



## Technical Bulletin: Building Electric Vehicle-Ready Homes

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Americans are rapidly adopting plug-in electric vehicles (EVs). In fact, the Edison Electric Institute and the Institute for Electric Innovation estimate that 18.7 million EVs will be on U.S. roads by 2030. Because 80 percent of EV charging happens at home, consumer demand for homes ready for or equipped with EV charging is also growing. In addition, an increasing number of localities, such as [Atlanta](#), [Denver](#), and much of [California](#), have begun to require that EV charging infrastructure be included in all newly-built single-family homes. Builders in other areas are starting to pre-wire or install charging units as a value-added feature of their new homes as well.



[Photo source: Nissan North America]

## What Does EV-Ready Mean for Homebuilders?

An EV-ready home provides consumers with safe access to a dedicated 240V power supply for the faster Level 2 EV charging. Pre-wiring new homes for EV charging during construction can save a homeowner hundreds of dollars later. By pre-wiring, builders can offer a future-proof product.

There are two paths to make a home EV-ready:

1. **Pre-install conduit:** Designate enough space and capacity on the main electrical panel or garage subpanel for at least a 40 amp, 240V dedicated branch circuit. Install conduit linking the electrical panel to the future location of the EV charger, near where cars will be parked (garage, driveway, etc.)
2. **Wire a Level 2-ready outlet:** In addition to the pre-wire steps, install a 240V grounded alternating current receptacle, allowing a homeowner to purchase a plug-in Level 2 EV charger without the extra wiring expense. EV chargers are available for a range of outlet types, including the popular NEMA 14-50.

## Install ENERGY STAR Certified EV Chargers

For builders interested going beyond EV-ready to installing EV chargers, consider using ENERGY STAR certified units. **ENERGY STAR certified EV chargers use 40 percent less energy than a standard EV charger in standby modes.** Some ENERGY STAR EV chargers also meet optional criteria for connected functionality. These models may be capable of supporting Demand Response through open communication protocols, allowing customers the opportunity to participate in utility programs, where available. Be sure to mount the charging station according to National Electric Code requirements (between 18 and 48 inches from the ground).

## Learn More

Find more information on the ENERGY STAR [EV Chargers webpage](#), including a list of ENERGY STAR [certified products](#) and buying guidance when purchasing equipment.

See the Alternative Fuels Data Center (AFDC) website for information about [charging station types](#), [installing residential charging equipment](#), and how to locate [public charging stations](#).

Search the AFDC Laws and Incentives Database for [financial incentives](#) and programs offered by utilities, governments, and other organizations. Also see [example EV-ready policies](#) from various jurisdictions.

Refer to the U.S. Green Building Council [website](#) for information about the opportunity to

earn Leadership for Energy & Environmental Design (LEED) credits for EV charging stations installed in new homes as part of the innovation category (green vehicles) under Building Design and Construction (BD+C).

View past ENERGY STAR Homes technical bulletins [here](#).

Best regards,

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