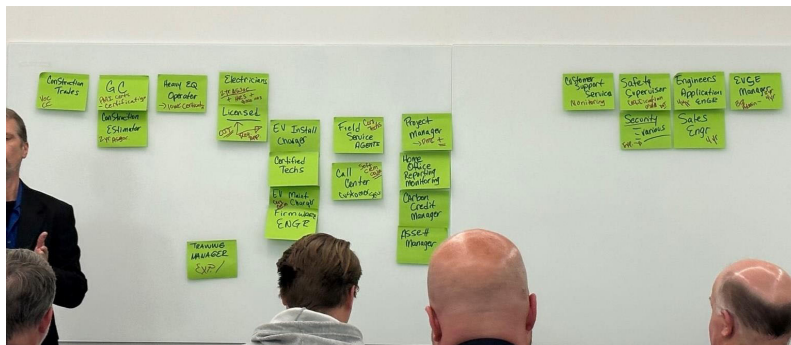
EXPERIENCE NEEDED – USE IN EXERCISE BELOW

- Vocational High School
- Short-term training (NON-DEGREE FROM COMMUNITY COLLEGES)

CAREER PATH EXERCISE (REFERENCE GRAPHIC BELOW) – GROUP SIMILAR/LIKE CAREER PATHS TOGETHER

- Construction Trades – VOC, CC
- GC – PMI certifications,
- Construction Estimator – 2-year associates
- Heavy EQ Operator – 10 weeks certification
- Electricians
 - Electricians – associate degree + hours 10,000
 - Licensed Electricians – OJT, Required apps
- EV Install Charger
- Certified Techs
- EV Maintenance Charger (ABB certified, or certified by their OEM)
- Firmware Engineer
- Call Center Customer Service
 - Tier 1, is screen on, etc. vs. Tier 2
 - In-House training, CRM, soft skills
- Field Service Agents
- Project Manager – PMI +
- Home Office Reporting Monitoring – Tier 2 CS services
- Carbon Credit Manager
- Asset Manager
- Customer Support Service – Monitoring
- Safety Supervisor – OSHA, Certification
- Security – Exp.
- Engineers Application Engineer – 4 yr
- Sales Engineer – 4 yr.
- EVSE Manager
- Training Manager

**CAREER PATHS MAPPED OUT ON WHITE BOARD (FROM ABOVE)– IN-PERSON EXERCISE
(GROUP LIKE-CAREERS TOGETHER)**



NEXT STEPS/ QUESTIONS

1. Q: Construction and trades schools, HVAC, Electrical Training (Question)? Thoughts on how A/I can help impact to close the gap, how will A/I affect service (Michelle from Goodwill)?
 - EV is more hands-on and customizable
 - A/I will help diagnose, but not eliminate
2. Q: Justina from Wake Tech sharing some of the curriculum for EVSE. When you're hiring, is there any kind of background check being done for new hires? What is there are issues on background check?
 - Drug tests failed, they do random drug tests, background checks 7-year felony, if driving records are bad employees cannot drive their vehicles, HR will work on this for background checks (determine appropriate action, hire or not hire)
3. Q: Justina from Wake Tech - Any interest in industry coming into class to do job offering at end of class?
4. Q: Juan Work-based Learning Wake tech – Can we try to get students into work-based learning in Raleigh, RTP area? Companies come to the class, do the hiring process, need more EV employers on board. **Employer Response:** Candidates are based in their area and travel on the road. Hybrid training onsite and some distance learning.
5. Matt Meyer - We will be in contact with industry with support partners and make connections. May have remote/ zoom meetings/ teams in the future!