DOCKETED	
Docket Number:	20-ALT-01
Project Title:	Clean Transportation Workforce and Equity
TN #:	248745
Document Title:	Presentation - Clean Transportation Program Workforce Workshop
Description:	*** This document supersedes TN 248718 *** Slide presentation for remote-access workshop to discuss workforce training and development topics, potential funding concepts, and proposed program activities for the CEC's Clean Transportation Program.
Filer:	Jana McKinny
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	2/10/2023 2:56:52 PM
Docketed Date:	2/10/2023

Clean Transportation Program Workforce Workshop

Proposed Funding Ideas, Concepts, and Activities

Larry Rillera | Larry.Rillera@energy.ca.gov
Fuels and Transportation Division
February 10, 2023 | 9:00 am

Agenda

Part 1: ZEV and ZEV Infrastructure

1. Welcome and Introductions
2. Clean Transportation Program and Workforce Portfolio
3. Proposed Funding Concepts, Ideas, and Activities
4. Presentations and Panel Discussion
5. Q&A/Public Comment

Part 2: EVITP Assessment and Update

1. Presentations and Panel Discussion
2. Q&A/Public Comment
3. Adjourn

Housekeeping

- Workshop is being recorded
- Workshop Event Webpage:
  https://www.energy.ca.gov/events
- Virtual Participation through Zoom
  - Q&A period after the main presentation
  - Raise Hand or Q&A feature
  - Telephone participants:
    - Dial *9 to raise your hand
    - Dial *6 to mute/unmute your phone line
- Written Comments to Docket # 20-ALT-01:
  https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-ALT-01
  Deadline: Friday, February 24, 2023

Commitment to Diversity

The CEC adopted a resolution strengthening its commitment to diversity in our funding programs. The CEC continues to encourage disadvantaged and underrepresented businesses and communities to engage in and benefit from our many programs.

To meet this commitment, CEC staff conducts outreach efforts and activities to:

- Engage with disadvantaged and underrepresented groups throughout the state;
- Notify potential new applicants about the CEC's funding opportunities;
- Assist applicants to understand how to apply for funding from CEC's programs;
- Survey participants to measure progress in diversity outreach efforts

Diversity Survey

Scan the code on a phone or tablet with a QR reader to access the survey.

One Minute Survey

The information supplied will be used for public reporting purposes to display anonymous overall attendance of diverse groups.

Zoom Participants, please use the link in the chat to access the survey or scan the QR code on the left of the screen with a phone or tablet to access the survey.

Survey will be closed at the end of the day.

Survey Link: https://forms.office.com/g/TeJZYZe9Jk

Find a Partner on EmpowerInnovation.net

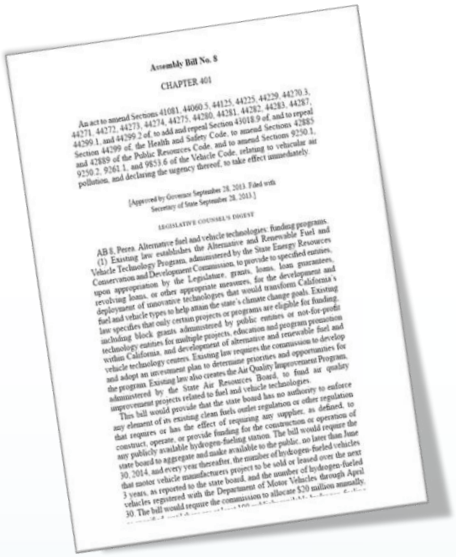
Empower Innovation strives to accelerate your clean tech journey with easy access to funding opportunities from the CEC and other funding providers, curated resources and events, and connections to people and organizations.

FIND A PARTNER	**RESOURCES & TOOLS**
Announce your interest in this funding opportunity and message other interested parties to find potential partners.	Browse the collection of resources for clean tech innovators including Resource Libraries, Funding Sources, Tools, and Databases.

To search for funding opportunities, please go to this link:
https://www.empowerinnovation.net/en/custom/funding/directory

Please direct questions for the Empower Innovation platform to:
https://www.empowerinnovation.net/en/contact_us

Clean Transportation Program



Assembly Bill No. 8

CHAPTER 401

An act to amend Sections 41081, 44060.5, 44125, 44225, 44229, 44270.3, 44271, 44272, 44273, 44274, 44275, 44280, 44281, 44282, 44283, 44287, 44299.1, and 44299.2 of, to add and repeal Section 41081.9 of, and to repeal Section 44299 of, the Health and Safety Code, to amend Sections 42885 and 42889 of the Public Resources Code, and to amend Sections 9250.1, 9250.2, 9261.1, and 9853.6 of the Vehicle Code, relating to vehicular air pollution, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor September 28, 2013. Filed with Secretary of State September 28, 2013.]

LEGISLATIVE COUNSEL'S DIGEST

AB 8, Perea. Alternative fuel and vehicle technologies: funding programs.

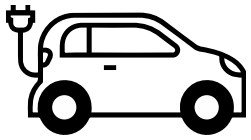
(1) Existing law establishes the Alternative and Renewable Fuel and Vehicle Technology Program, administered by the State Energy Resources Conservation and Development Commission, to provide to specified entities, upon appropriation by the Legislature, grants, loans, loan guarantees, revolving loans, or other appropriate measures, for the development and deployment of innovative technologies that would transform California's fuel and vehicle types to help attain the state's climate change goals. Existing law specifies that only certain projects or programs are eligible for funding, including block grants administered by public retrofit or not-for-profit technology entities for multiple projects, education and program promotion within California, and development of alternative and renewable fuel and vehicle technology centers. Existing law requires the commission to develop and adopt an investment plan to determine priorities and opportunities for the program. Existing law also creates the Air Quality Improvement Program, administered by the State Air Resources Board, to fund air quality improvement projects related to fuel and vehicle technologies.

This bill would provide that the state board has no authority to enforce any element of an existing clean fuels outlet regulation or other regulation that requires or has the effect of requiring any supplier, as defined, to construct, operate, or provide funding for the construction or operation of any publicly available hydrogen-fueling station. The bill would require the state board to aggregate and make available to the public, no later than June 30, 2014, and every year thereafter, the number of hydrogen-fueled vehicles that motor vehicle manufacturers project to be sold or leased over the next 3 years, as reported to the state board, and the number of hydrogen-fueled vehicles registered with the Department of Motor Vehicles through April 10. The bill would require the commission to allocate $20 million annually

- Transportation sector responsible for significant greenhouse gas emissions and public health impacts.
- Pollution burdens fall disproportionately on vulnerable and disadvantaged communities.
- Clean Transportation Program created to invest in a cleaner, healthier transportation system.
- Provides up to $100 million per year. Set to expire at end of 2023.
- CEC is seeking program reauthorization and extension to 2035 through the legislative process this year.

2022 – 2026 Total Investments

Total: $2.9 Billion*



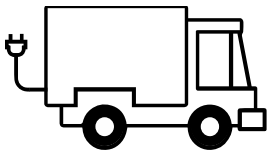
$900 M

Light-Duty EV Charging Infrastructure

+

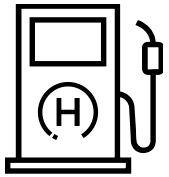
$384 M

NEVI



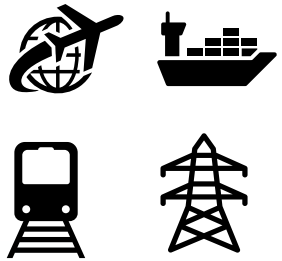
$1.7 B

Medium- and Heavy-Duty ZEV Infrastructure



$ 90 M

Hydrogen Refueling Infrastructure



$97 M

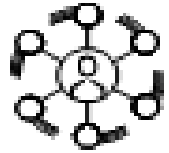
Emerging Opportunities

$15 M

Low Carbon Fuels

$118 M

ZEV-Related Manufacturing



$10 M

ZEV Workforce Development

*Subject to future Budget Act appropriations. Does not reflect reductions for CEC administrative expenses.

Workforce Portfolio

- California Community Colleges
- California Employment Training Panel
- California Public School Districts
- Employment Development Department
- California Workforce Development Board
- California Seaports
- Industry
- Original Equipment Manufacturers
- ZEV Employers

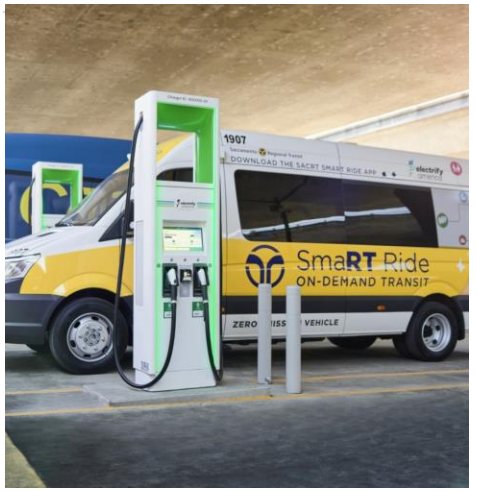
Proposed Funding Ideas, Concepts, and Activities

Concept 1: National Electric Vehicle Infrastructure (NEVI) Training

- A trained and available workforce is a consideration in a successful NEVI project delivery and EVSE deployment.

<u>Guiding Questions:</u>

1. What types of training and workforce development activities should be eligible?
2. How can CTP investments leverage existing public, private, and local resources?



Source: Sacramento Area Council of Governments

Source: Newsdata, LLC

Concept 2: Expand the Electric School Bus (ESB) Training Project

- Training for public school fleet technicians and bus operators
- CEC initial investment of $1 million; 45 schools trained to date

Guiding Questions:

1. How can the ESB training project support state and federal investments in school bus deployments?
2. Is there a need for an online, introductory ESB Training Project for all school bus stakeholders?
3. What partnerships should the CEC cultivate in supporting bus deployments and training?
4. Should funding for the ESB Training Project include train-the-trainers, instructors, and faculty as eligible?

Source: CA Energy Commission

Concept 3: IDEAL Community Workforce Development to Support Reliable Infrastructure

- Maintain high up time and reliability for EV chargers in communities.
- Train local workforces to operate, maintain, and service EV chargers.
- Support priority populations and communities in this work.

Source: AFDC

Guiding Questions:

1. How can local communities' partner with charger OEMs, EV charger developers, site hosts, and others to maintain high reliability?
2. How should funding be distributed to local communities for this training and for workforce development?

Concept 4: Open Workforce Training and Development Concepts

- Open to concepts and ideas not identified in the four (4) concepts proposed by staff.

- All ideas will be considered by staff.

Concept 5: EVITP Partnership Projects

To be addressed in Panel 2.

Panel 1: ZEV Workforce Assessments and Perspectives

Presentations

- Advanced Transportation and Logistics Training Projects (Jannet Malig)
- Evergreen Economics (Jesse Emge)
- ABB e-Mobility Service and Training (Bobby Pillot)

Training the ZEV Workforce

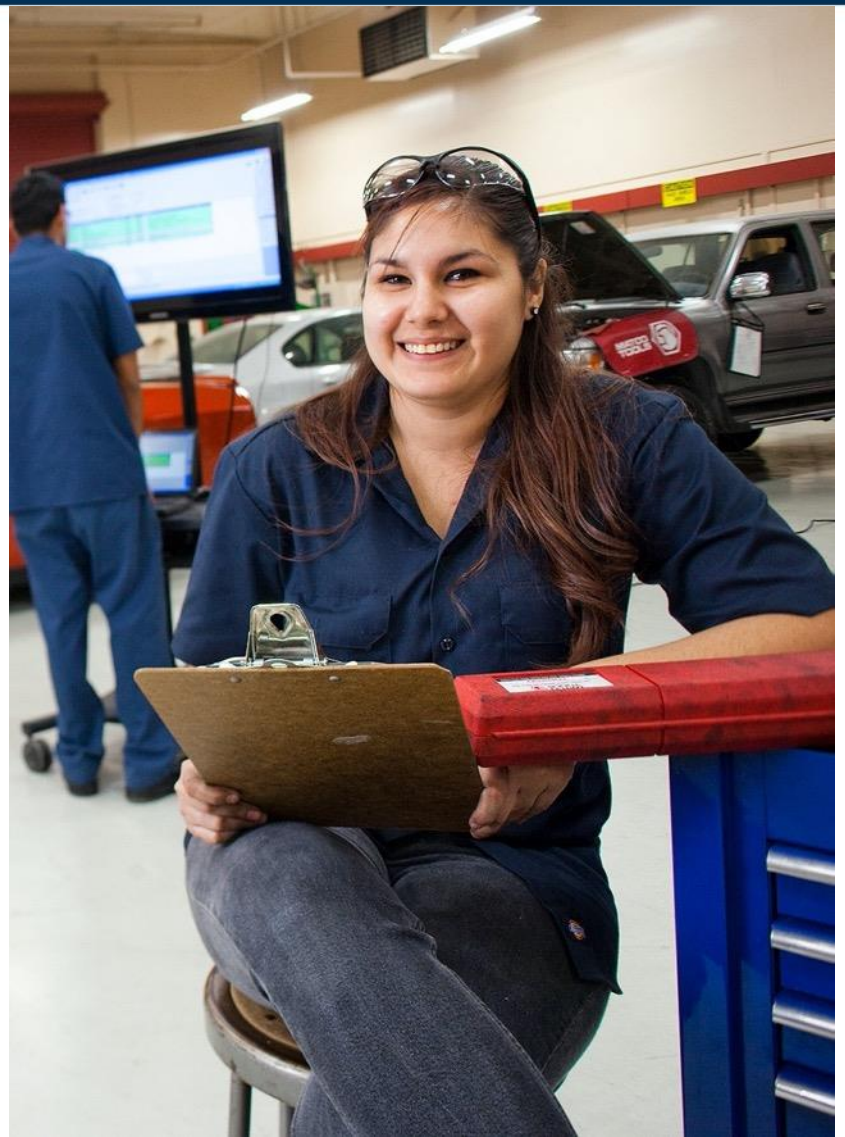
Advanced Transportation and Logistics

POWERED BY California Community Colleges

Advanced Transportation & Logistics

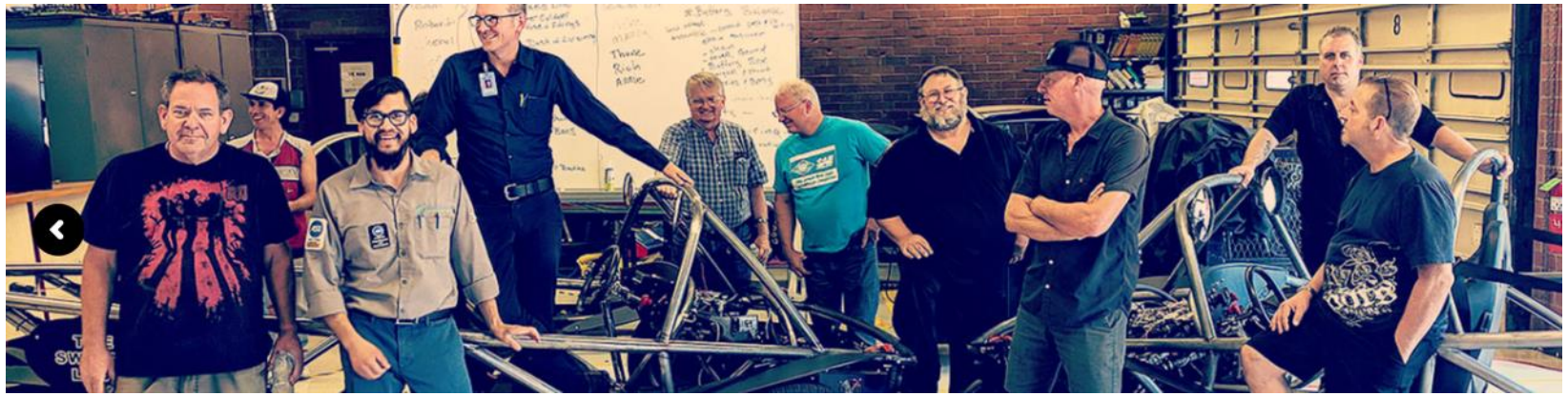
ATL Programs

- Electric, Hybrid, and Hydrogen Fuel Cell Programs
- Gaseous Fuel Programs for Heavy Duty Vehicles
- Gaseous Fuel Programs for Light Duty Vehicles
- Intelligent Transportation Systems Programs
- Railroad Operation Programs
- Aeronautics and Flight Technology Programs
- Motorcycle Maintenance Programs
- Automotive Clean Air Car, Emissions Programs
- Photo Voltaic, Concentrated Solar, Geothermal, Wind Technology, Renewable Energy Programs
- Logistics Programs



ATL | CEC Partnership

Advanced Transportation and Logistics



Working together to prepare a highly skilled, clean energy workforce in California

- Updated equipment
- Trained faculty
- Revised curriculum

ZEV Emissions Training Enhancement Program

Advanced Transportation and Logistics

15
Community colleges funded; many in disadvantaged communities in California

2,077
Students per year benefit from purchased equipment and new curriculum

160
Community college faculty trained in ZEV technologies

261
Incumbent transit workers trained in ZEV technologies

ZEV High School Pilot Project

Advanced Transportation and Logistics

51

High school programs funded; most in disadvantaged communities

6,087

Students per year enrolled in automotive courses with new EV curriculum

63

High school and community college partner faculty trained on EV build (electricity, wiring, mechanics)

Electric School Bus Training Project

Advanced Transportation and Logistics

154
School district technicians trained

14
Community college faculty trained

4
Electrical courses developed

- High Voltage Familiarization
- Heavy Duty Electrical 1
- Heavy Duty Electrical 2
- EV Supply Equipment and EV Charging Systems

Advanced Transportation and Logistics

www.atleducation.org

POWERED BY California Community Colleges

Jannet Malig- Sector Navigator/Statewide Director jmalig@Cerritos.edu

Forecasting Workforce Needs and Gaps:

Developing Data-Driven Policy in Data Sparse Environments

Feb 10, 2023

Jesse Emge, PhD
Evergreen Economics

Workforce Needs and Gap Assessment

Objective:

- Develop simple CEC facing tool, which;
  - Forecasts labor demand to build and maintain the AB2127 EVSE Network, and supply, including,
    - By occupation
    - By state, county, metropolitan, and equity communities*
  - Explores current labor market conditions and occupation data, including:
    - Current labor statistics such as wage and employment numbers.

Estimate Workforce

- Leveraged existing research/data to understand:
  - Relevant EVSE occupations
  - Effort to build individual chargers
- Incorporated CEC EVSE development AB2127 forecasts
- Data is limited, incomplete, or unavailable

Example Output

Occupation	FTE For Example Charging Scenerio			
	2030		2035	
	Level 2	DC	Level 2	DC
Civil Engineers	2,978	94	6,612	195
Compliance Officers	2,509	84	5,572	175
Construction and Extraction Occu	6,370	241	14,143	501
Construction Managers	6,370	241	14,143	501
Cost Estimators	2,978	94	6,612	195
Electrical and Electronics Drafters	4,632	83	10,286	171
Electrical Engineers	2,978	94	6,612	195
Electricians	6,370	312	14,143	649
Mechanical Engineers	2,978	94	6,612	195
Occupational Health and Safety S	2,978	94	6,612	195
Surveyors	2,978	94	6,612	195

Next Steps

- Collect, maintain, incorporate new data regarding:
  - Refined construction effort based on actuals
  - Maintenance effort and occupations
  - EVSE Utilization and charger "health"
  - Location and timing of rollout

Thank you!

Emge@evergreenecon.com

ABB E-mobility – Global Footprint

Smart, reliable EV charging technology, backed by deep experience and service excellence.

1 Million

EV CHARGERS

Sold worldwide, including 50,000 DC fast chargers across 85+ countries.

Up to 450kW

WIDE PRODUCT RANGE

From AC to DC fast charging, tailored to destination, public, commercial and fleet charging operations

13

YEARS' EXPERIENCE

Deploying advanced, connected EV charging systems in every environment – for networks, fleets, OEMs and utilities.

1800+

TALENTED EMPLOYEES

Dedicated to ABB's E-mobility business including more than 100 in North America from R&D to service.

ABB E-mobility
Technology leadership in the US

More than a decade of pushing the boundaries of E-mobility in the US

2013 First CCS1 charger
San Diego, California

2017 First 150 kW charger
Fremont, California

2018 First 350 kW charger
Chicopee, Massachusetts

2022 MW charging announced
Portland, Oregon

ABB E-mobility has 200+ employees in the U.S. dedicated to design, development, operations service and training; backed by a global business of 1,800 employees worldwide that supports an installed base of 1 million chargers.

ABB E-mobility Services & Training

Manufacturer certified / trained workforce & experienced leadership delivers operational excellence

Established **Training Certification**

- 361 EVSE technicians trained in U.S. since 2021
- Standardized online training
- Hands on product in-person training
- Customized service training programs
- Train third-party service providers
- Plan to train 200+ techs annually

Network operations and software expertise

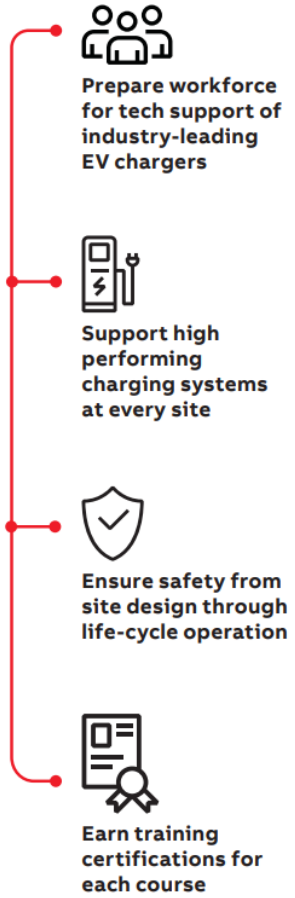
- 90+% of service work is non-electrical, on computer using Linux at EVSE site
- 24/7/365 service call center to receive service /repair requests

Knowledgeable, trained **technicians** across geographic regions

- **1 field technician needed for every 400 EV chargers**
- est. CA needs 625 EVSE service techs by 2025.

ABB E-mobility Training

Delivering e-mobility workforce success



Online & Hands On Training

- Specifications and configurations of the charger products and systems
- Pre-installation best practices
- Installation process
- Charger operations
- Commissioning process
- Site acceptance
- Remote services
- Safely opening charging units
- Component inspections
- Circuit board identification
- Wiring specifics (AC and DC)
- Operations
- Maintenance and parts

ABB Training Outcomes

- Key charging product and system components
- Proper commissioning initiation and execution
- All areas of safety as they pertain to the electrical connection and charging system
- Safe and proper electrical procedures and relevant PPE equipment
- Installation methods and best practices
- Start-up, operation and shut-down of chargers
- Sound service and maintenance strategies
- ABB E-mobility service organization and tools
- Diagnostic and trouble-shooting tools
- Upon completion techs will be able to identify most issues and bring them to resolution.

ABB E-mobility Product and Service Training

ABB E-mobility technical training programs deliver critical knowledge to an ever-growing EV infrastructure workforce.

Course number	Course Name	Duration	Delivery format
DCWBL-101	Level 1 DC Wallbox Training	1 day	Virtual
HVC-D-101	Level 1 HVC Depot Box Training	1 day	Virtual
HVC-P-101	Level 1 HVC Pantograph System Training	1 day	Virtual
T5X-101	Level 1 Terra 53/T54/T54HV Training	1 day	Virtual
TXX4-101	Level 1 Terra 94, 124 184 Training	1 day	Virtual
THP-101	Level 1 Terra HP High Power Training	1 day	Virtual
DCWBL-201	Level 2 DC Wallbox Training	2 days	Instructor-led/Lab
HVC-D-201	Level 2 HVC Depot Box Training	2 days	Instructor-led/Lab
HVC-P-201	Level 2 HVC Pantograph System Training	2 days	Instructor-led/Lab
T5X-201	Level 2 Terra 53/T54/T54HV Training	2 days	Instructor-led/Lab
TXX4-201	Level 2 Terra 94, 124 184 Training	2 days	Instructor-led/Lab
THP-201	Level 2 Terra HP High Power Training	2 days	Instructor-led/Lab

EVSE Technician Skills

Tremendous opportunity to upskill & transition workers in short training timeframe

- Attention to detail.

  Mechanic & computer aptitude.

  Daily solo travel to different EVSE sites.

- Familiarity with technical concepts and electrical terminology.

  Basic electrical safety training on systems up to 480 V.

  Comfort using Linux on computer.

- Minimum 3 months experience working on equipment systems up to 480 V.

  NFPA 70E arc flash training.

EVSE Workforce Development Recommendations

- Recognize that EVSE maintenance and service skills are unique and may not require licensed electricians
- Intentional focus to upskill / transition ICE mechanics & techs
- Grants to businesses for EVSE maintenance specialty training for employees
  - Outreach about & catalogue of workforce development support programs to CPOs, fleet operators, EVSE service providers
- Funding for technical schools & community colleges to purchase EVSE equipment / infrastructure for training
- Inventory of EVSE training programs & apprenticeship opportunities
- EVSE manufacturer certified training necessary to ensure reliability and meet up-time requirements
  - Consider recertification / continuing education every 2-3 years as technology regularly evolves

Panel Discussion

Concept 1: National Electric Vehicle Infrastructure (NEVI) Training

1. What types of training and workforce development activities should be eligible?
2. How can CTP investments leverage existing public, private, and local resources?

Concept 2: Expand the Electric School Bus (ESB) Training Project

1. How can the ESB training project support state and federal investments in school bus deployments?
2. Is there a need for an online, introductory, and regular webinar?
3. What partnerships should the CEC cultivate in supporting bus deployments and training?
4. Should funding for the ESB Training Project include train-the-trainers, instructors, and faculty?

Concept 3: IDEAL Community Workforce Development to Support Reliable Infrastructure

1. How can local communities' partner with charger OEMs, EV charger developers, site hosts, and others to maintain high reliability?
2. How should funding be distributed to local communities for this training and for workforce development?

Concept 4: Open to Ideas and Concepts

Q&A and Public Comment

Zoom Participants

- Use the "raise hand" feature to make verbal comments
- Use the Q&A feature to type in your question

Telephone Participants:

- Dial *9 to raise your hand
- Dial *6 to mute/unmute your phone line

Written Comments

https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-ALT-01

Deadline for comment: Friday, February 24, 2023

Panel 2: EV Infrastructure Training Program Assessment and Update

Presentations

- South Coast Air Quality Management District (Patricia Kwon)
- Project Development Platform (Ramsay Stevens)
- EVITP (Bernie Kotlier)

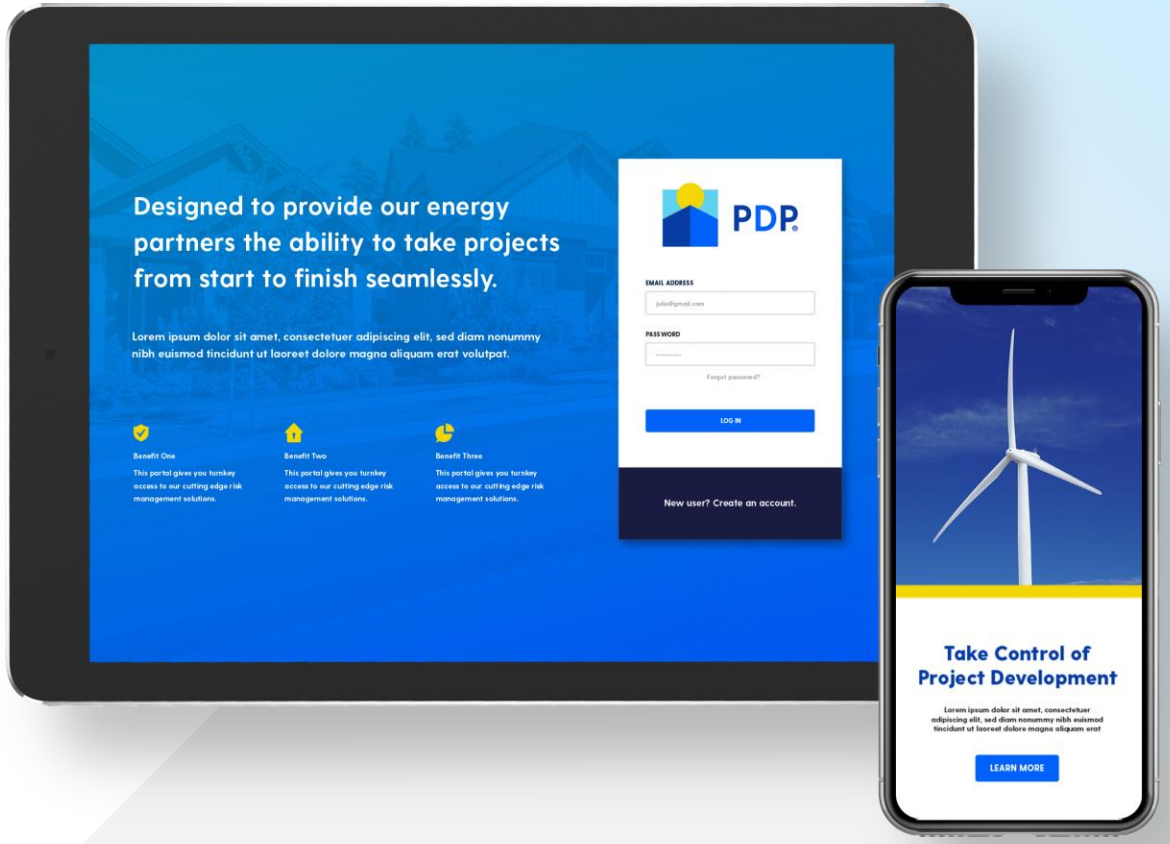
Working with Electrical Contractors to Drive EVSE Deployment

February 10th, 2023

PDP

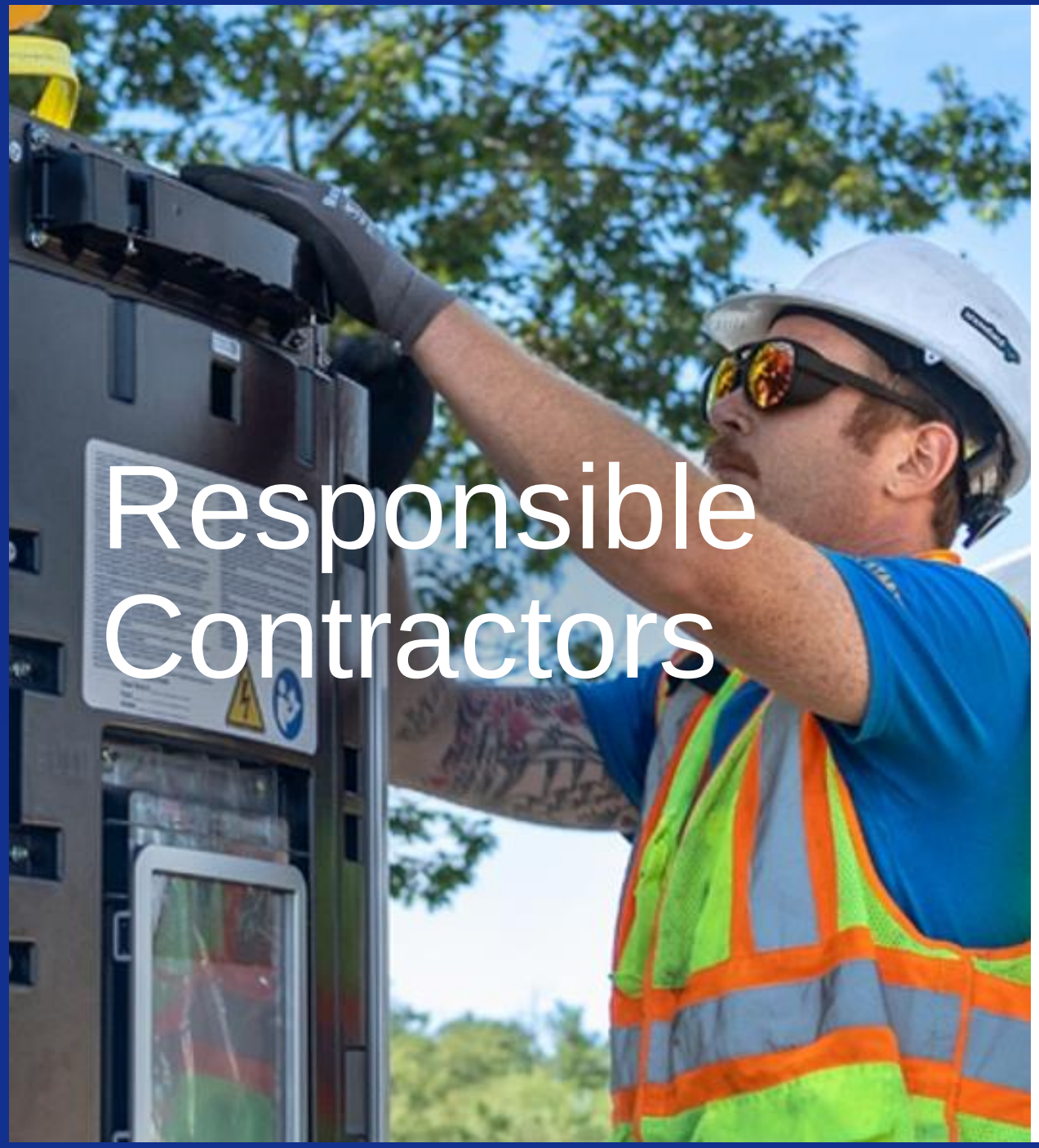
What is PDP and who is It For?

The Project Development Platform is a software and consulting powered program dedicated to supporting Electrical Contractors who are members of the National Electrical Contractors Association in the development, management, and delivery sustainable energy construction projects.



The Value of Electrical Contractors in the EVSE Project Development Process

- Early and Critical Insight on Best Practices
  Siting, Infrastructure, Technology, and Safety
- One-Stop Efficiency
  Engineering, Procurement, and Construction
- Customer Confidence
  Contractor and Team Reputation
- Comprehensive Maintenance Partners
  From Design to Operation
- Community Impact
  Local is Best



Responsible Contractors

- **Efficacy & Safety**
  Developers and customers know their projects are being built responsibly
- **Highly Skilled Workforce**
  Apprentices & State Certified General Electricians
- **Price Competitive & Scalable Partners**
  Competitiveness and professionalism ensure honest, reliable, and efficient pricing
- **Reducing Long-Term & Market Risk**
  Utilizing responsible contractors is a secure way to protect projects and the market overall

EVSE Infrastructure is *Advanced* Energy Work

Complex, Intensive, and May be Hazardous

How Contractors see the market Today

- Public policy and incentives are driving the market to a new level
- $10B in Projected Funds in CA
- Significant utility infrastructure and service upgrades required
- Customer Product/Technology Fatigue
- More responsible commercial market participants (EVITP Standardization)

How Contractors see the market Tomorrow

- Continued Workforce Standards needed to promote Quality Projects, Products, and Contractors
- V2G/V2X will drive Project Design and Economics
- Dedicated, High-Value, and High-Impact Workforce
- Faster and Higher Voltage Charging
- Microgrids Everywhere

Contractor Recommendations

Accelerating EV & EVSE Adoption

- Expedited Permitting for EVITP Approved Contractors
- One Stop Shop for State, Local, and Utility Incentives
- Explicitly Incentivize V2G/V2X

Contractor Recommendations

Community Impact & Uptake

- Enhanced Consumer Protections for Equipment & Public Chargers
- Encourage SME & Local Leadership
- Engage Communities in Workforce Training & Certification

Thanks

Ramsay Stevens
Ramsay@PDPlatform.com

CALeVIP Workforce Insight

Feb 10th 2023

CALIFORNIA ENERGY COMMISSION

Center for Sustainable Energy®

CALeVIP Contractors & Workforce

Overview

EVITP Anecdotes:

- **EVITP has been confusing process to date**
- **Access to EVITP exam stated as one issue (now fixed with online exam)**
  - CALeVIP partnered to host physical exam in Imperial County (2022)
- **Exam cost perceived to be high ($275)**
- **Translation not previously available**
- **Electrical Contractors racing to get at least one EVITP-certified electrician**
- **One recent project did not know about EVITP-requirements until it was too late (did not get rebate check)**

EVITP Update

What is the Electric Vehicle Infrastructure Training Program (EVITP)?

A non-profit, volunteer, brand neutral, national EV industry collaborative training program launched at the University of Michigan in 2012. EVITP addresses the technical requirements, **safety imperatives**, and performance integrity of industry partners and stakeholders including:

- Automobile Manufacturers, and Battery Makers
- Investor-Owned and Municipal Utilities
- Electric Vehicle Supply Equipment/EVSE ("Charging Station") Manufacturers
- State and Local Electrical Inspectors
- Electrical Contractors and Electrical Workers
- First Responders

EVITP Founding Partner Advisors

DTE Energy
BMW
GM
TOYOTA
Ameren MISSOURI
Consumers Energy Count on Us
KCP&L energizing life
EATON Powering Business Worldwide
ComEd An Exelon Company
Duke Energy
NFPA
NECA National Electrical Contractors Association Southeastern Michigan Chapter
AV aerovironment
GE
HUBBELL POWER SYSTEMS
International Brotherhood of Electrical Workers
UC DAVIS University of California
ecotality
SDGE connected
A Sempra Energy utility
BOSCH
OUC The Reliable One
IAEI
Foundation for California Community Colleges
legrand
PG&E
LEVITON
Schneider Electric
AEP OHIO A unit of American Electric Power
Southern California Edison An Edison International Company
Exergonix Incorporated
MILBANK
SMITH
PEP stations Charging Activated.
ClipperCreek THE Electric Vehicle Charging Station

EVITP Course Information

- 20 hour training course with proctored certification exam
- Demand-based online training and online exam
- $275 total fee includes instruction, quizzes, exam proctoring, certification, record keeping, website, certification verification, maintenance and administration
- EVITP main office in Royal Oak, Michigan (Detroit area) near the auto industry. Taught in Canada, too

Eligibility: Qualified Electricians

Minimum Requirement for EVITP Certification:

- In states where required, electricians must be licensed or certified. **In California the requirement is: State Certified General Electrician**
- In other states without state-wide licensure of electricians, enrollees must have completed at least 8,000 hours of documented on-the-job electrical construction training

A key to EVITP success is that the training builds on the platform of qualified electricians' extensive knowledge, skills and experience.

EVITP 4.0 Curriculum *(Updated 2020)*

Comprehensive Residential, Commercial, Industrial & DCFC EVSE Infrastructure Training

- Level 2 (220V) Residential Charging
- Commercial / Institutional Level 2 Charging
- DC Fast Charging
- Medium & Heavy Duty Commercial / Institutional
- Site Assessment and Load Calculations *(Core w/ Code)*
- Includes 2017 and 2020 National Elec. Code (NEC)
- Maintenance, Troubleshooting and Repair
- Wireless Inductive Energy Transfer

EVITP Status Update - Electricians

- Now: 2,733 EVITP-Certified electricians in California (2-22-22)
- Approx. 1,600 when AB-841 passed in 2020 - a 70% increase
- Sufficient to install 1.2 million EVSE ports by 2030?
- 848 EVITP-Certified electricians, 652 non-EVITP electricians, and 1,109 electrical apprentices would install 1,252,992 charging stations in seven years
- That's 2,609 electrical workers, out of a total of 38,408 or 6.8% of the existing electrical workforce
- The 848 EVITP-Certified electricians represent 32% of the current 2,733 EVITP-Certified electricians in California
- More than 3 times the number needed

EVITP Status Update – Contractors

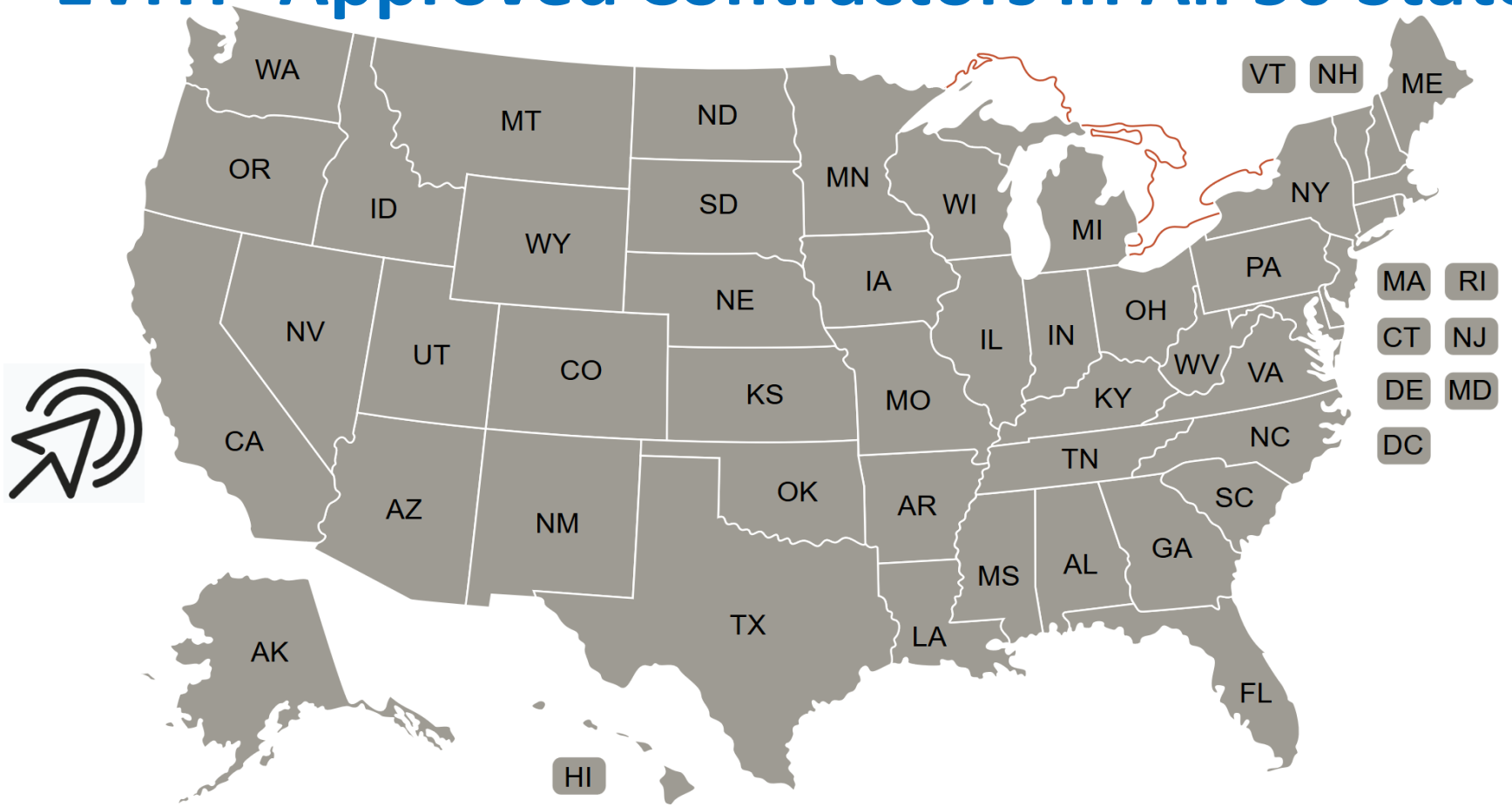
- Now: 201 EVITP-Approved Contractor/Employer
- More than double the 2020 number
- Coverage up and down the state
- Map pins are office addresses, not service areas
- New contractor survey data to be included this spring includes counties, category and scope of work
- Electrical Contractors have a C-10 license
- (No “C-10 electricians”)
- (No “certified EVITP Contractors”)

https://evitp.org/find-a-contractor/

Find A Contractor

Find a contractor in your area that utilizes EVITP certified installers for your next Residential, Commercial, Public or Fleet project.

EVITP-Approved Contractors in All 50 States



In CA: 201 Electrical Contractor/Employers

A-1 Electric Service Co., Inc.

4204 South Sepulveda Boulevard, Culver City, CA, 90230, USA
310-204-1077
310-204-6880
spieper@a-1electric.com
https://a-1electric.com/

Contact: Scott Pieper

A-C Electric Company

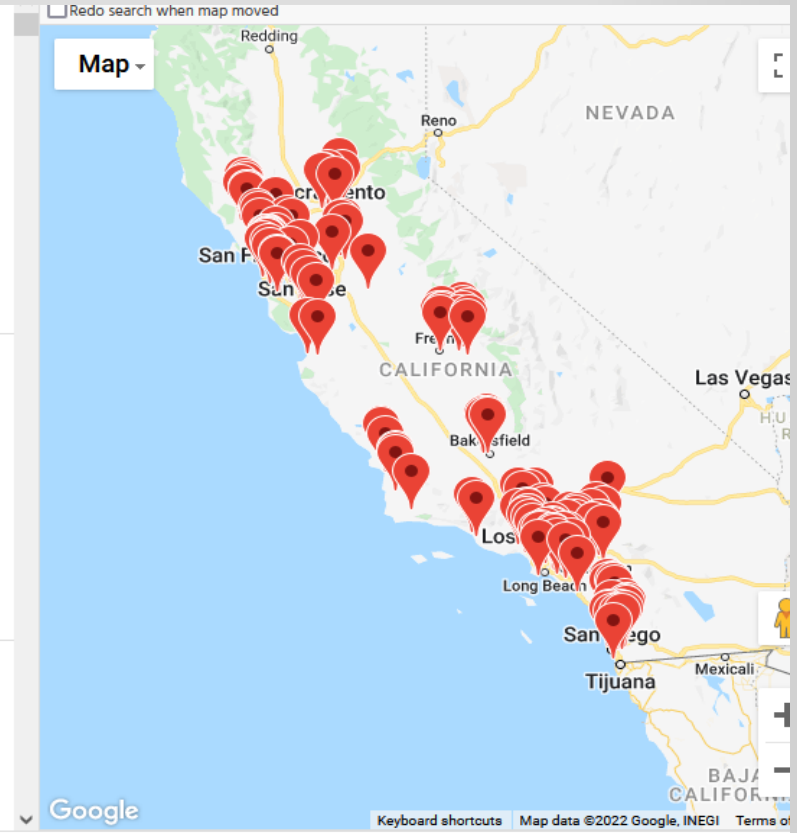
2921 Hanger Way, Bakersfield, CA, 93380, USA
661-410-0000
661-410-0400
http://www.a-celectric.com

Contact: Daren T. Alexander

A.S.F. Electric, Inc.

76 Hill Street, Daly City, CA, 94014 USA
650-755-9032
650-755-2975

Showing 146 results



Map Pins Indicate Offices, Service Areas Much Larger

Employ 2,700+ CA EVITP Electricians

Update: New EVITP 5.0 Curriculum

Comprehensive Residential, Commercial, Industrial & DCFC EVSE Infrastructure Training

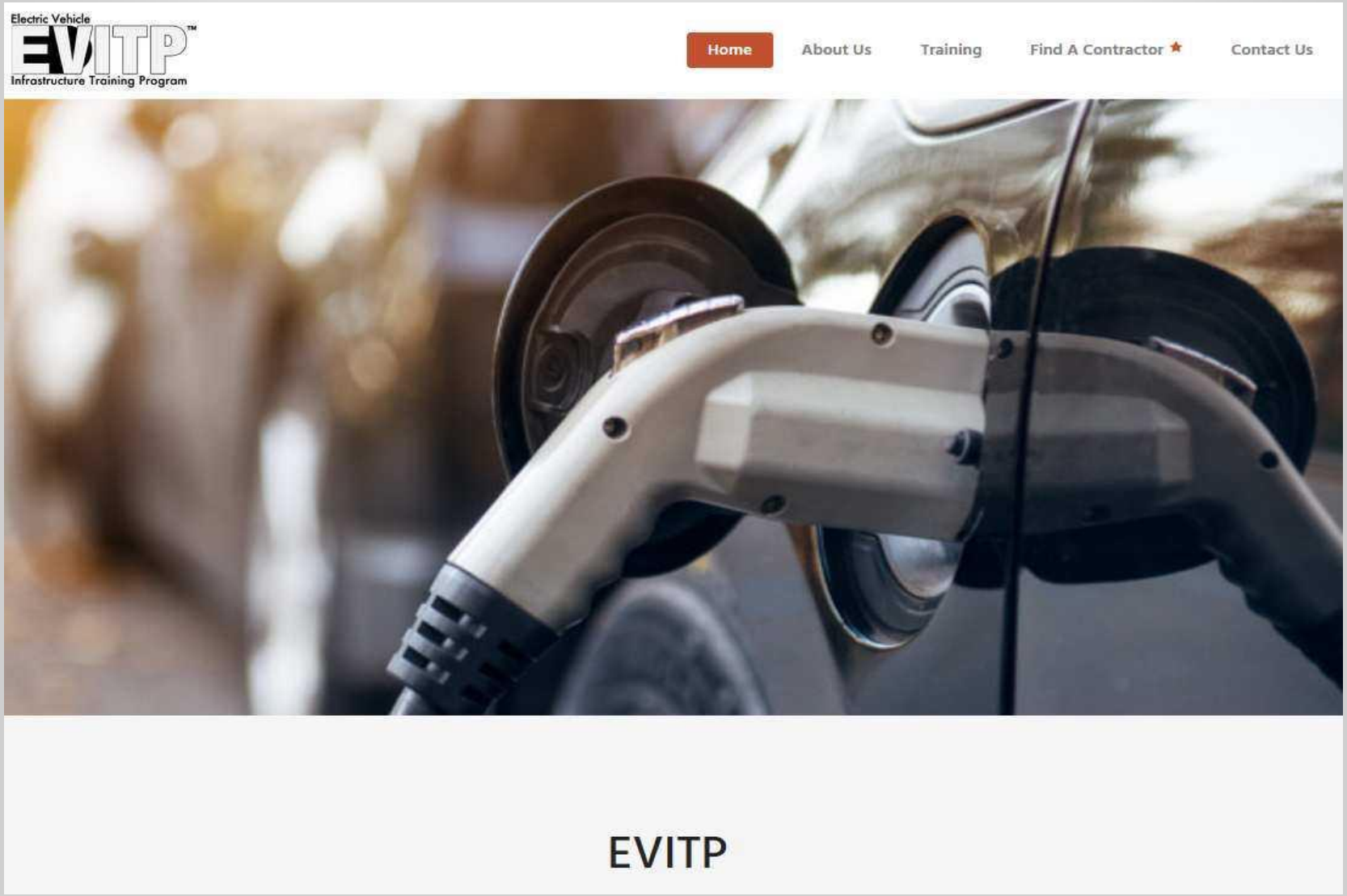
- Based on the 2023 National Electrical Code (NEC)
- Latest Vehicle Applications
- Newest EVSE Equipment and Systems
- Whole Section re. Bi-directional Charging
- Updated Utility-related Information
- More Troubleshooting, Maintenance & Repair
- Utilizing Video Instruction Segments
- No Fee Increase - Zero Inflation - **Spring 2023 Intro**

Update: EVITP's D.E.I. Reflects the Trade

- Outreach and training starts with pre-apprenticeship
- This is where real electrical career opportunities begin
- Prepares candidates for apprenticeship entry and success with math and communication skills
- It's a very different electrical trade

- EVITP met the Bloomberg scholarship goal: At least 50% BIPOC & Women in 24 U.S. cities, nationally
- While EVITP does not certify apprentices, EVITP draws from a pool of electricians that is fed by apprenticeship
- **In California, major urban electrical apprenticeships exceed 50% BIPOC and women.** The largest apprenticeship in the U.S. is in Los Angeles which is 81% BIPOC & Women

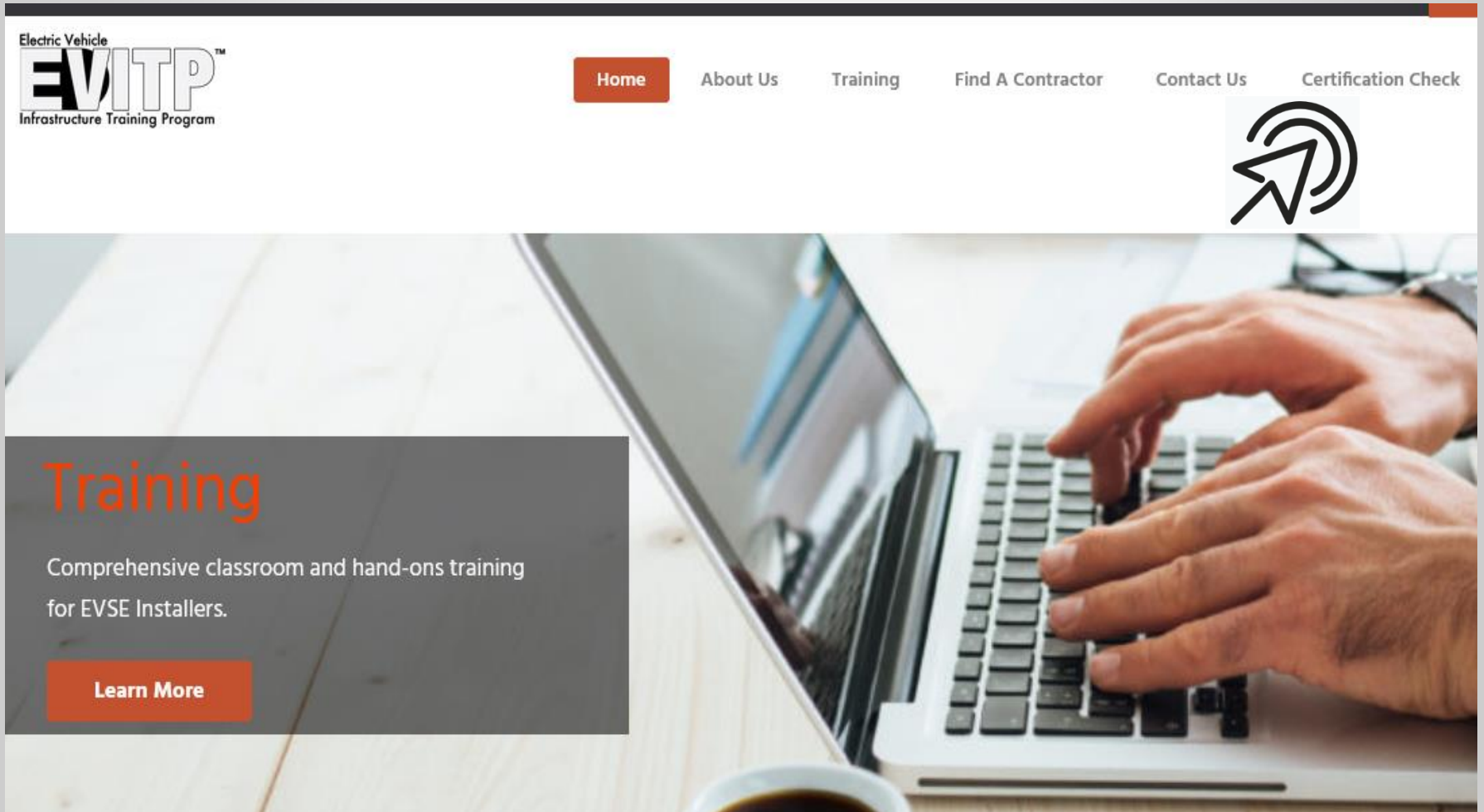
Updated Web Tools at https://evitp.org/



https://evitp.org/

(Paper Document Not Accepted)

Electrician Certification Check



EVITP Takeaways

- EVITP does not train or certify contractor/employers
- There is no such thing as a "certified EVITP contractor"
- EVITP only trains and certifies state certified general electricians - the people who actually do the hands-on electrical work
- **Hiring a contractor who is EVITP-Approved does not meet an EVITP requirement.** The entity responsible for meeting EVITP requirements checks electrical workers on the project to confirm they are EVITP-Certified, on the job full time, and not just dropping in. Done conveniently via the Certification Check function at EVITP.org - even on a mobile device. (Paper certification doc's not accepted)

Thank You

Questions?

Electric Vehicle Infrastructure Training Program (EVITP)

EVITP Comments from Stakeholders

- Does EVITP training include ultra-fast charging?
- Does curriculum include EVSE service and maintenance?
- Examination locations are limited and inaccessible.
- We can't find EVITP electricians in rural areas.
- Is EVITP curriculum accessible to non-EVITP examinees?
- An applicant for a state funding incentive program claims that they are exempt from the EVITP requirement because they are a licensed C-10 contractor. True or false?
- Is EVITP training available in Spanish?

Concept 4: EVITP Partnership Projects (Discussion)

Concept 4A: EVITP Training and Certification

- Support electricians for EVITP training and certification with the Employment Training Panel (ETP) and the Workforce Development Board (CWDB).

Concept 4B: Contractor State Licensing Board (CSLB) Surveys of General/Electrical Contractors

- Partner with CSLB in their survey, feedback, and engagement processes to gather feedback and support growth of EVITP certified electricians.

Concept 4C: CEC Survey of Funding Recipients

- Survey recipients of CEC's EVSE solicitations and incentive projects to inform future policies and investments related to EVITP.

Concept 4D: CEC Workforce and EVITP Web Portal

- Present clean transportation workforce information, data, and resources, including EVITP-specific information, EVITP weblinks for training and certification, and EVITP FAQ links on the CTP website.

CALeVIP Workforce Insight

Feb 10th 2023

CALIFORNIA ENERGY COMMISSION

Center for Sustainable Energy®

CALeVIP Contractors & Workforce

Overview

EVITP Anecdotes:

- **EVITP has been confusing process to date**
- **Access to EVITP exam stated as one issue (now fixed with online exam)**
  - CALeVIP partnered to host physical exam in Imperial County (2022)
- **Exam cost perceived to be high ($275)**
- **Translation not previously available**
- **Electrical Contractors racing to get at least one EVITP-certified electrician**
- **One recent project did not know about EVITP-requirements until it was too late (did not get rebate check)**

Q&A and Public Comment

Zoom Participants

- Use the "raise hand" feature to make verbal comments
- Use the Q&A feature to type in your question

Telephone Participants:

- Dial *9 to raise your hand
- Dial *6 to mute/unmute your phone line

Written Comments

https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-ALT-01

Deadline for comment: Friday, February 24, 2023

Submit Comments to Docket 20-ALT-01

Electronic Commenting System

Visit the comment page for this docket at:
https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=20-ALT-01

Comment by E-mail

E-mail: docket@energy.ca.gov

Subject Line: "CTP Workforce"

All comments due by February 24th, 2023

Thank you!