North American Status Update

June 2025

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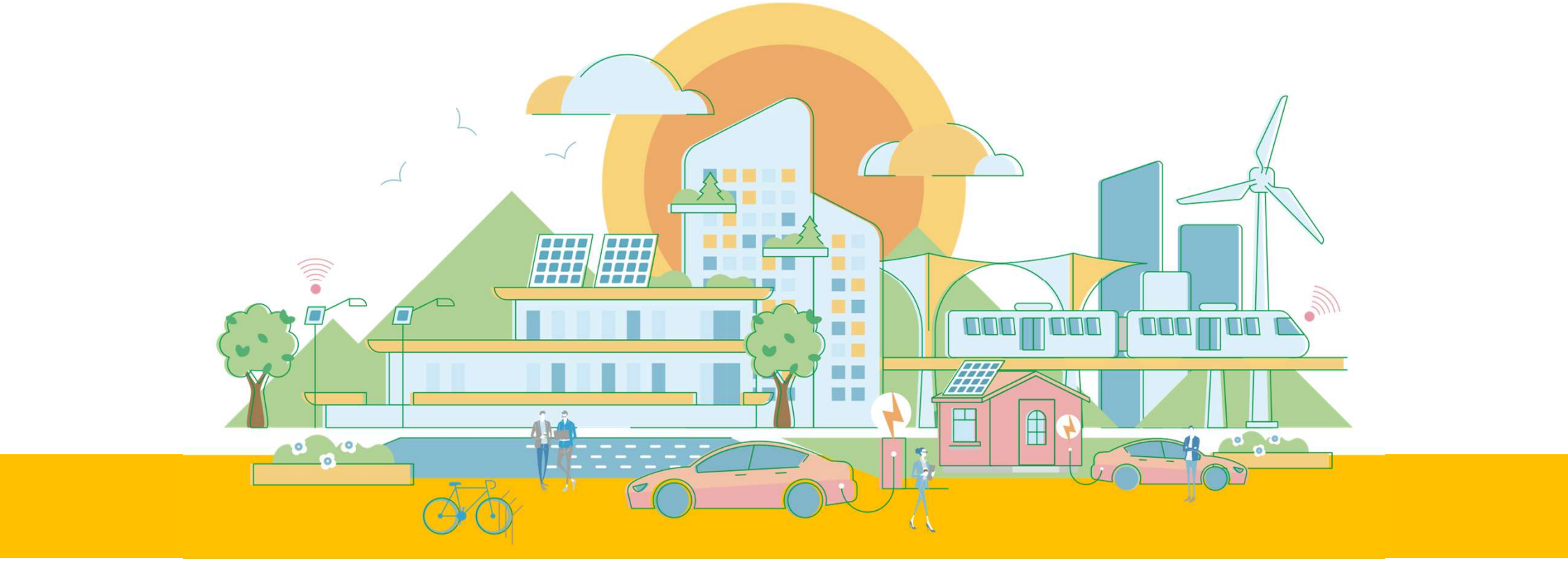
CHAdeMO Association NA



Overview

1. U.S. EV Sales
2. U.S. Public Charging and CHAdeMO Status
3. U.S. V2X Update
4. North America Charging Standard (NACS) Update
5. Megawatt Charging System (MCS) Update
6. President Trump Administration EV Update
7. California EV Actions

U.S. EV Sales Trends

- A U.S. sales record of about 1,300,00 new electric vehicles (EVs) sold in 2024.
- EV share of the total U.S. vehicle market was 8.7% (Up from 7.6% in 2023).
- Sales slowdown – 2024 sales only rose 7.3% compared to 49% increase in 2023.
- U.S. EVs average price more than $58,000.
- 16.4% of the total California light-duty vehicle fleet BEVs and PHEVs.

(Data from Kelley Blue Book Estimates and CARB/CEC)

Top 10 Best-Selling EVs in the U.S. (2024)

Model	Sales	Market Share
Tesla Model Y	372,613	28.6%
Tesla Model 3	189,903	14.6%
Ford Mustang Mach-E	51,745	4%
Hyundai IONIQ 5	44,400	3.4%
Tesla Cybertruck	38,965	3%
Ford F-150 Lightning	33,510	2.6%
Honda Prologue	33,017	2.5%
Chevrolet Equinox EV	28,874	2.2%
Cadillac Lyriq	28,402	2.2%
Rivian R1S	26,934	2.1%

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CHAdeMO - Public DC Fast Charging in U.S.

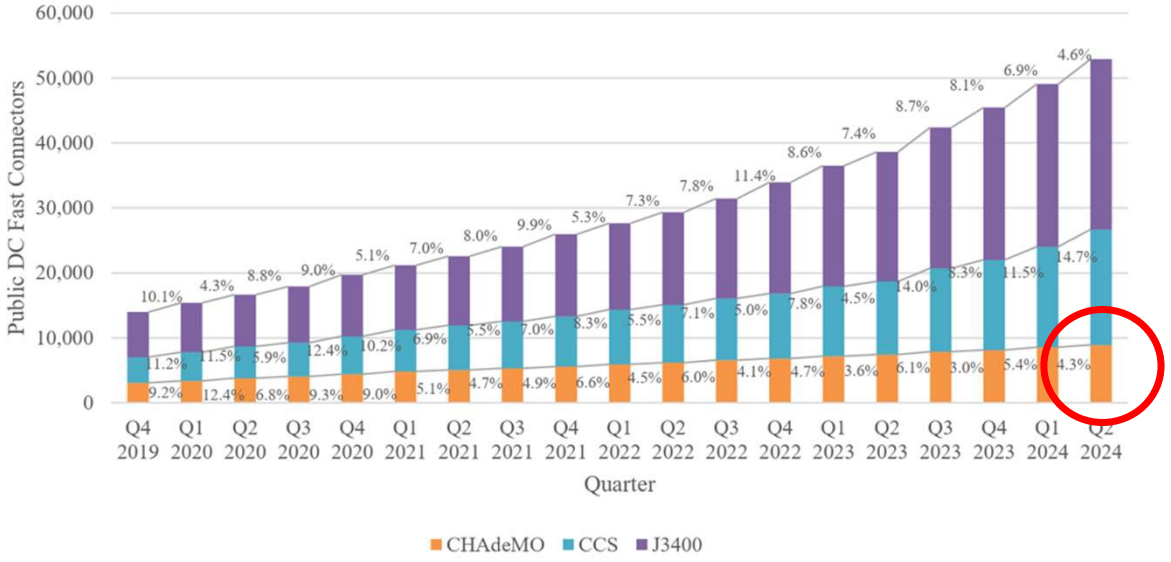
- The U.S. number of CHAdeMO connectors continued to grow (4.3%) in Q2 – same as Tesla/NACS.

- According to large CPOs (EVgo, ChargePoint, etc.), the continued growth of CHAdeMO chargers is due their use by Nissan LEAF and Mitsubishi Outlander (currently for sale) and older EV models on the road with the CHAdeMO connectors.

- Due to Tesla/NACS and CCS installations, CHAdeMO share decreases statistically. In Q4 2019, CHAdeMO connectors made up 22.1%, compared with 16.9% in Q3 2023.

Connector	All DCFC Capable EV (%)	Growth in DCFC Stations (%)
CCS-1	34	14.7
CHAdeMO	4	4.3
Tesla/NACS	62	4.3

Summary – Q2 2024 Public DCFC Growth



Historical Trend - Public DCFC Growth (Experian Information Solutions 2024b)

(Data from Electric Vehicle Charging Infrastructure Trends from the Alternative Fueling Station Locator: Second Quarter 2024, NREL)

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U.S. V2X Status

Three V2X Projects to highlight

1. dcbel r16 bi-directional EVSE is now available for use in California. Pacific Gas and Electric (PG&E serving Northern California) is starting demonstration projects using dcbel EVSE and Nissan Leafs (CHAdeMO).

2. Hawaii Electric Power Company (HECO), Sacramento Municipal Utility District (SMUD) and Tokyo Electric Power Company (TEPCO) established partnership to evaluate V2X technologies. Recent testing using Fermata FE-20 bi-directional CHAdeMO charger demonstrated ability respond to utility signals and discharge electricity from Nissan Leaf during peak electricity usage periods.

3. Zum - The U.S.'s largest bi-directional school bus charging site in Oakland California.

- 80 bi-directional Tellus Power EVSEs (proprietary CCS-1)
- 74 RIDE Mobility(spinoff of BYD) Type A EV buses.
- Capable maximum total discharge of 10-12 MWh per day.

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North American Charging Standard (NACS) – SAE J3400

The North American Charging Standard (NACS) is the Tesla connector using the "CCS-1" communication protocol (PLC). This will allow other Automakers vehicles to use Tesla's Supercharger network. Tesla Superchargers have "multi-lingual" communication using both Tesla's proprietary communication system (for Tesla vehicles) and CCS-1 (PLC) for other automakers. (Implementation details on following page).

The SAE J3400 Task Force (TF) continues to create standards to rush the implement NACS into new vehicles prior to 2026MY. This is driven by the California Air Resources Board Advanced Clean Cars II (CARB ACC II) regulation requiring all 2026MY light duty vehicles to be equipped with CCS-1 (SAE J1772 DC Charger Intel) or *"(B) the adaptor and alternative inlet must be tested and approved by a NRTL. "* This NACS adoption allows Tesla to continue to sell its vehicles with the Tesla inlet. CARB has plans to revise this regulation in the future to specify NACS.

NACS Standard Status:

- August 2024 - The TF published J3400, the first version of the NACS Recommended Practice without completing standard development or testing (currently on-going). The work continues to complete J3400 and establish it as an "Industry Standard".

- May 29, 2025, the TF rushed to publish a special version called J3400/2 as an Industry Standard to "standardize" the existing Tesla inlet and connector models/dimensions. This allows suppliers to be able to mass produce inlets and connectors for use in 2026MY vehicles.

- Bi-directional V2X using NACS is the same as CCS-1 – lacking specifics to allow interoperability.

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NACS Implementation and SAE J3400/1 Adapter Standard

- Tesla is working with other Automakers to implement NACS.

> **2025** – OEMs release first non-Tesla native NACS vehicles
>
> 2026 – Expected new EV offerings released w/ native NACS
>
> 2027 – Full NACS market adoption.

Tesla's NACS General Implementation Plan

- Adaptors are vital for NACS use with legacy CCS-1 vehicles and compliance with CARB ACCII, but the SAE J3400/1 adapter standard is still in progress.
  - The Technical Information Report (TIR) is expected to be published by end of 2025.
  - Underwriters Laboratories (UL) has published UL2252 safety standard for EV charging adapters.

According to Tesla, "All adapter should come from OEMs."

- Automaker's are creating and self-certifying adapters for their vehicles.
- The current problem is the NA market is flooded with CCS-1/NACS adapters from third party suppliers without any compliance to UL2252. Additionally, no US government agency wants responsibility for enforcement.

NACS adoption timeline

Company	Announced	Supercharger access
Ford	May 25, 2023	February 29, 2024
General Motors	June 8, 2023	September 18, 2024
Rivian	June 21, 2023	March 18, 2024
Volvo	June 27, 2023	October 29, 2024
Polestar	June 29, 2023	October 29, 2024
Mercedes-Benz	July 7, 2023	February 4, 2025
Nissan	July 19, 2023	December 10, 2024
Honda	August 18, 2023	Coming soon[44]
Jaguar Land Rover	September 21, 2023	Coming soon[44]
Hyundai/Genesis	October 5, 2023	March 25, 2025
Kia	October 5, 2023	Coming soon[44]
BMW Group	October 17, 2023	Coming soon[44]
Toyota	October 19, 2023	Coming soon[44]
Subaru	November 1, 2023	Coming soon[44]
Lucid	November 6, 2023	January 31, 2025[a]
Tesla	October 1, 2011	September 24, 2012
Volkswagen Group	December 19, 2023	Coming soon[44]
Mazda	January 16, 2024	Planned
Stellantis	February 2, 2024	Planned

Tesla's Specific Implementation Plan

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Update about Megawatt Charging System (MCS)

SAE J3271 - MCS Standard for Heavy Duty Vehicles – slow progress.

- Technical Information Report (TIR) was published March 4, 2025.
- SAE J3271 task force is actively pursuing CANbus communication. CHAdeMO met with leadership of SAE J3271 to discuss use of CHAdeMO 3.0/ChaoJi communications protocol.
- Many Truck and Bus manufacturers are demonstrating prototype MCS systems. Unfortunately, none are sharing their ideas with SAE TF.
- Suppliers are displaying ”production intent” EVSEs, inlets, and connectors.

October 2024 – Pettibone material handling equipment displayed with MCS Charging System (not operational).

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President Trump Administration EV Policy Actions

President Trump and Elon Musk still like Tesla's – The President bought this one.

Many Tesla Owners display these bumper stickers to show their dislike of Elon

"Sec. 2. It is the policy of the United States:

(e) to eliminate the "electric vehicle (EV) mandate" and promote true consumer choice, which is essential for economic growth and innovation, by removing regulatory barriers to motor vehicle access; by ensuring a level regulatory playing field for consumer choice in vehicles; by terminating, where appropriate, state emissions waivers that function to limit sales of gasoline-powered automobiles; and by considering the elimination of unfair subsidies and other ill-conceived government-imposed market distortions that favor EVs over other technologies and effectively mandate their purchase by individuals, private businesses, and government entities alike by rendering other types of vehicles unaffordable;" (Unleashing American Energy, Executive Order, January 20, 2025)

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President Trump Administration EV Actions Taken

- Revoked a 2021 Executive Order requiring half of all new vehicles sold in the United States by 2030 would be electric.
- Planning to end tax credits for EV purchases.

- All Federal government hiring is frozen by the Department of Government Efficiency (DOGE) led by Elon Musk. Specific to EV infrastructure:
  - The Department of Energy and Department of Transportation Joint Office supporting electric transportation is effectively stopped.
  - National Laboratory led ChargeX Consortium has been terminated.
  - Many Federal government employees are not allowed to travel.

- All unspent National Electric Vehicle Infrastructure (NEVI) funding for the development of vehicle charging stations is frozen.

- President Trump also called for an end to a waiver that allowed California to adopt more stringent zero-emission vehicle rules by 2035. This decision could very important, especially since 14 states, have already adopted the California regulations.

- President Trump's administration is also reconsidering federal emissions rules that compel automakers to ensure that 30% to 56% of their fleet comprises electric vehicles by 2032.

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California EV Actions – Resisting Federal Actions

- There is a clear potential for conflict between California's state policies and potential federal policy shifts.
- The state is determined to maintain its focus on transitioning to electric vehicles.
- California Governor Gavin Newsom has pledged to take action to protect the state's EV goals.
- This includes the potential to reinstate California's own EV rebate program if federal tax credits are eliminated.
- California is also preparing legal challenges to any roll back of the EPA waiver that allows the state to set it's own emissions standards.
- Additionally, 14 other states have adopted the California ZEV Mandate. This comprises about 40% of the U.S. vehicle sales. Therefore, unless President Trump rescinds California's EPA waiver – 40% of the U.S. will still comply with the mandate:
  - 35% of new vehicles sold in the state be zero-emission by 2026,
  - increasing to 100% by 2035.
- While public opinion in California shows fatigue with ongoing political resistance, Democratic voters remain a strong base of support for California environmental initiatives.

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Thank you

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