

The background of the top half of the page is a photograph of a blue electric vehicle (EV) being charged. A white charging cable is plugged into the car's charging port. The scene is outdoors, with trees and a building visible in the background. The image is overlaid with a semi-transparent blue gradient.

EV Charger Installation Getting Started & Next Steps

Interested in installing EV chargers at your commercial facility, and not sure where to start? This document provides helpful tips to guide you through the journey.

[Click here](#) to jump to the detailed installer guide. Please share this guide with your installer regarding TEP's Service Request process.

Step 1. Consider costs and take advantage of rebates

Apply for rebates from Tucson Electric Power (TEP) for your commercial EV charging station. TEP's [Smart EV Charging Program](#) offers rebates as well as technical support to commercial businesses, multi-family complexes and nonprofit organizations that purchase and install EV charging ports at their location. Rebates are issued at the completion of the project, and all rebate funds must be distributed prior to December 31, 2025.

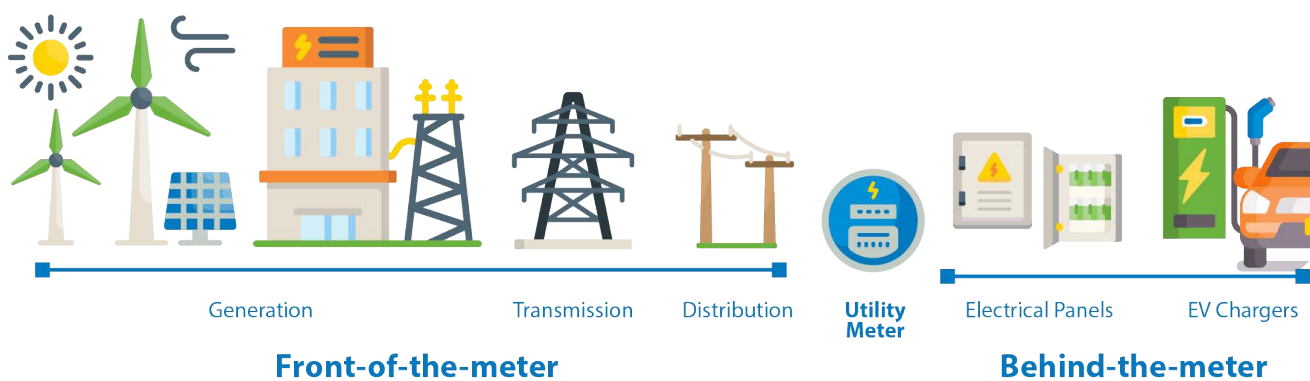
[See full eligibility requirements and apply for rebates here.](#)

The Smart EV Charging Program’s rebates and technical assistance are offered at no charge. Costs for EV charging equipment vary widely based on the selected vendor and charger type (*see more on Charger Types in Step 2*). On average, Level 2 (L2) charging port equipment (hardware) costs alone may range from \$2,000-\$4,000+ per port. Smart Plugs, which offer slow Level 2 charging for multifamily, are often less than this on a per-plug basis. DC Fast Charger (DCFC) hardware costs may vary more based on charging output, as shown below:

DCFC Power Output	Approx. Hardware Cost Ranges
50 kW (~30-60 min full charge time)	~\$20,000-\$30,000+
150 kW (~20-30+ min full charge time)	~\$75,000-\$100,000+
350 kW (~≤20 min full charge time)	~\$120,000-\$150,000+

Additional costs beyond the EV charging hardware will contribute to the overall cost of a project, including:

- EV charging station installation
- Permits, construction, and commissioning
- EV charging station software and maintenance contracts
- “Front-of-the-meter” upgrades, e.g., transformer upgrades
- “Behind-the-meter” upgrades, e.g., electrical panel upgrades



The figures provided here and in your rebate proposal are just approximations. Actual project design and costs will be determined by your selected contractor(s) and EV charger vendor(s).

Steps 2, 3, and 4 may be interchangeable depending on your installer's process.

Step 2. Select your EV charger installer

Electrical contractor selection is a good starting place for a project. Some questions you might consider when selecting your electrical contractor, electrician, or EV charger installer include:

- Does the contractor have any relationships with EV charging manufacturers (including those on TEP's [Qualified Product List](#) if you're participating in the rebate program)? Will the contractor be able to support you with labor warranty service for these EV chargers?
- Is the contractor licensed, bonded, and insured in Arizona? *Search the company and look for a C-11 or CR-11 license on the Arizona Registrar of Contractors: <https://roc.az.gov/>*
- Does the contractor have training in EV charger installation and commissioning?
- Will the contractor conduct a site visit to assess any needed electrical upgrades and/or help you identify the best EV charging location?
- Does the contractor have references associated with other EV charger installation projects they can share with you?
- Is the contractor familiar with TEP's [Electric Service Requirements](#)?
- Will the contractor provide you with a detailed proposal and estimate? *It is good practice to get three estimates to compare services and costs.*

TEP provides an [EV Installer Directory](#) as part of the [Smart EV Charging Program](#). Installers on this list have completed a training on TEP's Smart EV Charging Program, and as such are familiar with the program's requirements. Customers participating in the Smart EV Charging Program do not have to use an installer listed here. Instead, this list is meant to provide a starting point resource for customers looking for EV charger installers familiar with the Smart EV Charging Program. The EV charger installers on this list are not endorsed by or formally affiliated with TEP.

Step 3: Work with your installer on your project's design

Depending on the existing infrastructure at your facility, your installer may recommend:

- Connecting the EV chargers to an existing electric panel
- Connecting the EV chargers to an *upgraded* electric panel
- Connecting the EV chargers to a dedicated new electric service

Each of these design configurations have different cost and complexity associations, which vary based on the project. [Smart EV Charging Program](#) participants must have the chargers connected to a Time-of-Use plan, and the program team can help participants understand the impact of that switch based on their existing usage.

IMPORTANT information for your installer on the next page:

Important note to pass on to your installer:

For projects that will require a service upgrade or dedicated new service, your installer must submit the 'New Commercial' (new service) or 'Existing Commercial' (service upgrade) form at <https://www.tep.com/construction-applications/>. On this form, your installer **should make sure 'EV Chargers' is checked**, and should be **prepared to share permits, load calculations, and stamped plans** with TEP in order to advance your project. Projects that do not provide these documents may incur additional fees.

For TEP Smart EV Charging Program participants, you can show your installer a detailed guide to navigate these forms on pg. 9. Much of the information is also relevant for projects outside of this program.

Step 4: Select your EV chargers

Step 4 is interchangeable with Step 2, but your installer may have insights into different charger types and how project design may align with certain chargers.

There are two types of chargers for commercial charging stations: Level 2 (L2) and DC Fast Chargers (DCFC). The main difference between these chargers is how much power they deliver to the vehicle and how fast the vehicle battery can be charged. The table below shows the difference in estimated charging times for most EV types.

Charger Type	Typical Output	Approx. Charging Time (<i>varies based on vehicle, current state of charge, etc.</i>)
L2	7-19 kW	10-25+ miles per hour; 4-10 hours full charge
DCFC	50-350 kW	180-240+ miles per hour; 20-60 minutes full charge

Please note that Level 1 chargers are typically used for private residential use and are not included in this program. For more information on resources available for residential charging, click [here](#).

Participants in the TEP [Smart EV Charging Program](#) will be provided with a recommendation on what type of charger is best suited for your needs based on such factors as type of business or organization, number of parking spaces available, who will use the chargers, and the utility infrastructure needed to make the site ready to support EV charging.

Participants in the [Smart EV Charging Program](#) must select chargers from the [Program's Qualified Product List](#). You may want to consider the following questions when requesting bids or information from EV charging vendors:

- Could you provide pricing and information on your charger models listed in TEP's Qualified Product List? What are the costs for the EV charger hardware versus the costs to keep the chargers connected to a charging network?
- What payment or operational options are available for me to purchase the chargers (e.g., leasing, charging-as-a-service, full owner/operator, etc.)?
- With the available charging network software, what payment options can I set up to charge a premium for use of the EV chargers? How will customers, visitors, employees, etc. pay for charging (e.g., through an app, QR code, etc.)? What processing fees are involved?
- What warranty or operations and maintenance service options are available? What is the best way to contact you if my chargers stop working? *Remember, your chargers must be operational for at least 5 years to be in compliance with the Smart EV Charging Program; if your stations go out of service and you do not pursue repairs, you may be required to return your rebate.*
- Are replacement hardware parts (e.g., for cables) available?
- Who should I contact if something goes wrong? Is this contact the same for hardware vs. software/network issues? What are typical response times?

My project is finished – now what?

As advised above, you should be familiar with your service and labor warranty agreements with your installer and EV charger vendor. Your EV charger vendor should help you get set up to offer premium charging pricing, as well as to share data back regarding your chargers.

[Smart EV Charging Program](#) participants must keep their stations operational and connected to an eligible Time-of-Use rate for a minimum of 5 years. TEP is not responsible for maintaining, operating, or troubleshooting your chargers. Please contact your EV charging vendors or installer partner.

Depending on your charger use case, you may also want to distribute a charging policy. For example, workplace charging setups may benefit from an employee chat group where employees can manage swapping their vehicles to charge. Additionally, you may create a policy that establishes maximum time a single vehicle can be plugged in. You can see an example of a policy [here](#) and [here](#).

Finally, your charging station network may allow you to limit or incentivize when charging occurs. By promoting charging peak during [off-peak](#) hours, you may be able to save on electricity costs on a Time-of-Use plan, while supporting the grid! Win-win.



Ready to get started?

Apply for rebates [here](#)!

Questions?

Reach out to us at
520-745-3592 or EVTEP@tep.com.

Detailed Installer Guide: Submitting a Construction Application for EV Chargers in the Smart EV Charging Program

Last updated 7/19/2024

This section should be shared with your EV charger installer, who will be responsible for filling out these forms. Much of the instructions are applicable to EV charging projects that do not go through the Smart EV Charging Program as well.

*****It is critical that these instructions are followed, and that customers and installers maintain communication with the Smart EV Charging Program Team to ensure the customer's project is correctly routed and that the customer receives all eligible credits: EVTEP@tep.com or 520-917-8444.**

Once the project design (including number and final selection of chargers, location, and service type) is finalized:

***If project design involves a new service or service upgrade, you will need to submit a construction services form. If your project does not require a new service or service upgrade, please let the program team know when designs are finalized and installation is beginning (EVTEP@tep.com or 520-917-8444).**

We recommend you have, at minimum, preliminary designs/plans and load calculations when you submit this form to minimize delays. A deposit may be required to advance without permits, load calculations, and stamped plans.

1. Navigate to <https://www.tep.com/construction-applications/>
2. Click the appropriate form category:
 - a. New commercial: Select this if a *new service* is going to be installed.
 - b. Existing commercial: Select this if the project will involve an upgrade to an *existing service*.
3. Check '**EV Chargers**' in '**Type of Service**'. **This is a key step to ensure your project is categorized correctly, and that the chargers are considered in the design.**
 - a. If you are submitting an application for multiple aspects of a project, additional boxes may be checked.
4. *Service upgrade only*: Check the applicable boxes in '**Type of Changes to Service**'.
5. Check the applicable boxes in '**Type of Phase**'
 - a. Level 2 chargers can typically work with single or three phase service, while DC fast chargers typically require 277/480V three-phase service.
6. Fill out the appropriate **Amperage Information** based on the form.
7. **Permits:**
 - a. If you have applied for a permit from the appropriate Authority having Jurisdiction (AHJ), check 'Yes' in the 'Service Address' section and provide your permit number.
 - b. If you have not applied for a permit from the appropriate AHJ, check 'No' in the 'Service' Address section.
 - c. **Note:** To advance your application, we recommend you have, at minimum, preliminary designs/plans and load calculations when submitting this form. Submissions without final engineer stamped plans/permits may require an engineering deposit to prepare detailed plans, specifications, or cost estimates. If the project proceeds with construction, the deposit will be credited to the cost of construction; otherwise, the deposit will be nonrefundable.

8. Fill out **construction contact name, email, and phone number** for the person who will be the primary contact with TEP's Design/Build team.
9. Fill out the remaining **'Site Street Address'** information. **Ensure that the street address submitted here matches or will match the address submitted for any necessary permits.**
10. Fill out the appropriate **contact information** for the party who will be responsible for monthly billing associated with the service (utility end customer).
 - a. Check the most appropriate **'Type of Business'** associated with the responsible billing party.
 - b. Add the **mailing information** for the responsible billing party.
11. Fill out the appropriate **contact information** for the party who will be responsible for the **construction costs**.
 - a. **For Smart EV Charging Program Participants Only: In the 'Additional Information' box: **Please be sure to include this so the Program Team can follow up with Design Regarding your Project****
 - i. Copy and paste the following text:
 1. This project is associated with the Smart EV Charging Program. The Smart EV Charging Program team will follow up with the assigned designer with relevant program information.
 - ii. Then, copy and paste **only one** of the following, as applicable, editing if needed:
 1. We are ready for this project to advance to a Work Order. Preliminary designs and load calculations are available. We understand that preparation of detailed costs and designs prior to submitting final stamped plans may require an engineering deposit.
 2. We are ready for this project to advance to a Work Order. We have engineer stamped plans/permits and load calculations ready.

12. Click **'Submit'**

Once you submit your form, a member of the Design/Build team will be in touch to gather your load calculations, permit(s), and plans. Please reach out to the **Smart EV Charging Program Team** at EVTEP@tep.com once your SR is submitted with your SR number. This will be embedded in the submission confirmation email you receive from TEP.

If you do not need to submit a construction application, please notify the Program Team once plans are finalized and work is beginning.

The following is a breakdown of types of costs the customer may require documentation from you on for the Smart EV Charging Program:

Invoice Line Item	Note
EVSE Equipment	Receipt required
EVSE Charger Networking, Maintenance, & Warranty Agreements	Receipt or quote required
Permits	Copy of permit required
Labor	Breakdown of hours and rate per hour
Subcontractor Work	Receipt Required
Miscellaneous Supplies	Must be listed with costs; receipt required for amounts exceeding \$3,000

**Keep labor, EV equipment, and EVSE O&M related costs as separate line items.*