

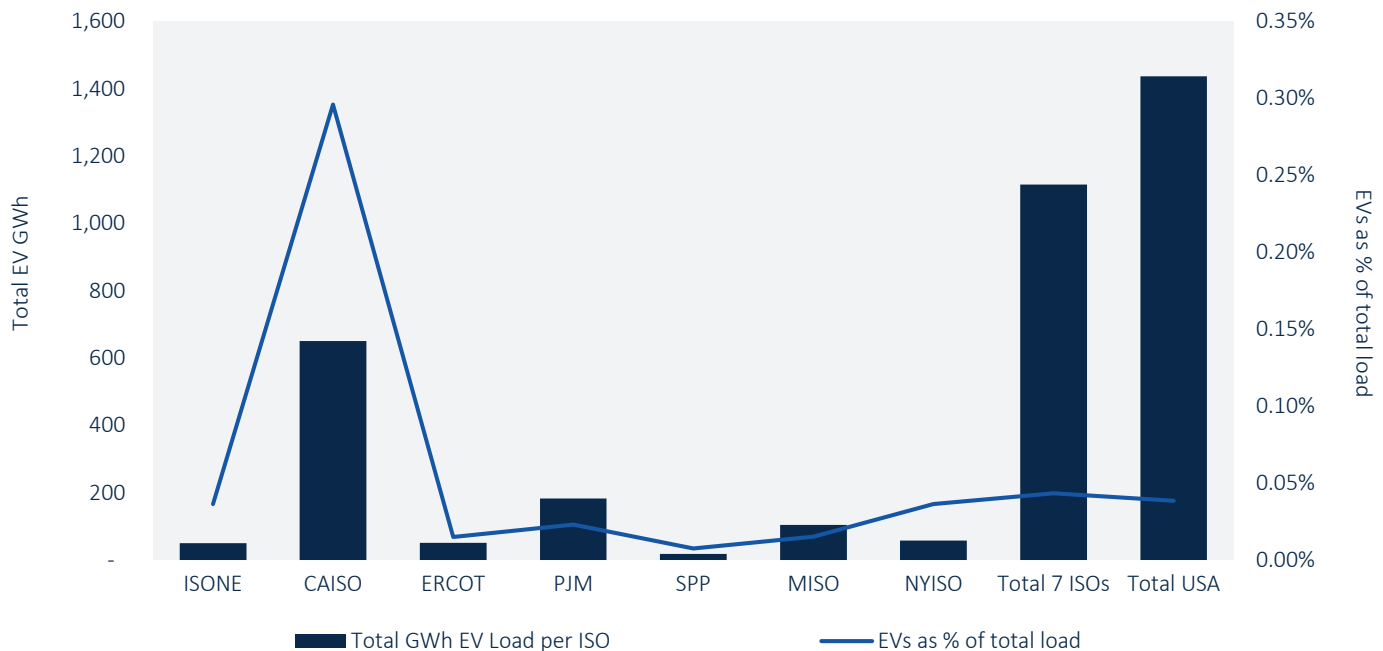
## The Impact of Electric Vehicles on the Grid: Customer Adoption, Grid Load and Outlook

Timotej Gavrilovic | Consultant and Researcher, GTM Research

The electrification of passenger vehicles has become increasingly a part of decarbonization conversations in energy policy and business. Prior to 2010, Energy Information Administration (EIA) estimated a total of 57,000 EVs in use. Between 2010 and 2015, EV sales surpassed 400,000 vehicles with a value of \$15 billion.

As long as current trends of increasing consumer interest and decreasing costs continue, EV adoption could increase to 12 million vehicles by 2025. This market growth will have a significant impact to existing and planned grid infrastructure, creating opportunities for existing stakeholders and new market players who can create integrated solutions for the EV driver, electric utility, wholesale energy market and aggregators.

### Load Impacts by ISO - 2015 (GWh and %)



Source: GTM Research, ISONE, CAISO, ERCOT, PJM, SPP, MISO, NYISO, FERC, EIA

Each of our reports in this two-part series on electric vehicles provide background on the current market, and serve as an analytical toolkit that presents modelling and scenario analysis extending through 2025. The analysis looks into possible impacts to load, demand, distribution and transmission, peak usage and electric rates in specific geographies and nationwide.

Use the first report to gain a comprehensive understanding of:

- The current and historic market for EVs and EV infrastructure
- Impact of EV adoption on the grid – with load and demand on specific US geographies
- A forecast of EV adoption and potential impact through 2025

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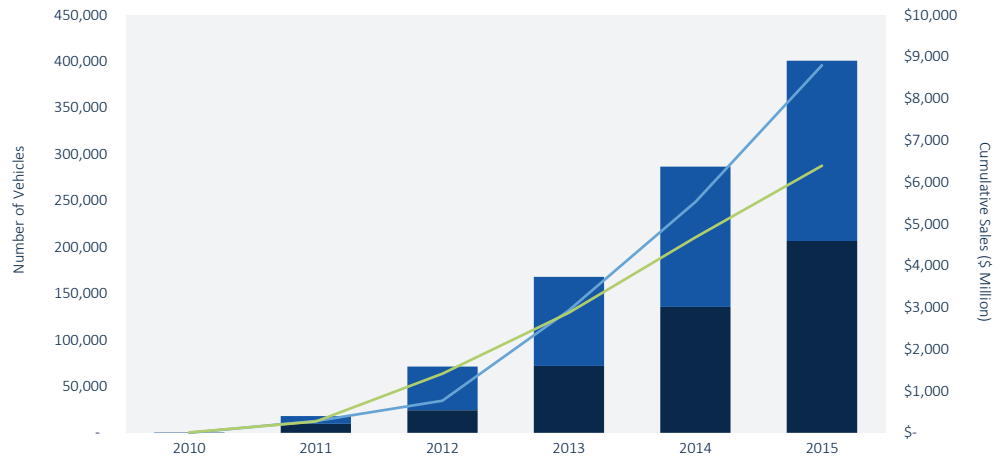
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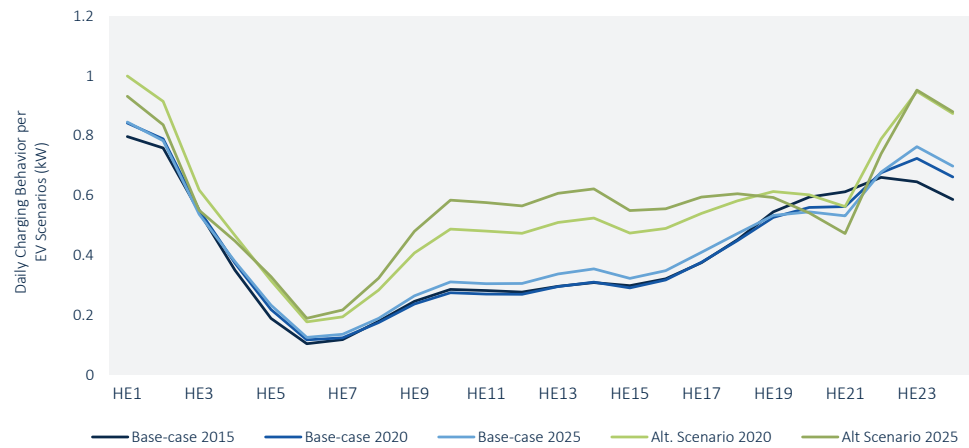
EV Cumulative Sales 2010-2015 (Number of Vehicles and \$ Million)

Source: GTM Research



Charging Behavior Scenarios

Source: GTM Research



Note: Chart data is available in the full report

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