

Fleet Electric Vehicle Infrastructure Costs

Transitioning light-duty fleet vehicles from conventional to electric can lower costs, and communicating with electric utilities early in the process can maximize savings. This fact sheet covers four costs associated with charging electric vehicles (EVs): upfront charger costs (including installation), ongoing costs, energy charges, and demand charges.

COST 1: UPFRONT CHARGER COSTS

It can cost at least \$1,000 to purchase and install a Level 2 EV charger and at least \$30,000 for a direct current fast charger (DCFC).¹ This cost depends on the type of charger, the electrical work required to install the charger, and any rewiring necessary to fit the charger's needs. For example, installing a separate meter may be required so the utility can differentiate the meters used for EV charging. For more information on EV chargers, refer to our [Guide to Purchasing an EV Charging Station](#).²



Some utilities have incentives available for fleets to purchase a smart Level 2 charger, but more rebates for DCFCs are coming out. The most common incentive amount is \$500. Check our [Electric Vehicle Incentives Database](#) for utility-based charging incentives.³

COST 2: ONGOING COSTS

EV chargers require ongoing costs for general maintenance, networking fees, snow removal, and other services. General maintenance includes routine check-ups, replacing parts, and fixing nonfunctional chargers. Most charging providers offer warranties or maintenance packages for DCFCs that are charged to the site host annually. Networking fees are based on the brand and type of EV charger but can be \$100-\$900 annually.⁴ To reduce having to replace parts due to theft, consider placing fleet chargers where members of the public cannot access them.



COST 3: ENERGY CHARGES

Energy charges are the costs incurred from your monthly electric consumption.⁵ Off-peak and time of use (TOU) rates are electricity rates offered by utilities to incentivize customers to use electricity, such as charging their EVs, when most beneficial for the electric grid and to lower energy charges. Off-peak rates only allow charging during off-peak hours; TOU rates vary throughout the day but have the lowest rates during off-peak hours. Each utility has the discretion to decide off-peak hours. Find out whether your utility offers these types of rates by contacting them directly or going to [mncharging.org](#). Figure 1 shows an example schedule of TOU rates compared to a general service rate.⁶



¹ Vanessa Peng, "How Much Does a Commercial EV Charging Station Cost?," WattLogic, July 26, 2022, <https://wattlogic.com/blog/commercial-ev-charging-stations-cost/>.

² Guide to Purchasing an EV Charging Station (Drive Electric Minnesota [DEM], October 2020), <https://driveelectricmn.org/wp-content/uploads/2020/10/Guide-to-Purchasing-an-EV-Charging-Station.pdf>.

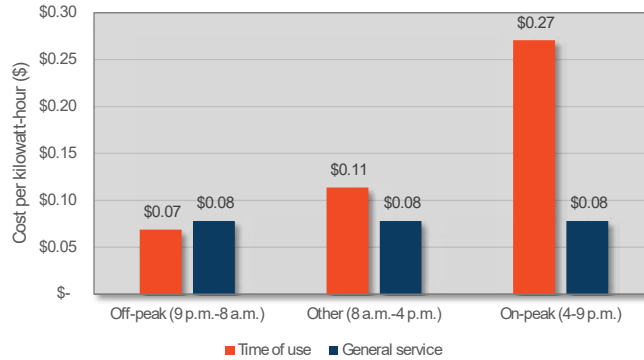
³ DEMN Electric Vehicle Incentives Database (Charging incentive; accessed January 3, 2024), <https://driveelectricmn.org/incentives/>.

⁴ Margaret Smith and Jonathan Castellano, New West Technologies LLC, Costs Associated with Non-Residential Electric Vehicle Supply Equipment: Factors to consider in the implementation of electric vehicle charging stations (US Department of Energy Vehicle Technologies Office, November 2015), https://afdc.energy.gov/files/u/publication/evse_cost_report_2015.pdf.

⁵ Dane McFarlane and Matt Prorok, "Analysis: How Demand Charges Impact Electric Vehicle Fast Charging Infrastructure," Great Plains Institute, July 31, 2019, <https://betterenergy.org/blog/demand-charges-and-dcfc/>.

⁶ Dakota Electric Association, Commercial and Industrial Electric Rates (Dakota Electric Association), accessed January 3, 2024, <https://www.dakotaelectric.com/wp-content/uploads/2022/09/Commercial-Tariff-Book-September-2022.pdf>.

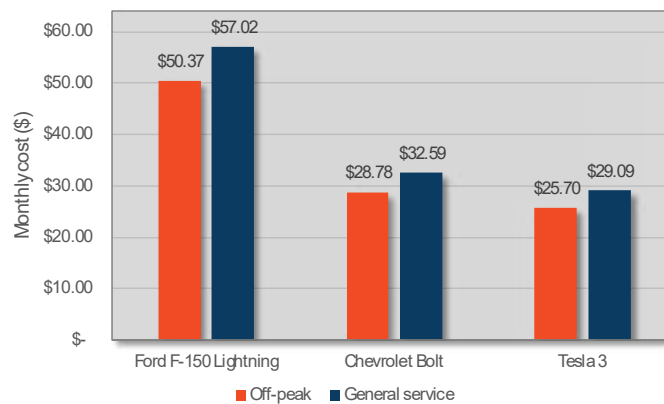
Figure 1. Dakota Electric Association's time of use rate compared to its general service rate.



Source: Data from Dakota Electric Association.

Shifting charging to occur during off-peak hours offers the greatest savings to fleet customers. Figure 2 shows the price difference between charging on a general service rate and an off-peak rate for different fleet vehicles based on the rates from Dakota Electric Association.⁷

Figure 2. Estimated monthly cost to charge on a general service rate versus an off-peak rate.

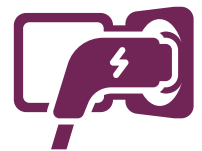


Sources: Data from US Department of Energy's FuelEconomy.gov; Dakota Electric Association; Stephanie Nieves.

Note: The costs were based on the average Minnesotan driver's monthly miles traveled calculated from the annual miles traveled acquired from Policygenius and the fuel efficiency of each electric vehicle (based on 2023 models) acquired from FuelEconomy.gov.

COST 4: DEMAND CHARGES

Demand charges are fees applied to an electric bill based on the peak kilowatt consumption in a short period. However, demand charges can make up 30 to 70 percent of a business's utility bill if no measures are taken to manage the electricity used.⁸ Level 2 chargers have a lower load demand than DCFCs since even simultaneously charging two EVs with a DCFC can cause demand charges.⁹ Many utilities offer a subscription rate as an alternative to demand charges. Subscription rates use blocks of kilowatts (kW) to avoid demand charges.



There are many upfront and recurring costs to consider when charging your fleet, but options are available to minimize those costs (e.g., charging incentives and time-based rates). Contact your utility to learn about the best fit for your fleet and what options are available to you!

⁷ FuelEconomy.gov (Find and Compare Cars), US Department of Energy, <https://www.fueleconomy.gov/feg/findacar.shtml>, accessed April 24, 2024; Dakota Electric Association, Commercial and Industrial Electric Rates; Stephanie Nieves, Average miles driven by state (2024) (Policygenius, February 2022), <https://www.policygenius.com/auto-insurance/average-miles-driven-by-state/>.

⁸ Anne Smart, "Demand charges don't have to be a burden for your business," ChargePoint, November 30, 2021, <https://www.chargepoint.com/blog/demand-charges-dont-have-be-burden-your-business>.

⁹ McFarlane and Prorok, "Analysis: How Demand Charges Impact Electric Vehicle Fast Charging Infrastructure."

