ENERGY STAR® CERTIFIED ELECTRIC VEHICLE CHARGERS

The simple choice for energy efficiency.

July 2021

EV Chargers Energy Savings Potential

The number of electric vehicles (EVs) on U.S. roads is predicted to reach nearly 19 million by 2030 and to require approximately 9 million charging ports (public and private). Looking at public charging, 1 million charge ports will be needed; of those, 100,000 are projected to be direct current (DC) fast chargers.[1] To promote energy efficiency during the growth of EV infrastructure, the U.S. Environmental Protection Agency (EPA) developed a specification to recognize the most energy efficient EV charging products.[2]

Overview of ENERGY STAR Certified Chargers

Alternating current (AC) chargers meet the following criteria:

- **Level 1 and Level 2 chargers**: Maximum standby losses with additional power allowances for products with a high-resolution display or network connection capability

Direct current (DC) fast chargers meet the following criteria:

- **Chargers 50 to 65 kW**: Minimum active charging efficiency of 93% and maximum standby losses*
- **Chargers 65 to 350 kW**: Maximum standby losses*

*The specification offers additional power allowances during standby for products with a high-resolution display or a battery management system.

Did you know?

ENERGY STAR Level 1 and Level 2 EV chargers use **40% less energy than a standard EV charger** in the most common operational mode, standby.

ENERGY STAR DC EV chargers up to 65 kW will generate:

- **1.5 MWh/year in energy savings**
- **Over $1,650 in cost savings during the lifetime** of the charging station.

For more information on the ENERGY STAR program, visit https://www.energystar.gov/products/other/ev_chargers

All ENERGY STAR certified EV chargers

- ✓ Provide Energy Savings
- ✓ Meet Safety Requirements
- ✓ Use Open Standards*

*applicable for equipment listed as connected functionality capable on the ENERGY STAR Product Finder

Connected Functionality

EV chargers listed on the ENERGY STAR Product Finder as connected functionality capable must support **open standards for communication protocols**. Connected functionality allows for:

- Load dispatch
- Demand-response
- Price notification
- Full Vehicle to Grid Integration (VGI)

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- Optimizes energy use
- Reduces demand charges
- Lowers electricity costs
- Provides utility services

The connected criteria are designed to recognize the savings opportunity of long dwell time applications.

Find ENERGY STAR Certified Products

The ENERGY STAR Product Finder is an online searchable database of all ENERGY STAR certified products. Follow these steps to:

1. Access the full list of certified EV chargers at https://www.energystar.gov/productfinder/product/certified-evse/results
2. View results and apply filters to refine by "Type," "Brand Name," and other defining features. Multiple EV charger models might be listed under each entry

[1] EEI/IEI, November 2018, EV Sales Forecast and the Charging Infrastructure Required through 2030.
[2] U.S. EPA, 2021, ENERGY STAR Version 1.1 EV Chargers Specification

EPA United States Environmental Protection Agency