GSA Fleet®

Fleet Electrification FAQs

EVSE Empowerment Week

Plug Into the Future: Energize Your Skills!

Topic Areas

- Managing EVSE
- Utilizing Data
- EVSE Power Levels
- Paying to Charge
- Soliciting for EVSE & Services
- EVSE Charging Industry
- Other

EVSE Power Levels

What are the components of EV charging infrastructure?

- Utility Service of Generation
- Electric Vehicle Supply Equipment (EVSE)
- Electric Vehicle

What are the types of EV chargers?

Level 1

- *Power output level:* **1.4–1.9 kW**
- *Charge rate:* **2 to 5 miles/hour**

PHEVs and low mileage BEVs

Level 2

- *Power output level:* **6.6-19.2 kW**
- *Charge rate:* **10 to 40 miles/hour**

BEVs that don't require a quick recharge

Level 3

- *Power output level:* **25-350 kW**
- *Charge rate:* **3 to 20 miles/minute**

BEVs that need a quick recharge

How do charging rates vary when using Level 2 chargers?

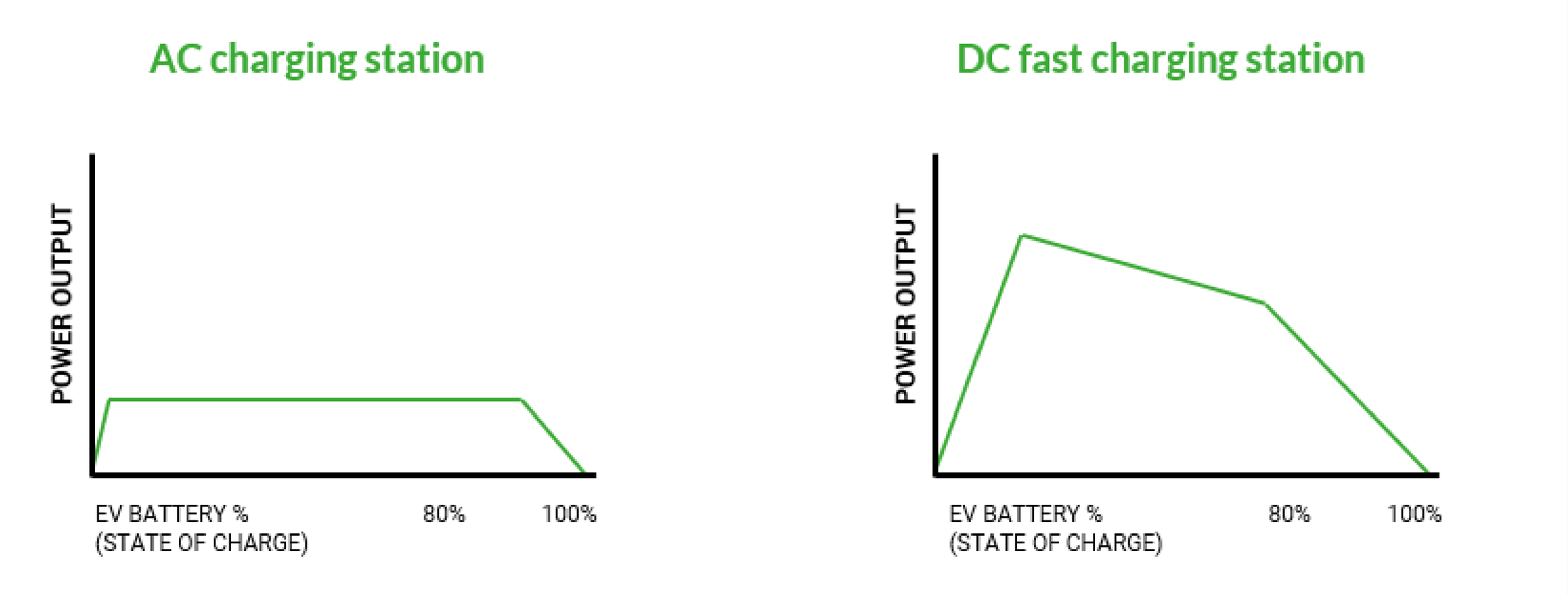
Vehicle	Efficiency [kWh/100 mi]	OBC [kW]	6.7 kW Miles Added per Hour Charging	9.6 kW Miles Added per Hour Charging	11.5 kW Miles Added per Hour Charging	19.2 kW Miles Added per Hour Charging
Chrysler Pacifica	41	6.6	16	16	16	16
Mitsubishi Outlander	52	3.7	7	7	7	7
Chevrolet Bolt	28	11.5	24	34	41	41
Chevrolet Blazer	35	11.5	19	27	33	33
Ford F150	49	19.2	14	20	23	39
Ford Mach-E	36	10.5	19	27	29	29
Tesla Model Y	28	11.5	24	34	41	41

Get to know the EV Connector

- Level 1 chargers use J1772 connectors,
- Level 2 chargers use J1772 or J3400 (NACS) connectors,
- DC Fast uses CCS, CHAdeMO, or J3400 (NACS) connectors.

This will determine what charging station your EV can use, especially when using public charging

Understanding the DC Fast charging curve



Source: Evesco

AC charging stations produce a steady rate of power output throughout the charge, with DC fast charging stations produce a high rate of charge in the beginning, and slowly decreases the rate of charge as the vehicle nears 100%.

Managed Charging

What is managed charging?

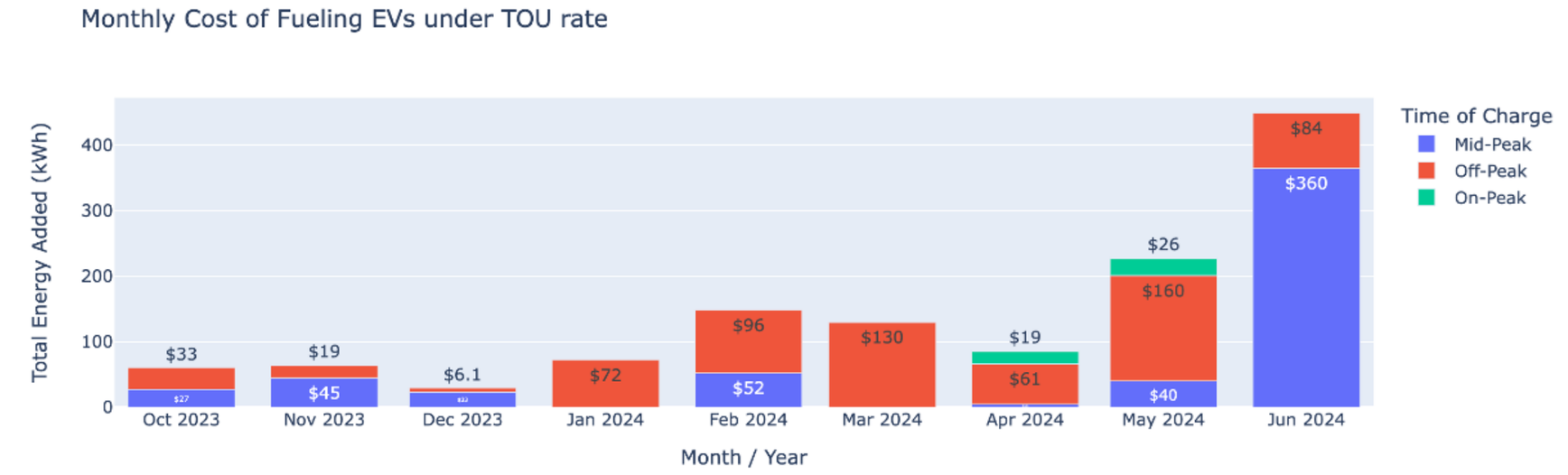
Managed EV charging refers to the strategic control of when and how electric vehicles are charged without compromising the fleets' operational needs.

Why should I consider managed charging?

1. Reduce EV charger installation costs and timelines by mitigating costly upgrades.
2. Reduce the charging electricity costs by avoiding peak energy pricing and adding to demand charges.
3. Optimized fleet operations to ensure each vehicle receives the energy it needs

What factors do impact the cost of charging EVs?

Monthly cost of fueling EVs based on current type. Total energy added (kWh) has exponentially increased from October 2023 to June 2024. AC current was at $60 in October 2023 with no DC current charges. DC current was at $450 in June 2024 with no AC current charges.



Monthly cost of fueling EVs under TOU rate. Total energy added (kWh) has exponentially increased from October 2023 to June 2024.

What can you manage?

Out of Your Control

- EV technical specifications
- Opportunity to charge at public charging stations
- Charging times by charger level
- EV driver route selection and driving habits

Fleet Operation and Logistics Tunning

- Get to know your EV capabilities (OBC size, range)
- Be aware of stop locations and stop duration
- Select the right charging level based on logistics
- Estimate EV energy requirements

Utilizing Data

Do I still need to pay for the ProPlus plan?

Effective Oct 1, 2024, the ProPlus telematics subscription will be included in your GSA Fleet monthly lease rate at no additional cost, eliminating the previous charge of $13 per month per enrolled vehicle. The ProPlus subscription offers a wealth of valuable data-driven insights to help optimize fleet management and drive cost savings.

Get access to:

- Trip level data
- Asset monitoring
- Create rules and exceptions
- Engine diagnostics
- Accident reconstruction
- Geofencing
- Device troubleshooting
- EV Suitability Assessment (EVSA) tool
- And more

Why telematics data is important?

What the Mean does mean what you think it means

Mean of total miles driven in a day over 5 days was 75 miles.

What data fields from telematic report should I understand?

1. Number of trips per day and trip distance
2. 2. Distribution of the trip distance
3. 3. Trip date and time.

Is charging session data captured in telematics reports?

Charging Session Data is available with in your telematics data.

1. Energy Added (kWh).
2. Initial SoC and End of SoC.
3. Duration of charging session.
4. Max power experience within the session (kW).

On-Peak 3 -7 pm
Off-peak hours 7 pm to 3pm (next day)

How to determine the charging window of EVs?

Vehicle dwelling periods will determine:

1. The charging window available to charge.
2. How fast does the EV can charge.
3. If the power output of the charger can be adjusted, this can influence the charging window.

How Do I right-size EVSE for anticipated ZEVs?

Fleet Data! Understand your vehicles operational needs:

1. How many miles per day does the vehicle drive?
2. For days when the vehicles drives longer distances and requires midday charging – would that midday charging be on-site or off-site, example: public?
3. How often does the fleet vehicles need to charge?
4. Is overnight charging sufficient?
5. What is the vehicle's primary dwell location?
6. Do employee vehicles also park there and is there demand for employee charging?

EVSE Industry

How does an EV charging network support EV market adoption?

- **More than 80 percent of residential and fleet charging is done at "home"**
  - "Home refueling," charging overnight at home for personal vehicles and at work for fleet vehicles
- **Workplace charging is on the rise and supports electric vehicle adoption**
  - Provides charge for those without dedicated home charging
  - Extends daily range
- **Public: Allows for mass adoption**
  - Relieves "range anxiety"
  - BEST in destination locations or along major highway corridors

How has the public EV charging network grown to support current EV adoption?

In 2008 there were 430 charging plugs. In 2023 there were 160,544 charging plugs

How well has U.S. charging infrastructure deployment kept up with EV sales?

New BEV sales are outpacing the rate of new DC fast chargers

- **Ratio of 110 new BEVs to new DC fast chargers** more than double the ratio in 2020 and highest since 2017
- **Overall ratio** of 25 new charging ports to new BEVs **highest since 2014**

How does much charging infrastructure need to grow to meet future EV charging needs?

Most charging will occur where vehicles dwell overnight
Roughly 2.8 million public charging outlets needed in U.S. by 2030

What initiatives are helping to meet EV charging needs?

Infrastructure bull included $7.5 billion to build out a **national network of EV chargers**

What tools are available to support Federal fleet electrification?

The ZEV Ready Solution

Framework to **simplify and guide fleets through the process** to electrify each fleet location

Soliciting for EVSE & EVSE Services

How to Research and Plan

Market Research

- **Explore the Market:** Dive into the latest BPA terms, products, and pricing at gsa.gov/evse.
- **Consult Experts:** DOE's site for Charging Infrastructure Procurement and Installation.

Identify Your Needs

- **Charge it Up:** Figure out how many ZEVs need power and for how long.
- **Site Setup:** From wall-mounted to networked systems, pick what works for your mission!

Estimating the Cost

- **Budget Breakdown:** Include hardware, installation, and upkeep in your financial plan.
- **Extras:** Don't forget about permits, signage, and ADA compliance!

Long-Term Vision

- **Incoming Needs:** Plan ahead of ZEV deliveries, don't get caught without a charge!
- **Down the Road:** Plan for long term to scale quickly & keep overall cost down.

How do I Develop an EVSE BPA Solicitation?

Define/Develop the RFQ

- **Get Specific:** Include a SOW if required, make sure to clearly define logistical needs.
- **Fit & Compete:** Ensure your requirements align with the BPA scope and aim for maximum competition!

Issuing the RFQ

- **Small Biz First:** Start with small businesses; consider larger businesses if needs aren’t met.
- **Order Sizes:** Review the EVSE BPA Ordering Guide to determine how the RFQ is administered.

Evaluate and Award

- **Fair Play:** Evaluate quotes based on your RFQ criteria and give preference to small businesses.
- **Report & Notify:** Keep records of award decisions and report in FPDS within 3 days of award.

I want to do a Site Assessment - Should I use IDIQs or BPAs?

EVSE BPAs

- Found under CLIN 0006 of the EVSE BPA Offering Sheet.
- Per the FAR, Statement of Works are required for all CLIN 0006 services.

D/B Construction IDIQs

- Feasibility Study with option to perform electrical infrastructure upgrades.
- One-time Delegation of Procurement Authority fee of $1,625.

What Will I Learn?

- Best locations for charging.
- Whether the existing infrastructure can support the additional electrical load.
- Where to install additional electrical equipment.
- Optimal solar station locations.

Paying to Charge

How Can GOVs Charge at Public Stations?

- Non-Tesla EVs
  - WEX enabled ChargePoint RFID
    - **ChargePoint & some roaming partners: EVBox, evconnect, EVgo, and Flo connected Stations**
- Teslas
  - Charge automatically at Tesla Supercharger Network via Tesla Business App
- Other options?
  - Speak with your Fleet Manager or Agency Credit Card POC

What are the Best Practices for Public Charging?

- Plan how you will charge before vehicle is ordered & delivered
- For en route charging
  - Sites like abetterrouteplanner.com, plugshare and WEX app can help!
- Keep RFID Card(s) with the vehicle and fleet service card
- ChargePoint roaming agreements mean more pay-for use or free public charging
  - Not all roaming stations will work
- Consider other credit cards if needed

How does GSA handle costs for leased EV charging?

Beginning in FY25…

Battery Electric Vehicles

- All charging costs **automatically passed through** to billing statements
- No option for fully loaded rate

Plug-in Hybrid Electric Vehicles

- **Default to standard rate** (no change from today)
- Option to opt-in to passthrough model
  - All fuel costs passed through - **both gasoline and electric**
  - Vehicles on a maintenance only mileage rate

What does the ZEV Passthrough Look Like?

BEV is charged every Friday in May at a public charging station. Each session is charged to a WEX-linked RFID card or via the Tesla app.

On the billing statement for May services, customers will see:

1. Monthly/mileage charge
2. AFV surcharge
3. **Five lines** for passthrough charging - one for each charging occurrence in the month.

Workplace Charging

How to set up Workplace Stations?

Best Practices for installation

- Start with a survey
- Pilot program to start
- Conduct a cost-benefit analysis of on-site or public charging vs EV installation at an employee's home
- Consider installing telematics in all home-to-work ZEVs to track electricity usage (kWh rate)

Successful implementation requires multiple organizations engaged in a coordinated effort, with key responsibilities managed between a Project Leader and a designated Facility Coordinator at each facility:

- Vehicle assessment
- Installation process
- Program effectiveness
- Fee collection and reimbursement

How to Charge at Workplace Stations?

Workplace Charging features and considerations:

- Managed & clearly communicated
- Dual Port
- Signage

Benefits of Workplace Charging:

- Attracts and retains a cutting-edge workforce
- Demonstrates leaderships in adopting advanced technologies
- Sustainability
- Reduces anxiety range
- Increases EV adoption