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What EV Engineering Teams and Charge Point Operators Should Know in 2025

By Patty De Llano, Public Policy & Funding | BTC Power | June 17, 2025

Electric vehicle (EV) chargers sit squarely in the middle of the EV world, bridging the gap between drivers and their destinations. As industry players plan for the future, it's essential that they're aware of the current trends.

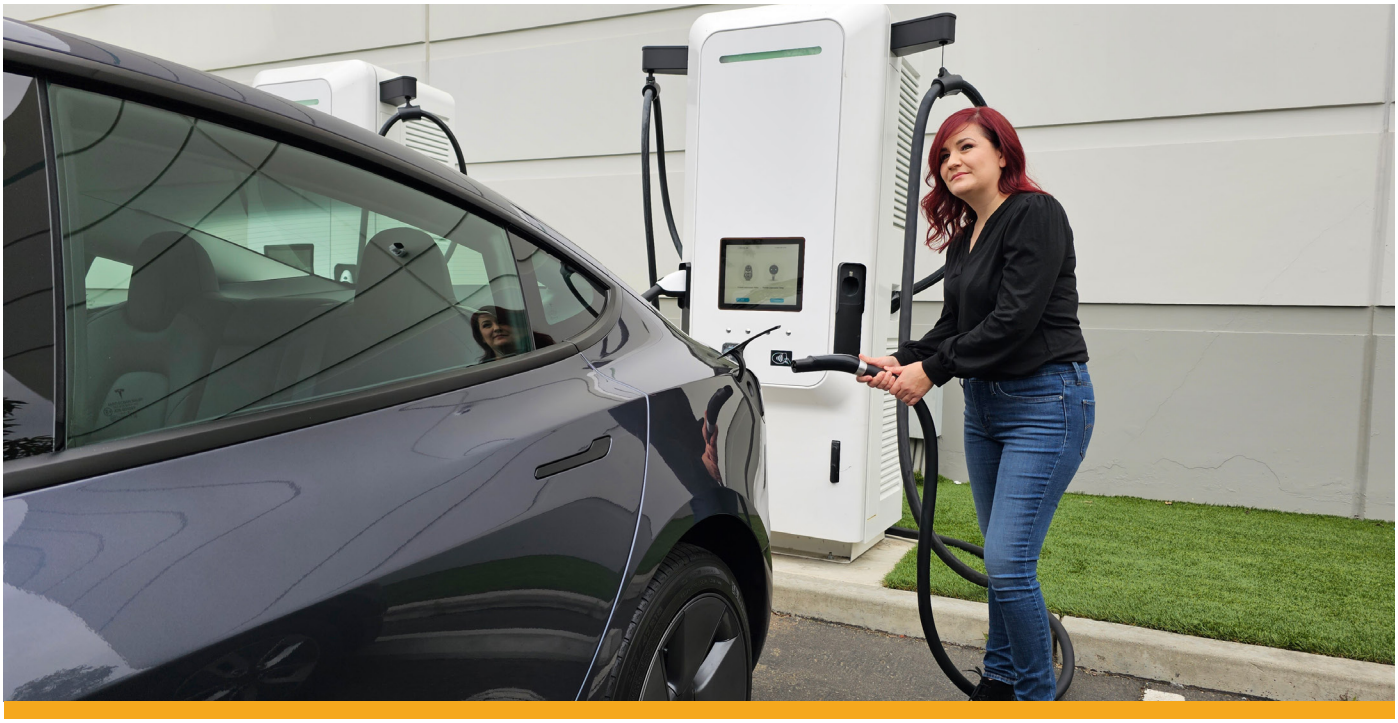
This article answers some important questions about EV charging infrastructure, including:

- What will be the impact of government funding cuts on the growth of EV chargers?
- What other sources of funding for EV infrastructure are available?
- Industry standardization — will the NACS connector cable prevail?
- The impact of key EV charger software vendors leaving the market.

Funding Landscape: Beyond NEVI

The NEVI program, established under the Bipartisan Infrastructure Law of 2021, allocated $5 billion to states to build a network of fast chargers along major highways. However, the new administration halted NEVI in February of this year, and many states subsequently paused their programs in response to this funding freeze. The path forward remains somewhat uncertain.

This is not the case in California, which continues state-funded programs for EV charging infrastructure through the California Energy Commission's Clean Transportation Program. This includes the "Communities in Charge" program, implemented by CALSTART and the California Electric Vehicle Infrastructure Project (CALeVIP), which has funded over 5,000 EV charging ports, with more than 6,000 in progress across the state.



Amid shifting funding landscapes, evolving standards like NACS, and a rapidly changing software ecosystem, today's EV infrastructure decisions carry long-term impact for engineering teams and charging providers alike.

California and other states have established PACE (Property Assessed Clean Energy) financing programs that allow property owners to borrow funds to pay for energy improvements, including purchasing and installing EV chargers. In California, for example, the PACE program is open to different types of property owners, including commercial, residential, industrial, non-profit, and multi-family property owners.

Utility Rebates

The government is not the only source of EV charging infrastructure funding. Duke Energy offers several programs across multiple states, including the "Charger Prep Credit" program, which provides a one-time credit to North Carolina customers designed to cover a large portion or all of the cost of preparing their home or business for an EV charger.

In North Carolina, Duke Energy proposed a $76 million electric transportation program that includes a "$2,500 rebate for qualifying charging stations for commercial customers with transitioning fleets."

Xcel Energy also provides incentives across its service territory, with business rebates for Level 2 stations and infrastructure support.

For businesses, having an EV charging infrastructure partner familiar with various funding programs is becoming essential. Partners with expertise in navigating both government and utility incentives can identify optimal funding combinations, potentially reducing installation costs by 50 to 80%.

Industry Standardization: The Rise of NACS

Perhaps the most significant development in EV charging has been the rapid adoption of the North American Charging Standard (NACS). Initially introduced by Tesla in 2012 and standardized as SAE J3400 in 2023, NACS is now being widely adopted by the industry.

Between May 2023 and February 2024, automakers including Ford, General Motors, Rivian, Hyundai, Kia, BMW, and Volkswagen announced plans to adopt NACS for North American EVs, beginning with the 2025 model year, replacing the previous CCS1 standard. This widespread adoption represents a remarkable industry consensus that's rare in automotive technology transitions. Initially, CCS1 owners will receive adapters, while new vehicles will feature native NACS ports.

The NACS connector's compact design supports up to one megawatt of dc charging power — twice the CCS capacity — making it smaller, more user-friendly, and technically superior. The design also features improved weatherproofing and a more ergonomic handle that reduces user fatigue during charging sessions.

For charging network operators and manufacturers, NACS compliance is quickly becoming essential for market competitiveness as automakers fully commit to the new standard.

This thermal chamber is used to test EV chargers under a range of environmental conditions, helping ensure reliability and performance across all operational scenarios.

Software Vendors: Market Shifts

The charger manufacturer does not supply the software used in EV chargers. Instead, charge point operators choose from among many vendors the software that operates the charger and processes payments. The software landscape is experiencing significant change. In late 2024,

JuiceBox's parent company, Enel X, announced it was exiting the US market and would no longer support its app. Similarly, Shell Recharge announced it was discontinuing its Shell Sky software for third-party commercial EV chargers in the US and Canada.

The reason why sudden exits are so disruptive is that as charging networks expand, software plays a vital role in ensuring stations can communicate with vehicles, grid operators, and payment systems. Properly functioning software enables critical features such as remote diagnostics, load balancing, and seamless user experiences across different charging networks.

This increasing complexity highlights the importance of turnkey charger providers who can deliver integrated software solutions or effectively incorporate third-party systems. Such providers ensure that charging infrastructure can adapt to evolving standards, maintain cybersecurity protocols, and provide consistent functionality across diverse hardware deployments.

Why This Matters for Engineering Teams

These industry developments require strategic adaptation from the engineering teams that specify chargers and plan charging facilities. NACS standardization demands hardware redesigns and testing protocols to ensure SAE J3400 compliance, alongside transition strategies for existing CCS-based products.

Shifting funding landscapes necessitates modular charger designs that can be adapted to potential funding gaps. To enter the market affordably, engineering teams can select a charger with a low kilowatt capacity and add power modules to the charger as funding is available.

Charger suppliers can help engineers with testing and integrating software. Although charger software developers and vehicle manufacturers strive to comply with the Open Charge Point Protocol (OCPP), debugging is often required. Software transitions present opportunities to implement improved interoperability and enhanced cybersecurity measures. Engineering teams that specify flexible, standards-compliant solutions will excel as the EV charging sector matures and grows.