Commonwealth of Massachusetts

Executive Office of
Energy and Environmental Affairs

Electric Vehicle Infrastructure Coordinating Council (EVICC) Meeting

September 3, 2025

Agenda

Opening

- Roll call, meeting agenda and objectives, and vote on meeting minutes
- Administrative Updates

Educational Presentation

- Salata Institute Plug & Charge recommendations
- California Energy Commission Plug & Charge guidelines

Discussion

- Guided discussion on Plug & Charge

Public Comment

Meeting Objectives

- Learn about Plug & Charge recommendations from the Salata Institute
- Learn about California's Plug & Charge guidelines
- Discuss Plug & Charge guidance considerations for Massachusetts

Disclaimer: *The EVICC team invites presenters to speak about topics of interest to EVICC members and to the development of the second assessment to the Legislature. The Commonwealth does not endorse any particular company or organization.*

Vote on August Minutes

Administrative Updates

- **New DOER EVICC member:**
  - Nicole Lepre, Electric Transportation Program Manager
- **IRS Official FAQ Tax Credit Phase Out**
  - Federal tax credits for electric vehicles are expiring at the end of September 2025, tax credits for EV infrastructure are expiring in 2026
  - The IRS has provided an FAQ page for tax credit phase outs
- **Request for proposals for a technical consultant(s) to assist EVICC in identifying EV charging hubs (i.e., Section 103 process) to be issued shortly**
- **EVICC Second Assessment Overview Webinar - September 9th, 9:30-10:30 am**
  - Join to learn about the Second Assessment and recommendations for continued work towards the State's EV charging infrastructure goals
  - Register Here

Rules for Presentations / Public Comment

Presentations

- Presenters should keep to the assigned time
- The EVICC Chair will allow questions from EVICC members first and then the public if time remains

Public Comments

- Use the “raise hand” function to indicate your desire to speak at the appropriate time
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- Limit comments and questions to 3 minutes
- Please engage in constructive and respectful dialogue
- Be able to substantiate assertions or claims in support of comments

Public Comments

Educational Presentations

Plug & Charge

Recommendations to speed deployment and increase successful charges

Elaine Buckberg
Senior Fellow, Salata Institute for Climate and Sustainability at Harvard University

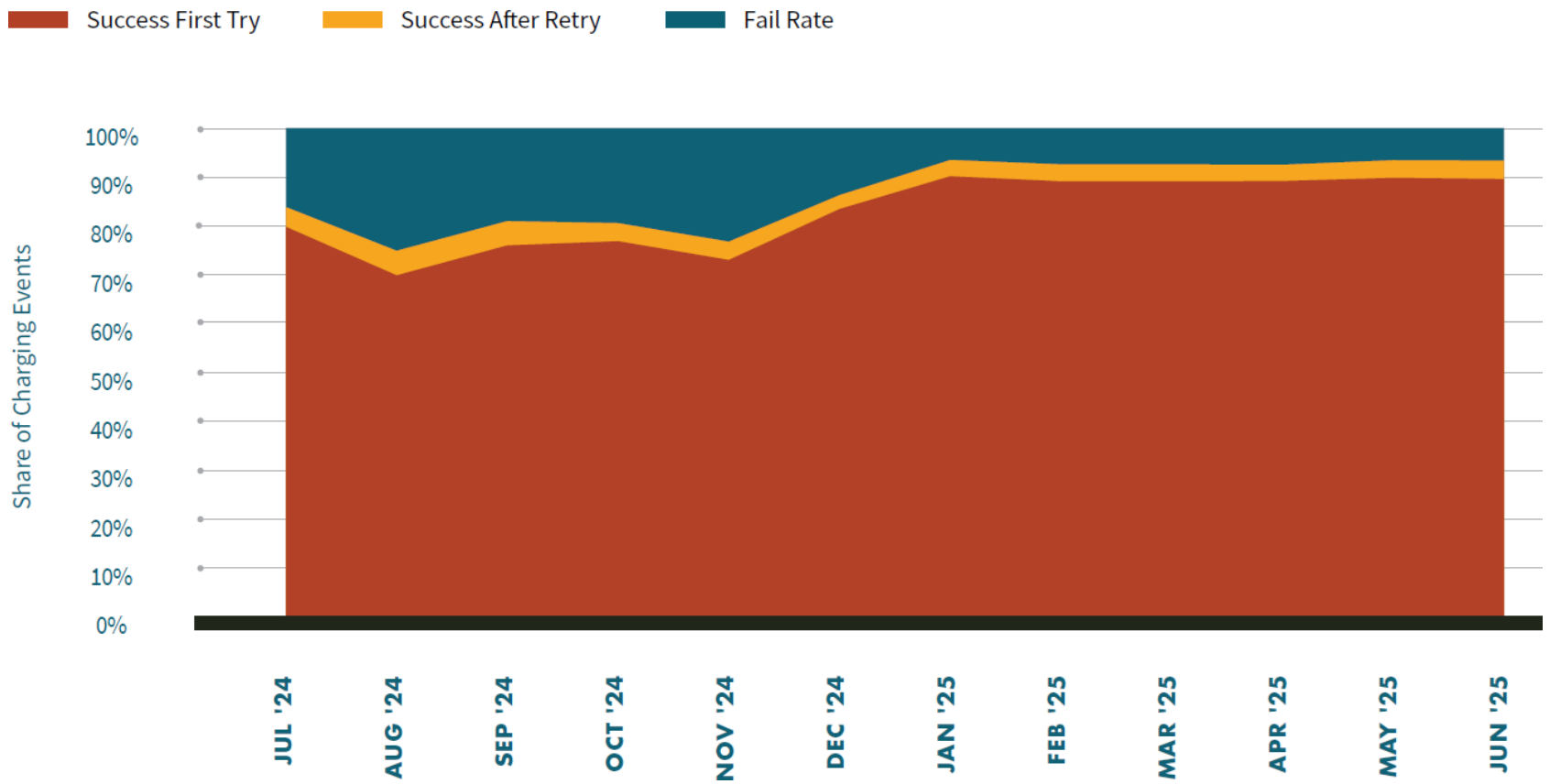
September 3, 2025

THE SALATA INSTITUTE
FOR CLIMATE AND SUSTAINABILITY
at Harvard University

J.D. Power:
4 out of top 5 reasons buyers reject BEVs are about charging

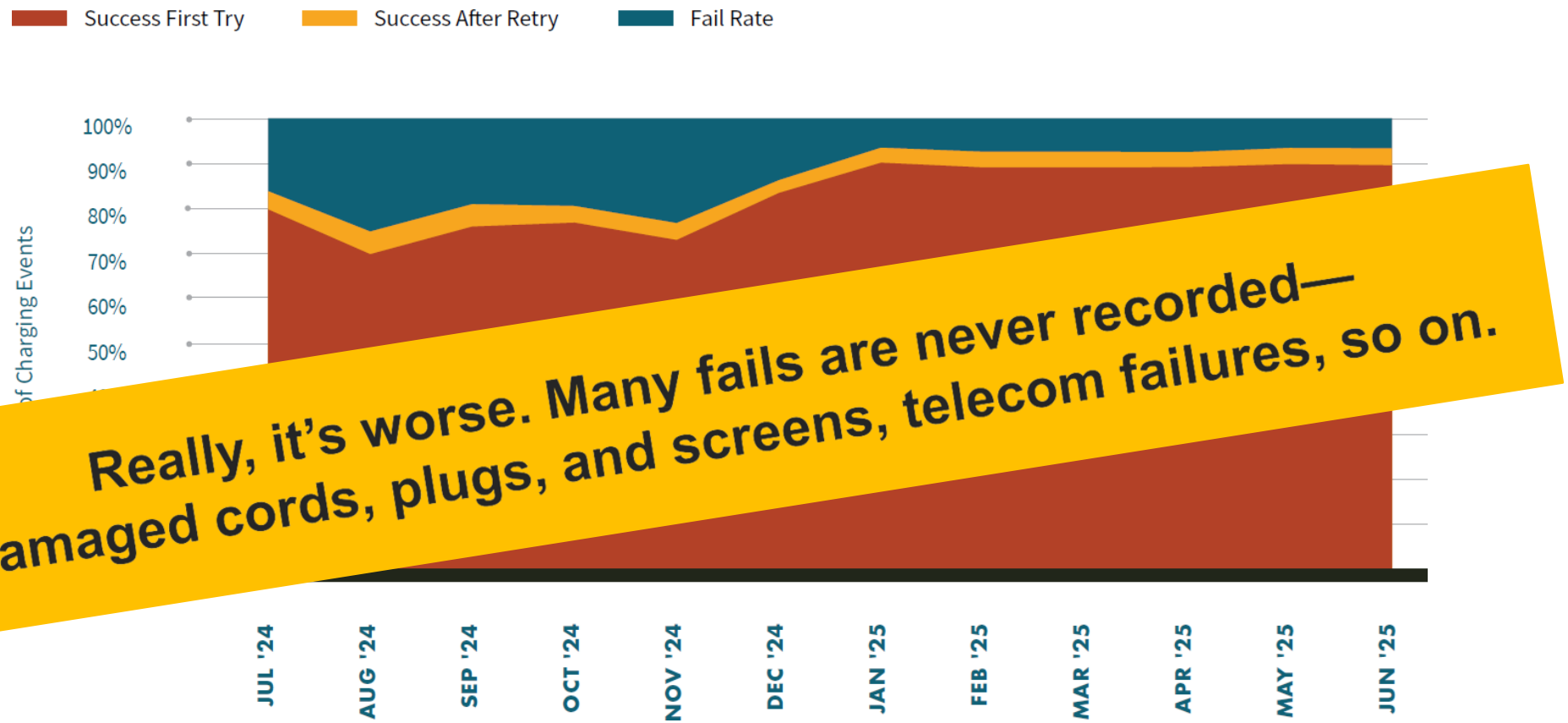
Source: J.D. Power, 2025 EV Consideration (EVC) Study, courtesy of Brent Gruber.

At least 7% of charging attempts failed in 2Q25, even after a second try



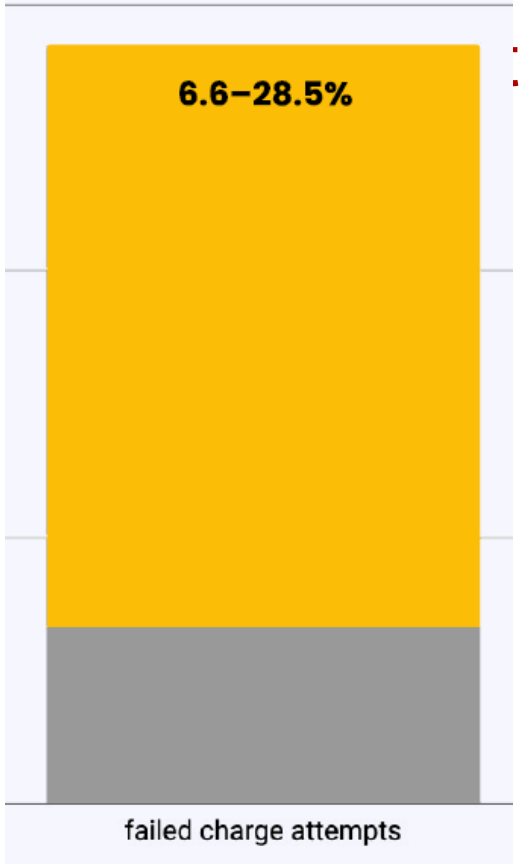
Source: Transportation Energy Institute, EVSE Charger Performance Analysis 2Q25.

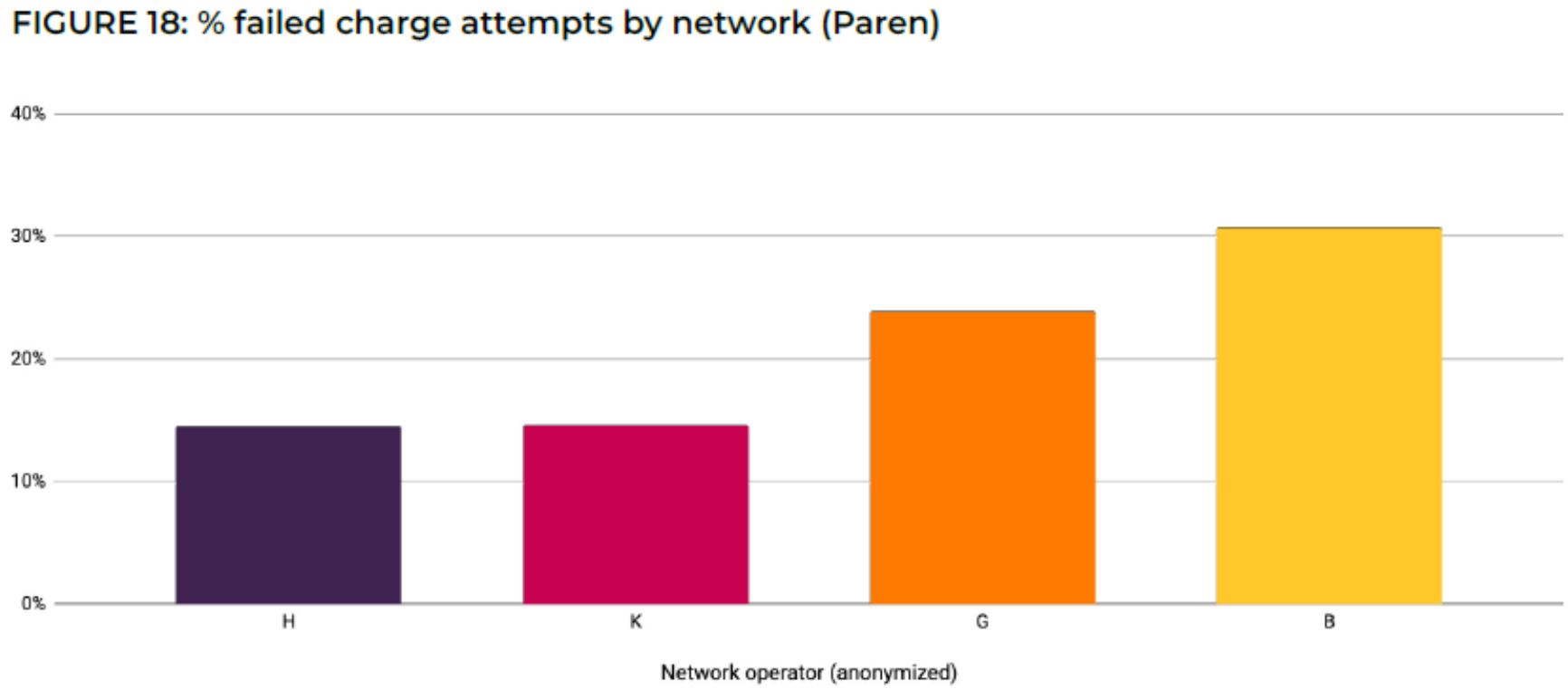
At least 7% of charging attempts fail, even after a second try



ChargerHelp estimates failed charging attempts are 6-28%,

:he network

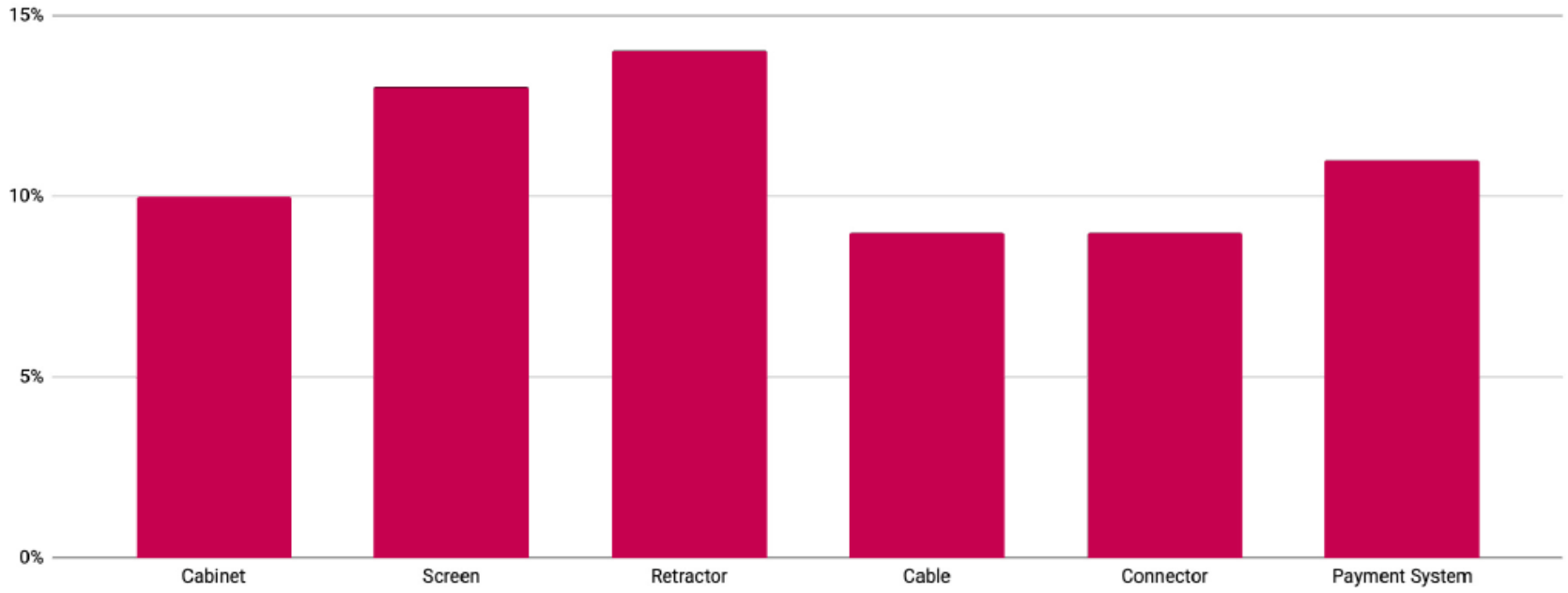




Source: ChargerHelp, Annual Reliability Report, June 2024.

Payment systems are a top reason for fails, after physical damage

FIGURE 19: rates of observable charging station damage (ChargerHelp)



J.D. Power: 11% of failed charge attempts due to chargers not accepting payment or the payment process not working.

ChargerHelp: "[P]ayment system condition had a significant, strong positive correlation with working vs. down stations….

Working stations had few, if any, payment system issues. Meanwhile, nearly half of down stations had broken / nonworking payment systems."

Sources: J.D. Power U.S. Electric Vehicle Experience (EVX) Public Charging Survey, 3Q24. ChargerHelp, Annual Reliability Report, June 2024.

Plug & Charge avoids payment and telecom failures, as well as many software failures

Source: Electrify America, https://www.electrifyamerica.com/plug-and-charge/.

Plug & Charge avoids payment and telecom failures, as well as many software failures

Easier than getting gas!

Improves reliability of charging

- Higher odds successful charge
- Faster charge initiation, shorter charge time
- Avoids pain points: fewer failed charge attempts, don't need an app for every CPO

Source: Electrify America, https://www.electrifyamerica.com/plug-and-charge/.

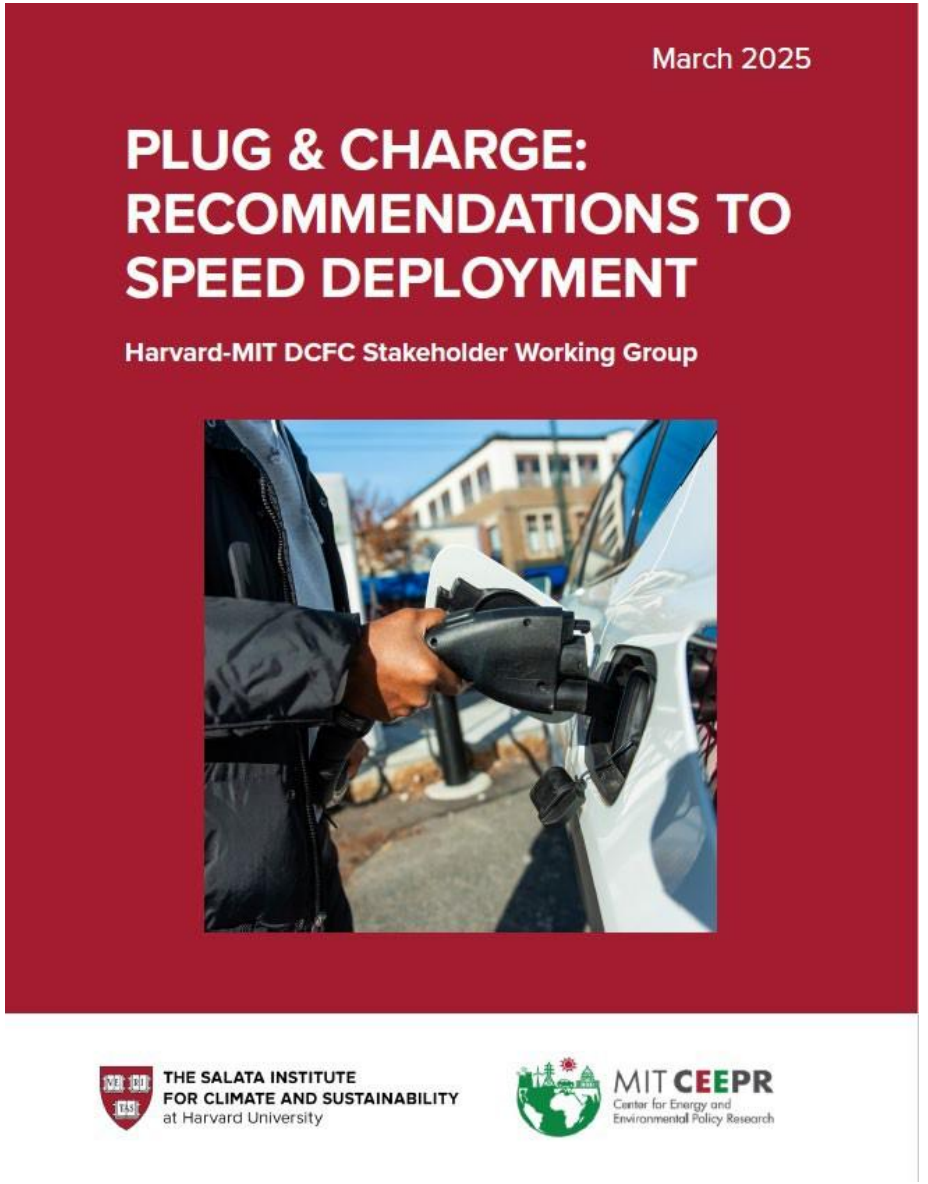
How do we speed Plug & Charge rollout?

Recommendations based on input from a diverse group of DCFC stakeholders

For automakers, CPOs, EVSE manufacturers, state/local government and advocacy organizations

Use the QR code to get the report:

THE SALATA INSTITUTE
FOR CLIMATE AND SUSTAINABILITY
at Harvard University



Bottom line: 2 big goals

Automakers, CPOs, and EVSE Manufacturers:

Implement ISO 15118-2

Automakers and CPOs:

Expeditiously reach Plug & Charge agreements

Automakers: with a broad spectrum of CPOs and/or third-party e-mobility service providers (EMSPs)

CPOs: with all major automakers

Recommendations for Automakers

Swiftly implement ISO 15118-2 in current models to enable rapid Plug & Charge adoption.

Where commercially reasonable, update existing EVs to enable ISO 15118-2, either over-the-air or, if necessary, at a dealer.

Prioritize ISO 15118-2 as a mode of communication with the charger and implement fallback to other communication modes if ISO-15118-2 is unsuccessful.

Expeditiously reach Plug & Charge agreements with a broad spectrum of CPOs and/or EMSPs.

Encourage buyers to sign up for Plug & Charge before leaving the dealer.

Educate consumers and dealers, inc. using EV advertising

Future proof: Future vehicles should

- Have the capacity to handle multiple contract certificates.
- Have a pathway to over-the-air upgrades to future ISO 15118 releases.

Recommendations for CPOs

Prioritize ISO 15118-2 as a mode of communication with the charger and implement fallback to other communication modes if ISO-15118-2 is unsuccessful.

Large CPOs should expeditiously reach Plug & Charge agreements with all major EV automakers.

Smaller CPOs should seek to sign up with an EMSP that is reaching agreements with many automakers.

Educate consumers

- Advertise Plug & Charge partnerships on their apps and websites and indicate Plug & Charge-capable chargers.
- Use splash screens on their chargers to encourage Plug & Charge enrollment when the charger detects an EV for which it has an agreement with the OEM, but the owner has not signed up.

Recommendations for EVSE Manufacturers

Ensure all new model DC Fast chargers are ISO 15118-2 ready, OCPP 2.0.1 certified, and capable of over-the-air updates to support later versions within 18 months.

Highlight Plug & Charge capability and its benefits with all prospective buyers of their equipment.

Some buyers of chargers may be new to the market and lack knowledge of Plug & Charge and its benefits.

Recommendations for EV / climate advocacy organizations, state and local government

Educate consumers about Plug & Charge and its ease-of-use and security benefits; encourage EV owners to sign up.

Key points:

- With Plug & Charge, you don't even need to take out your credit card, making it easier than getting gas
- Home charging is like waking up with a full tank

Prepare for the next generation, SAE EVPKI

The Joint Office announced a common SAE EVPKI framework in Dec. 2024.

SAE EVPKI functionality will simplify and facilitate secure communication on a broad set of networks.

RECOMMENDATIONS

Automakers and CPOs:
Participate in industry-led testing events to validate the integration of PKI systems into charging infrastructure and resolve inconsistencies.

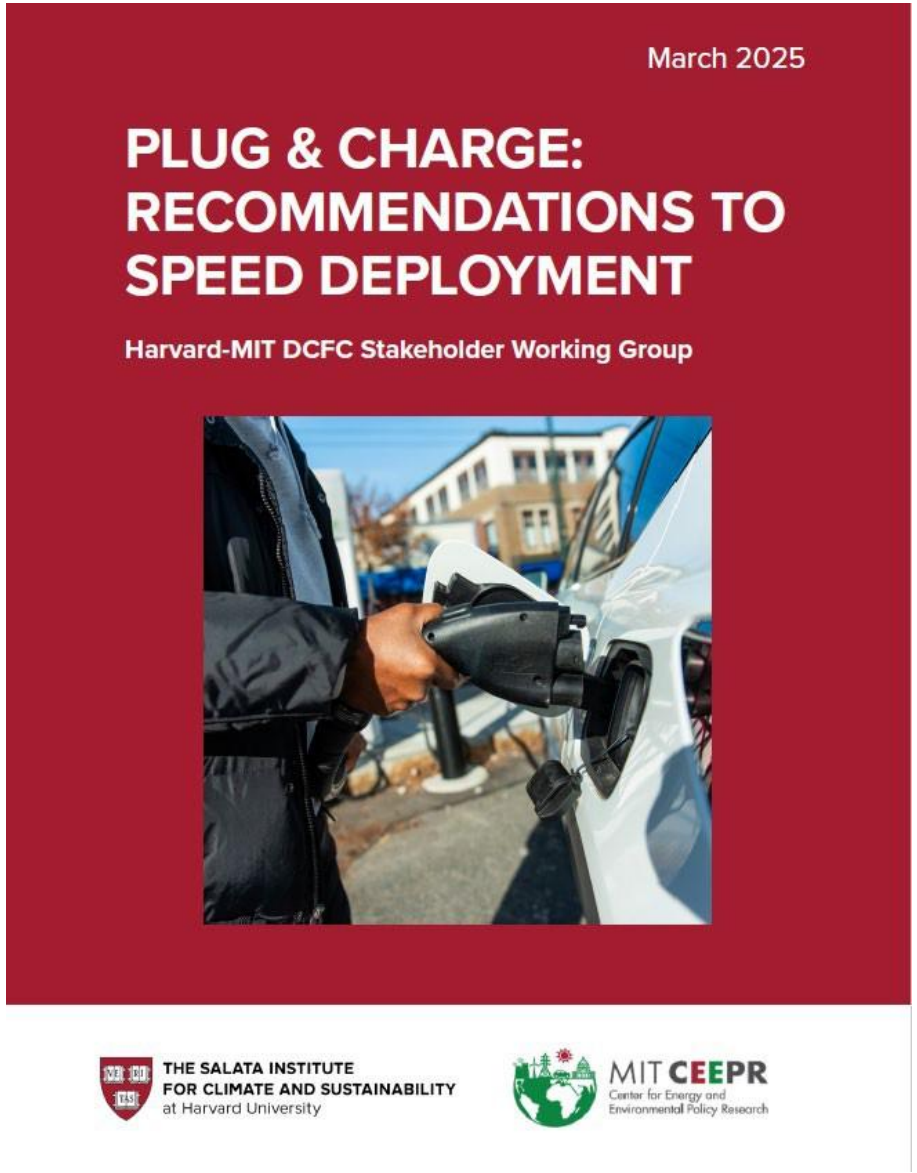
Automakers:
Prioritize implementing SAE EVPKI functionality to simplify and facilitate secure communication on a broad set of networks.

EVSE Manufacturers:
Prioritize PKI interoperability testing.

Questions?

Use the QR code to get the report:

Elaine Buckberg
elaine_buckberg@harvard.edu
Follow The Salata Institute: Twitter | LinkedIn | Instagram



California Energy Commission
Update and Perspective on Plug & Charge

September 2025 EV Infrastructure Coordination Council Meeting

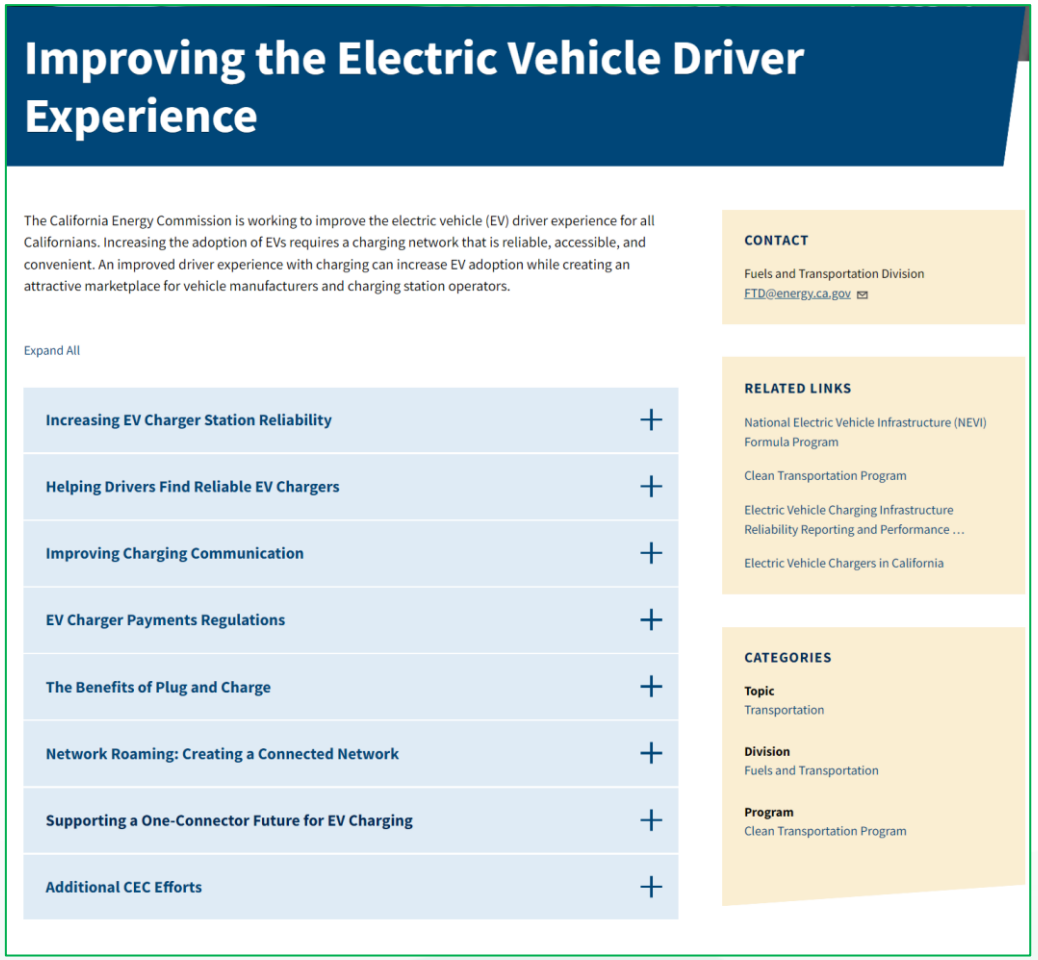
Vincent Weyl | VGI Principal | vincent.weyl@energy.ca.gov

09/03/2025

Improving the Driver Experience

The CEC is committed to **a future where any driver with any EV can easily charge at any charger on any network.**

- Leveraging regulatory authority
- Funding interoperable charger deployments in various communities
- Engaging and Collaborating with industry



Improving the Electric Vehicle Driver Experience

The California Energy Commission is working to improve the electric vehicle (EV) driver experience for all Californians. Increasing the adoption of EVs requires a charging network that is reliable, accessible, and convenient. An improved driver experience with charging can increase EV adoption while creating an attractive marketplace for vehicle manufacturers and charging station operators.

Expand All

- Increasing EV Charger Station Reliability +
- Helping Drivers Find Reliable EV Chargers +
- Improving Charging Communication +
- EV Charger Payments Regulations +
- The Benefits of Plug and Charge +
- Network Roaming: Creating a Connected Network +
- Supporting a One-Connector Future for EV Charging +
- Additional CEC Efforts +

CONTACT

Fuels and Transportation Division
FTD@energy.ca.gov

RELATED LINKS

National Electric Vehicle Infrastructure (NEVI) Formula Program

Clean Transportation Program

Electric Vehicle Charging Infrastructure Reliability Reporting and Performance ...

Electric Vehicle Chargers in California

CATEGORIES

Topic
Transportation

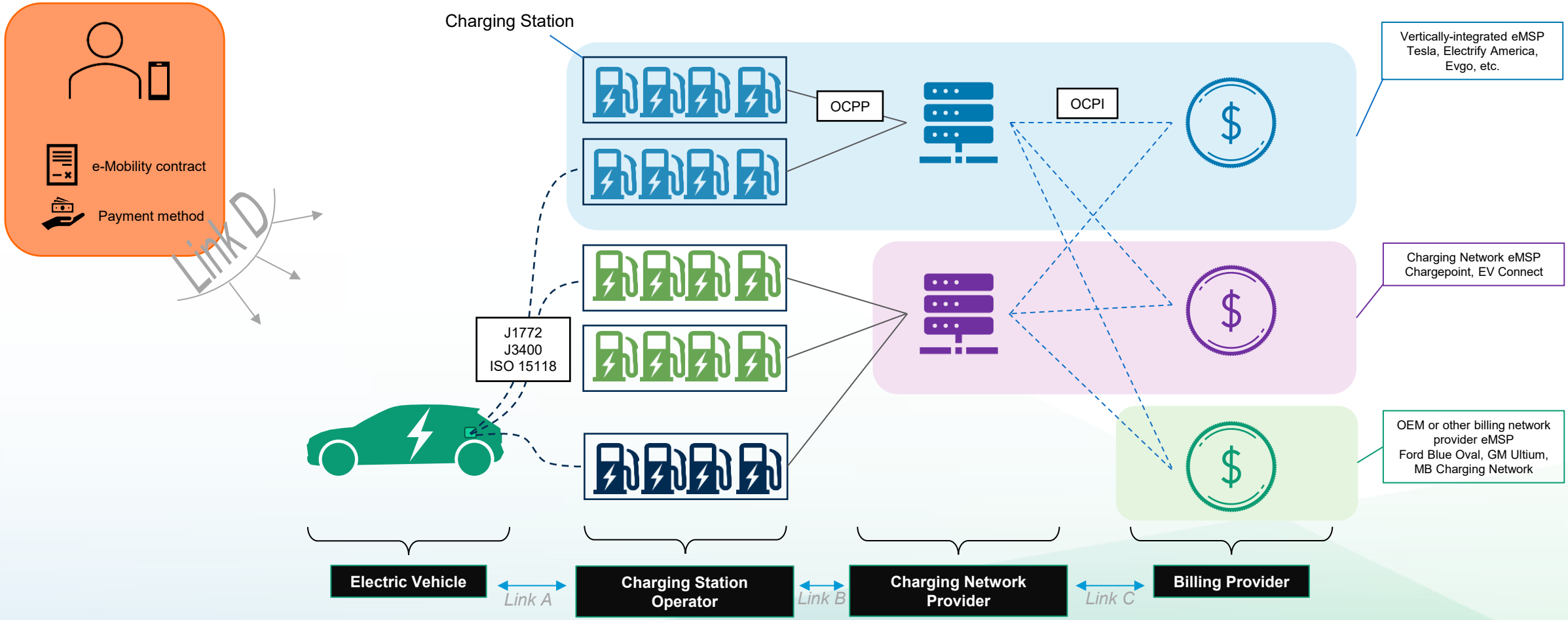
Division
Fuels and Transportation

Program
Clean Transportation Program

https://www.energy.ca.gov/programs-and-topics/topics/transportation/improving-electric-vehicle-driver-experience

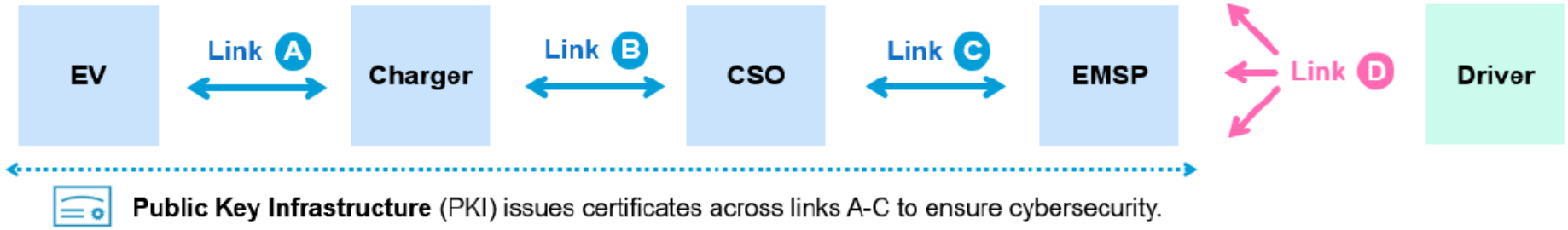
Broad Interoperability is Needed

Multiple systems & Business Models: public charging example



CEC Efforts

- CEC statement on Interoperability (last updated in November 2023) reiterates the CEC's vision and emphasizes the necessity to utilize open and secure communication standards across the different elements of the value chain.

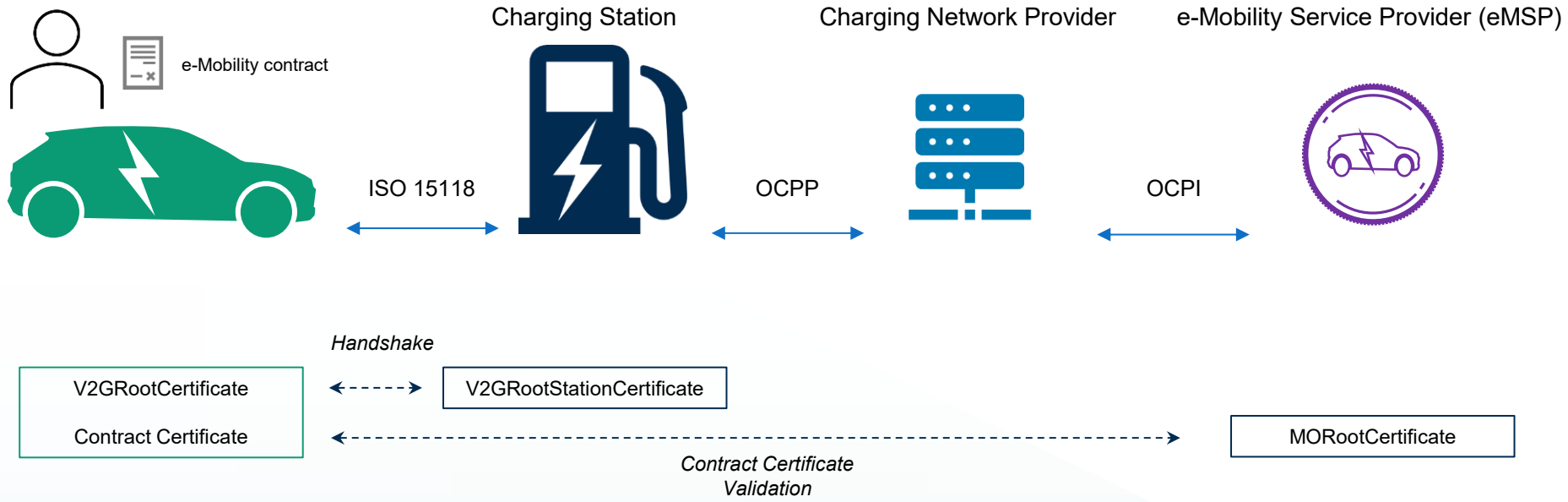


- Consistent with the above, the CEC supports a **one-plug future for EV drivers** in the Light Duty space and updated its statement on J3400 in October 2024.

CEC supports Plug & Charge Adoption

- Easiest Driver Experience
- Multiple benefits:
  - Built-in payment method (manages authentication and payment)
  - Improved reliability (reduces number of user actions and interfaces with different systems such as apps or credit card readers)
  - Improved interoperability (end-to-end transaction based on open and secure communication standards)
  - Improved security

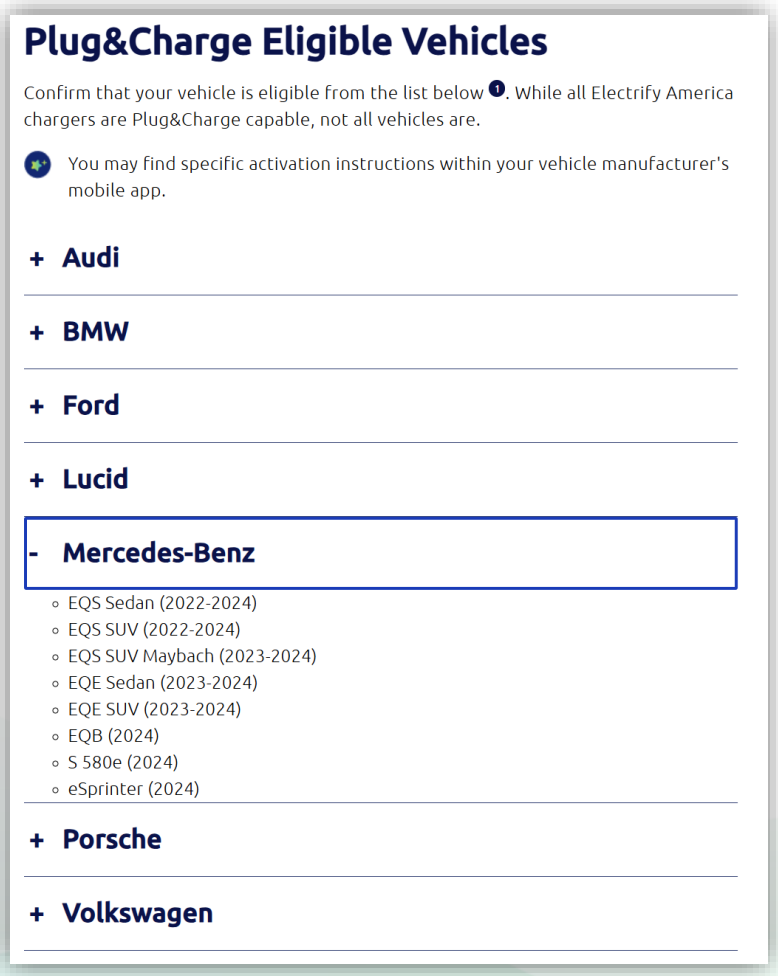
Plug & Charge Primer



Regulatory challenge: multiple actors are involved in Plug and Charge beyond Charging Station Operators and Charging Network Providers

Current Status

- ISO 15118 Plug & Charge payment capability is currently required for all public DCFC collecting a fee in SB 123
- Most OEMs support or plan to support ISO 15118-2 Plug & Charge within the next 12 months, offering it as a standard feature
- Several major CNPs have **operational** Plug and Charge deployments, reporting improved driver experience.
- There remains a general lack of centralized industry-wide data, hindering end-users' ability to make an informed decision when selecting an EV and/or an eMSP:
  - Which OEMs, EV make/model year are P&C capable?
  - Which OEMs and CNPs (and/or EVSE mfgs) are P&C interoperable?



Source: Electrify America website

Charge Yard to Advance P&C and Interoperability in California

Charge Yard aims to establish an industry-recognized lab to conduct interoperability and conformance testing

- Provide an open and neutral space for industry collaboration, knowledge sharing, exploration of next-generation use cases
  - Support the development of interoperability testing standards (ISO 15118, OCPI in particular)
  - Must support bidirectional charging
  - May host other innovative charging use cases (ALM, wireless, etc.)

- CEC Grant offers **up to $4M funding with 33% match share** requirement
- Proposed Award expected soon

Conclusion

- It’s complicated to make things simple
- It’s worth the effort
- California is encouraging faster adoption of Plug & Charge
  - SB 123 requirement for public DC chargers
  - Interoperability requirements for CEC-funded chargers
  - Charge Yard facility to accelerate interoperability and conformance testing
  - Continued engagement with industry


CALIFORNIA ENERGY COMMISSION
50 YEARS OF ENERGY LEADERSHIP

Thank You!

Guided Discussion
Plug & Charge

Plug & Charge Discussion Questions

- Are there barriers or recommended actions related to Plug & Charge that weren't covered by the Salata Institute and CA CEC?
- What should MA's objectives be for Plug & Charge? What can the state accomplish? What can it not?
- How can policymakers facilitate educating consumers about Plug & Charge? What knowledge gaps need to be filled? (e.g., distilling technical information, raising awareness, etc.)
- What can policymakers do to facilitate implementation of Salata Institute's recommendations for automakers and CPOs (e.g., P&C agreements, dealerships educating consumers, etc.)?
- What lessons learned from California are important for Massachusetts to consider? Are there any specific programmatic or legislative requirements? Is Charge Yard a model to replicate?
- Given all of the other work on EV charging, what efforts should the state prioritize to help move Plug & Charge forward?

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