Sparking a Revolution: Tesla's NACS Connector Gains Momentum

by Kamil Maqsood, *Research Analyst – at PTR Inc.*

- Biden Administration has committed nearly USD 24 billion for public charging infrastructure until 2030 to promote electric vehicles.
- Tesla NACS connector charges at high speed than other connectors. Tesla released the NACS connector technology in public to make it more accessible to general EV users which could help them win funding for public charging infrastructure.
- The Key players that have accepted to adopt NACS connector by 2025 include GM, Ford, Nissan, Mercedes Benz, Chargepoint and ABB. These players can be categorized into automobile OEMS, charging stations and charging equipment manufacturers.

Tesla launched its efficient charging connector North American Charging Standard (NACS) that was compatible with Tesla electric vehicles. Recently, there was an indication that the Biden administration would enforce the combined charging standard across US in the same manner as the European Union did, which can affect Tesla in multiple ways if the NACS remains exclusive. Firstly, all the public funding worth billions of dollars would have been diverted towards the Combined Charging System (CCS). Biden administration has committed nearly USD 24 billion for public charging infrastructure in the country until 2030. Secondly, Tesla had already invested billions of dollars to build a fast-charging

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network in the US, but the chargers have a utilization rate lower than what it requires to recover the cost in the first place and make profits in the long run.

The official charging standard in US and Europe is Combined Charging System (CCS). Tesla has introduced its own NACS connector that is becoming popular in US because of its high charging speed and great number of superchargers. Tesla released the NACS connector technology in public so that NACS connector could be adopted by other companies in the energy industry. This would help Tesla win billions of dollars for public charging infrastructure if NACS becomes more accessible and popular than CCS to EV consumers. As Tesla released NACS connector technology in public, this move nudged several players in the market to collaborate with Tesla and adopt the NACS in upcoming years.

Companies adopting NACS connector

Initially, Tesla had restricted NACS to Tesla electric vehicles only but it has disclosed their charging technology openly for several players in the market to adopt it. These players include major automobile original equipment manufacturers (OEMs), charge point operators, and EV charger manufacturers.

General Motors (GM)

GM CEO Mary Barra announced on Twitter earlier this year in June 2023 that GM electric vehicles will have access to Tesla superchargers from 2024 through an adapter and GM electric vehicles will have NACS connection from 2025. Barra mentioned that this collaboration will save $400 billion for GM and help GM electric vehicle customers. GM customers will have access to over 12,000 Tesla superchargers across North America. The focus of the automobile companies is to accelerate EV adoption and access to Tesla superchargers is an important step towards that goal.

Ford

Ford is another automobile manufacturer that also collaborated with Tesla in May 2023 where both companies mutually agreed that Ford electric vehicles will be able to charge using Tesla superchargers from early 2024. In 2025, Ford plans to launch electric vehicles with built-in NACS connector removing the need of adapter to access Tesla superchargers. Ford CEO, Jim Farley says that widespread access to fast-charging is important for Ford to be recognized as EV brand, as Ford aims to level up the electric vehicle production in 2025.

Nissan

Nissan also agreed in July 2023 to adopt the Tesla NACS connector for the North American market. The automaker company is the first Japanese and Asian brand to adopt the Tesla connector. The vehicles launched by Nissan in 2025 will include Tesla charging port that is compatible with Tesla NACS connector. Until then, Nissan will provide CCS to NACS adapters from next year to current EV users of Ariya, a Nissan manufactured EV, as it has a CCS plug. This will help Ariya users access 12000 Tesla chargers across North America but not Leaf Users, another Nissan manufactured EV as Leaf vehicles use CHAdeMO plug that is not popular.

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Mercedes Benz (North America)

Mercedes Benz is the first German automaker company that have jumped on the bandwagon of adopting Tesla NACS connector starting from 2025. In 2024, an adapter for the Mercedes EV users will be available so that the consumers can charge their EVs using Tesla superchargers. Additionally, Mercedes has also announced that it is going to set up 2500 chargers including NACS connector with a goal to expand Mercedes Benz charging network.

Chargepoint

Automobile manufacturers are not the only ones adopting Tesla NACS connector. Chargepoint is a charging service provider for major electric vehicles. Chargepoint has also adopted the NACS connector and Chargepoint charging stations will now include both CCS and NACS connector to facilitate most types of EV users. The main charging stations of Chargepoint that are CP6000, Express 250 and Express Plus will have CCS, CHAdeMO and NACS connector for charging in near future.

ABB

ABB e-mobility is a charging equipment manufacture company and they have also announced that they are going to test the NACS connector with their equipment design. They are on-board with incorporating Tesla standard connector into their future equipment. However, it is important to note that they are going to produce equipment with other connectors too. If the testing and experimenting phase of NACS connector with charging equipment goes well, it is highly likely that ABB equipment will have NACS connector in coming years.

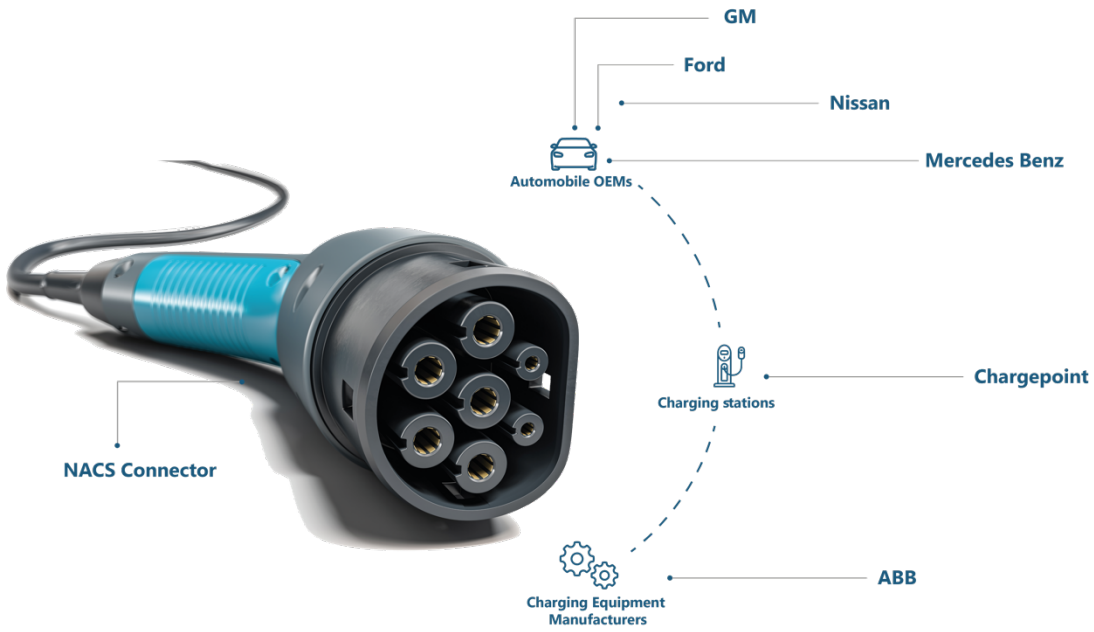

Figure 1: Key players adopting NACS connector

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It is important to note that the compatibility of Tesla NACS connector with EVs of different companies will take time and it will be a fascinating development how the automobile OEMS, charging point operators and charging equipment companies deal with the increasing preference for NACS connectors once it is compatible with different OEM vehicles.

Way Forward

As mentioned in the article, a range of players in the electric vehicle market have adopted North American Charging Standard, which is essentially Tesla's charging standard, including automobile OEMs, charge point operators, and EV charger manufacturers. Automotive OEMs that have moved to adopt NACS constitute more than 70% of the automotive market in the US. Though NACS has gained significant momentum, CCS continues to be the official charging standard in the US and Europe. It is a possibility that in the future, NACS may get accepted as a second standard within the US (but not in Europe, as Tesla never really had the kind of leverage in Europe that it enjoys in the US), but it will surely get access to public funding.

Contact:

(sales@ptr.inc)

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