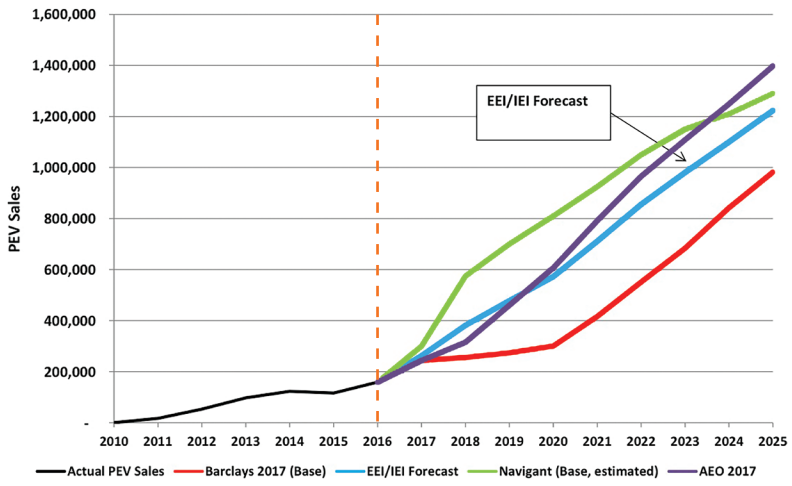
The Edison Foundation
INSTITUTE for ELECTRIC INNOVATION

Getting Ready for the Growing EV Market

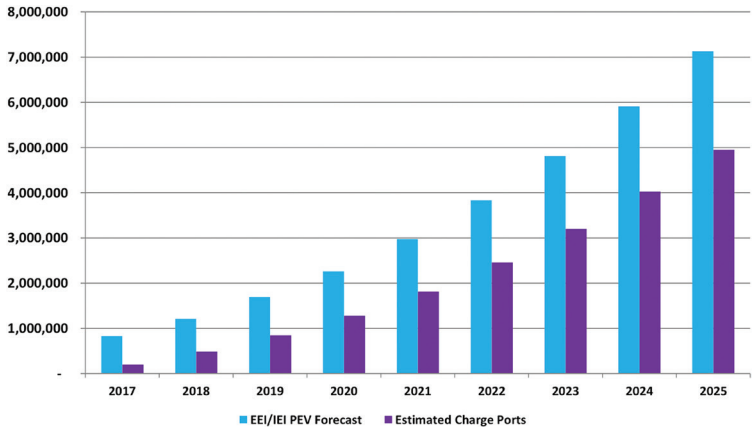
Plug-In Electric Vehicle (PEV) Sales Forecast

- The stock of PEVs (i.e., the number of PEVs on the road) is projected to reach 7 million by 2025 (3 percent of all registered passenger vehicles), up from 725,000 through October 2017.
- Annual sales of PEVs will exceed 1.2 million vehicles in 2025, reaching more than 7 percent of annual vehicle sales by 2025.
- About 5 million charge ports will be required to support 7 million PEVs in 2025. This represents a significant investment in PEV charging infrastructure.

Annual PEV Sales by Year (2010–2025)



PEV Stock and Charging Infrastructure (Charge Ports) Needed (2017–2025)



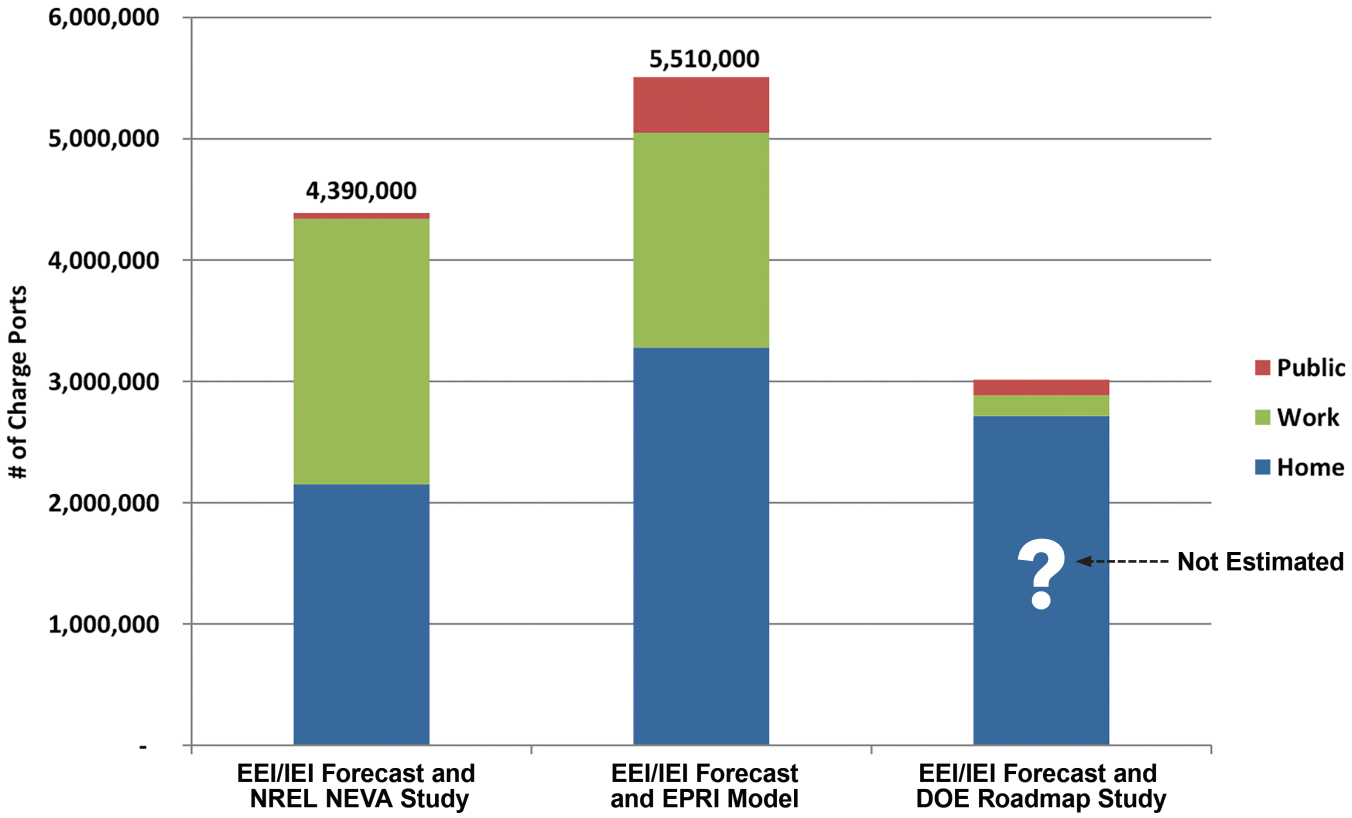
Source: Plug-in Electric Vehicle Sales Forecast Through 2025 and the Charging Infrastructure Required. Edison Electric Institute and Institute for Electric Innovation. June 2017

Plug-In Electric Vehicle Charging Infrastructure

Electric companies can support the development of PEV charging infrastructure and the smart integration of PEV charging load into the distribution grid in different ways, including:

- Develop "make-ready" grid infrastructure, which might include PEV service connection upgrades and new PEV supply infrastructure.
- Own and operate charging stations.
- Offer electric rates that incent PEV charging at specific times of the day.

Charge Ports Required by 2025 to Support 7 Million PEVs (Various Studies)



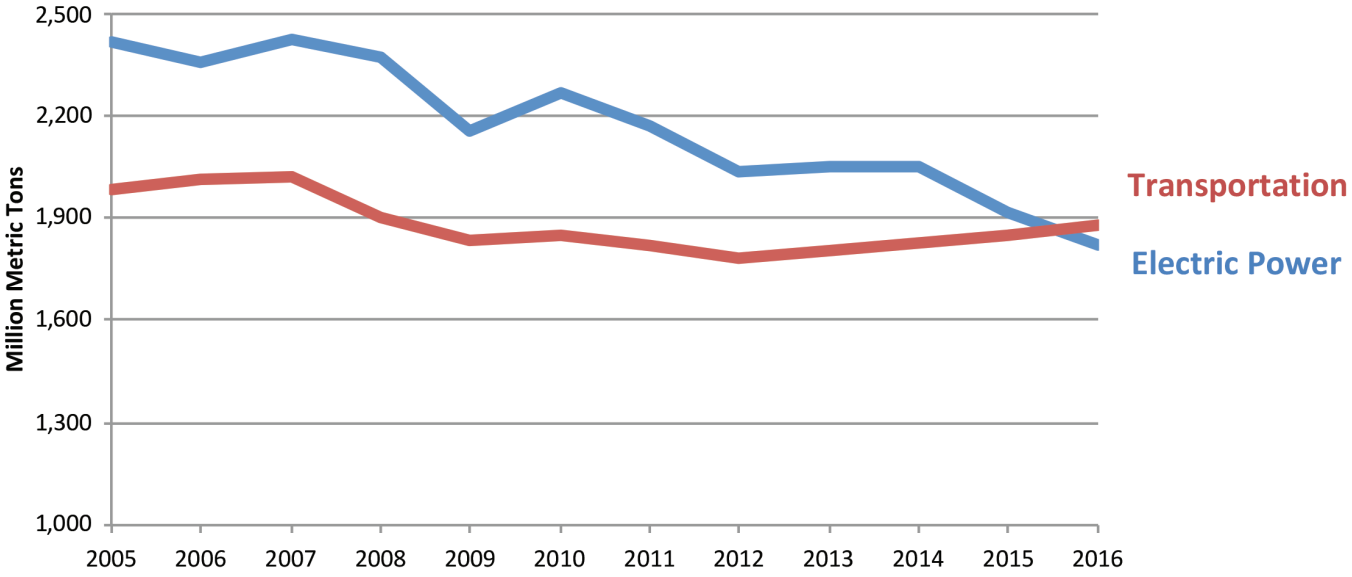
Sources:

1. *Plug-in Electric Vehicle Sales Forecast Through 2025 and the Charging Infrastructure Required. Edison Electric Institute and Institute for Electric Innovation. June 2017*
2. *National Plug-In Electric Vehicle Infrastructure Analysis (ROADMAP). U.S. Department of Energy. September 2017*
3. *National Economic Value Assessment (NEVA) of Plug-In Electric Vehicles, Volume 1. National Renewable Energy Laboratory. December 2016*
4. *Guidelines for Infrastructure Planning—An Explanation of the EPRI Red Line/Blue Line Model. Electric Power Research Institute. June 2014*

Carbon Dioxide Emissions: Electricity vs. Transportation Sector

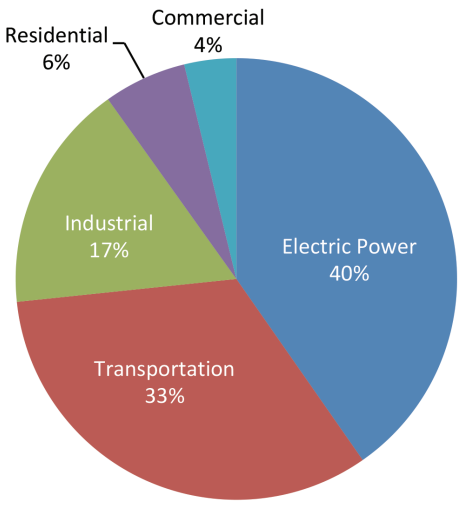
- As of 2016, carbon dioxide emissions for the power sector were below carbon emissions for the transportation sector.
- Carbon dioxide emissions from electricity generation declined nearly 25 percent below 2005 levels by the end of 2016.
- Due to the changing power generation mix, the power sector's share of U.S. carbon dioxide emissions decreased from 40 percent in 2005 to 35 percent in 2016.

Carbon Dioxide Emissions: Electric Power and Transportation



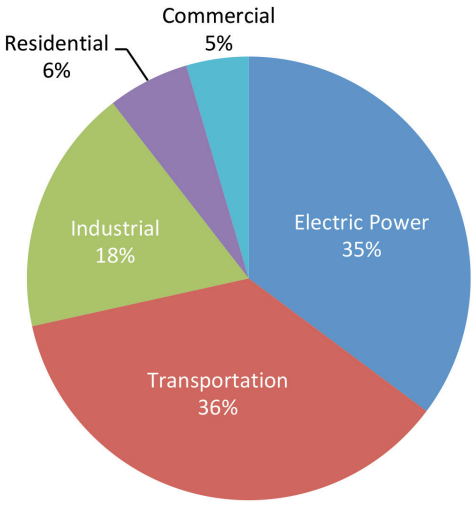
Source: EIA, Monthly Energy Review

U.S. Carbon Dioxide Emissions by Sector (2005)



Source: EIA, Monthly Energy Review

U.S. Carbon Dioxide Emissions by Sector (2016)



Source: EIA, Monthly Energy Review

About the Institute for Electric Innovation

The Institute for Electric Innovation focuses on advancing the adoption and application of new technologies that will strengthen and transform the energy grid. IEI's members are the investor-owned electric companies that represent about 70 percent of the U.S. electric power industry. The membership is committed to an affordable, reliable, secure, and clean energy future.

IEI promotes the sharing of information, ideas, and experiences among regulators, policy makers, technology companies, thought leaders, and the electric power industry. IEI also identifies policies that support the business case for the adoption of cost-effective technologies.

IEI is governed by a Management Committee of electric company Chief Executive Officers. In addition, IEI has a Strategy Committee made up of senior electric industry executives and a select group of technology companies on its Technology Partner Roundtable.

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