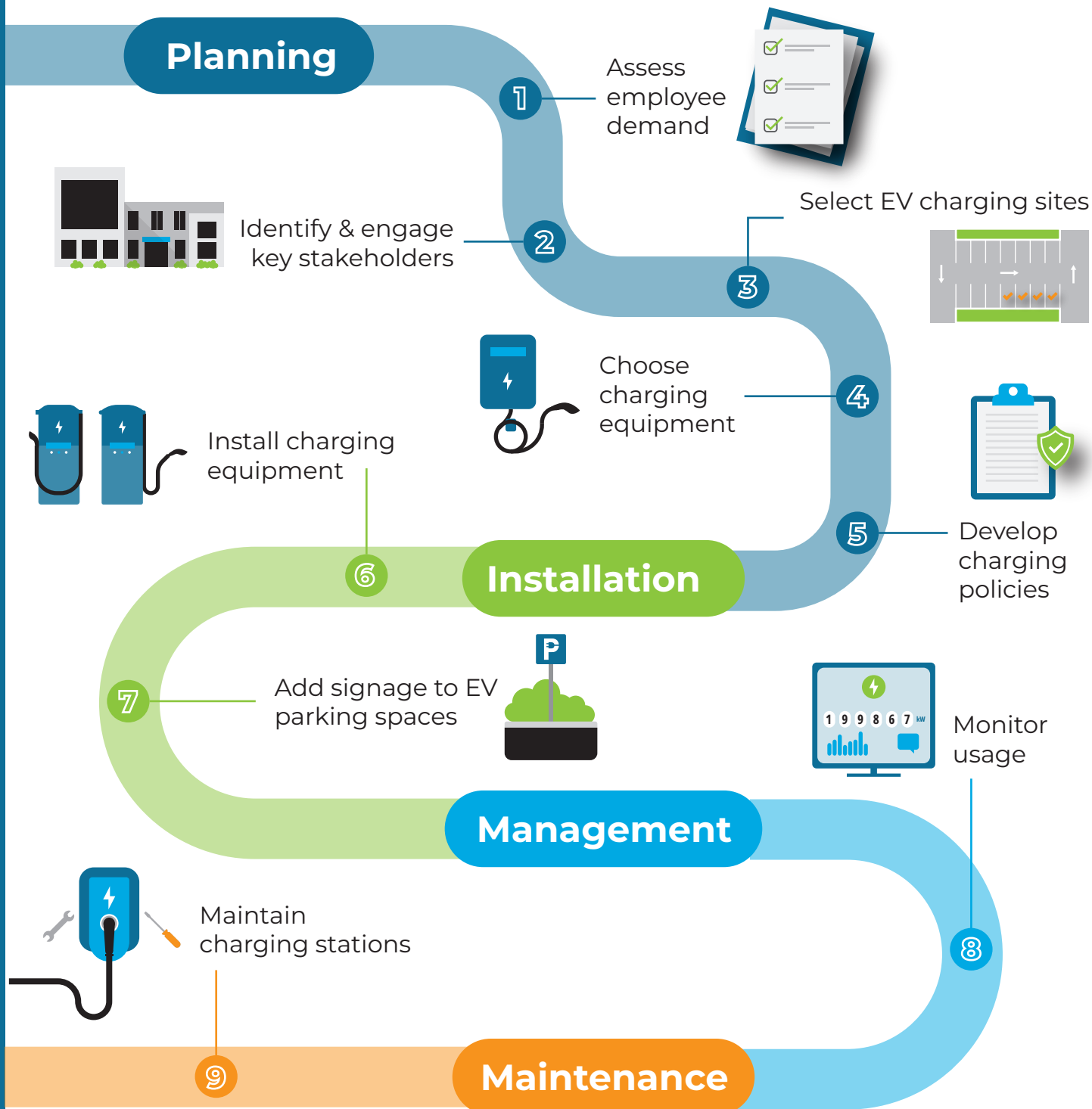


WORKPLACE CHARGING POCKET GUIDE

Are you considering installing electric vehicle (EV) chargers at your workplace? Whether your reason for installing EV charging is to meet sustainability or climate goals, to attract and retain employees, or to add a new revenue stream, this guide will help you move through the steps needed to succeed.



1 Assess Employee Demand

Conducting an **employee survey** to gauge demand and interest in workplace charging is a crucial first step. The survey results will provide insight on current and projected demand, which will define the scale of the initial project and support future planning.

Topics for Questions Include:

- * EV ownership
- * EV purchase consideration
- * Commuting distance
- * Residential charging availability
- * Type of vehicle
- * Time car is parked at the office
- * Willingness to pay for charging EV



✓
Ensure anonymity &
clear communication
in the survey to
maximize employee
participation.

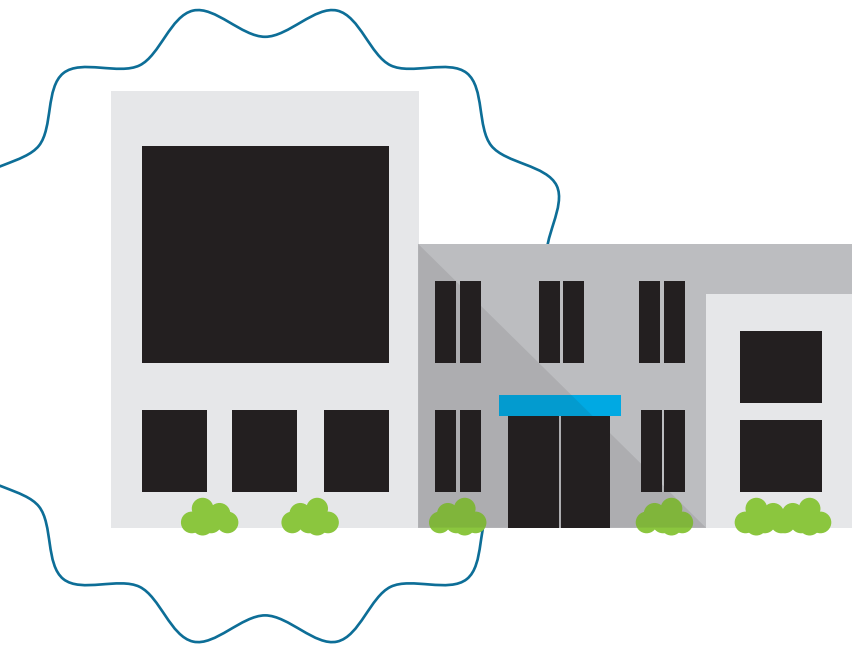
Resources:

Survey template from EMPOWER:

https://www.workplacecharging.com/_files/ugd/49f443_c188a74d93e3426ebf5de3a8a632cece.pdf

2 Identify and Engage Key Stakeholders

Early identification and engagement of stakeholders in the planning process provides an **opportunity for participation and alignment**, reducing hurdles and pitfalls that will slow down or completely block workplace charging adoption.



Stakeholders include:

- * Building owner/landlord
- * Facilities management
- * Electric utility
- * Human resources
- * Legal counsel
- * Local permit office
- * Employees
- * Workplace leadership
- * Finance department
- * Funders

Notes and Resources:

When an employer leases its building or parking lot, negotiations with the landlord come into play.

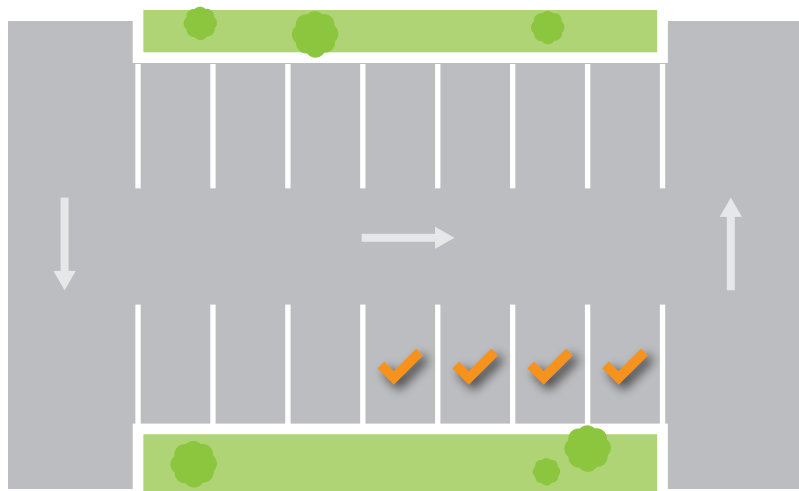
- If you are an employer leasing office space and are interested in offering workplace charging to you employees, you can use this resource to flag the benefits of workplace charging to your landlord: <https://www.workplacecharging.com/bldgownersmanagers>
- If there are other tenants, setting up an **advisory committee** of interested parties can lead to a successful outcome.
- Negotiation of EV charger installation as part of extending the lease may prove **beneficial**:
 1. The U.S. EPA's San Francisco office installation of EV chargers was negotiated as part of extending the agency's lease
 2. DOT headquarters' parking garage, where EV chargers were installed, is a GSA-leased facility

3 Select EV Charging Sites

Site selection is an important step in the process as it will play a **major role** in upfront and future costs, continuous availability and regulatory compliance for workplace charging.

Considerations for selecting parking locations include:

- * Parking availability
- * Proximity to electrical power
- * ADA compliance
- * Expansion capability



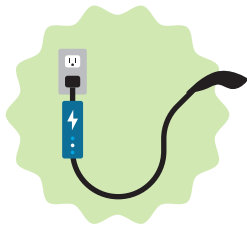
Resource:

- ADA regulation: https://afdc.energy.gov/files/u/publication/WPCC_complyingwithADArequirements_1114.pdf

4 Choose Charging Equipment

Determine the type of charging equipment based on **budget** and **employee needs**.

Types of Charging Equipment:



Level 1

\$

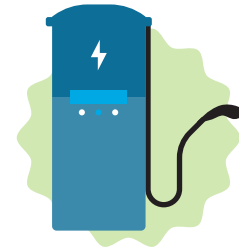
Power output: 1.4–1.9 kW
8 hours of charging =
40 mile range
(based on 1.9 kW output)



Level 2

\$\$

Power output: 6.6–19.2 kW
4 hours of charging =
100 mile range
(based on 6.6 kW output)



DC Fast Charger

\$\$\$

Power output: 50–350 kW
1 hour of charging =
150 –1,000 mile range
(based on 50 kW and 350 kW
outputs, respectively)

According to the U.S. DOT Bureau of Transportation, the average driver travels **29** miles per day.

Network Options



Installation costs can
vary widely based on
exact site location
and labor costs

	Network*	Non-Network
Cost	More expensive	Less expensive
Access Control & Payment	Easier (many options)	Limited options, no control
Usage Monitoring	Real-time, more details	Manual reading, less info
Maintenance	Higher needs	Simpler, fewer needs
Future Proofing (more EVs)	Easier to manage demand	Harder to manage demand
Reliability	Needs power and internet	Needs only power
Remote Features	Allows remote access & control	No remote access or control

*Some providers/installers may refer to networked chargers as "Smart Chargers."

Resources:

- Types of EVSE: <https://www.transportation.gov/rural/ev/toolkit/ev-basics/charging-speeds>
- Charging equipment providers: <https://www.goelectricdrive.org/charging-ev/charging-equipment-showroom>
- Looking for guidance? Contact your local clean cities coalition <https://www.workplacecharging.com/> and <https://cleancities.energy.gov/>
- Cost estimates calculator: <https://build.chargeatwork.org/>; see also <https://www.workplacecharging.com/reources>

5 Develop Charging Policies

Charging policies are an important element to successfully manage EV charging station use and demand, especially as more employees adopt EVs. Clear policies that are well-promoted among employees will enable a **higher utilization** of the infrastructure and reduce negative customer experiences.

Should I charge a fee for electricity?

This decision is up to the employer.

Pros

- Recover investment cost
- Reduce operational costs
- Generate revenue

Cons

- If fees are too high, chargers might have a low utilization rate that can affect cost recovery
- Employers who can charge at home might be inclined to do so if charging fee is higher than at home rate



Policies include:

- * Access control
- * Charging etiquette
- * Enforcement
- * Fee collection
- * Usage limits
- * Maintenance reporting
- * Sharing schemes
- * Employee awareness

EV Charging Pricing Models

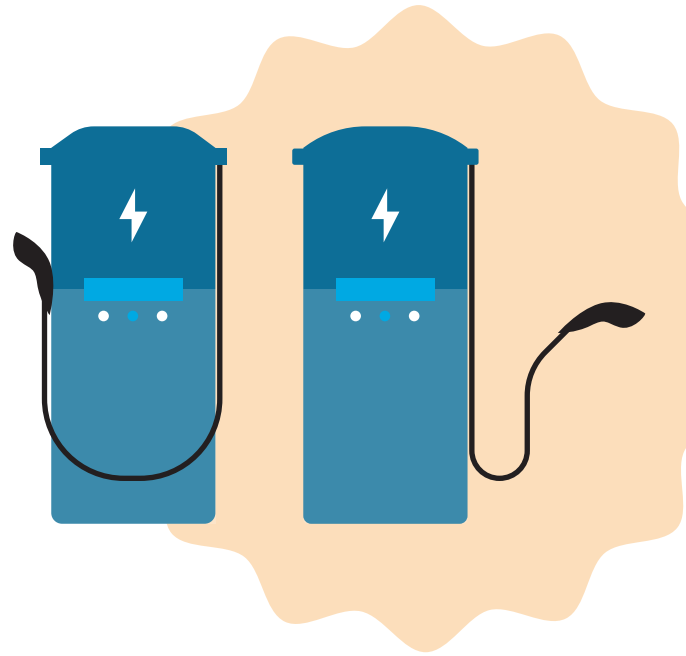
- Fixed rate (*e.g., monthly subscription, payroll deduction*)
- Energy usage (*\$/kilowatthours [kWh]*)
- Time-based (*duration of the charging session*)
- Hybrid model (*combination of different pricing models, including free and fee*)

Resources:

- Creating an Effective Workplace EV Charging Policy:
<https://www.cleanairpartnership.org/wp-content/uploads/2018/11/CAP-Workplace-EV-policy.pdf>
- Charging policy template:
<https://www.energysavingtrust.org.uk/sites/default/files/EV%20Chargepoint%20Policy.docx>
- Payment systems:
https://www.workplacecharging.com/_files/ugd/49f443_9a8097d3e9094716b57adfb21cee0251.pdf

6 Install Charging Equipment

1. Install charging stations and necessary electrical upgrades via a qualified contractor to ensure installation meets all codes and safety standards. Grant funding or utility rebates may require the installation to be conducted by a certified Electric Vehicle Supply Equipment (EVSE) installer or a qualified list of contractors.
2. The EVSE installer will work with the electric utility to determine if a service upgrade is needed to support the current project and future additional chargers.
3. If running conduit and wiring, consider "EV-ready" conduit for future expansion to avoid expensive concrete tearing later.
4. Ensure your EVSE installer handles all permits needed (will vary by jurisdiction) and that final installation meets National Electrical Code, ADA and any other local codes.



Resources:

- EV charger installers: <https://evitp.org/find-a-contractor/> <https://enphase.com/ev-chargers/installers>
- Minority, women and veteran owned EVSE installers:
<https://docs.google.com/spreadsheets/d/1Ps7pO6nq40hyuPqKuk430xw9TiX4urGp/edit#gid=804037098>
- Incentives finder:
https://afdc.energy.gov/laws/search#/?technology=ELEC&technology=PHEV&incentive=RBATE&incentive=GNT&incentive=TAX&incentive=LOANS&law_type=INC&law_type=STATEINC&law_type=UPINC
- Speak with your electric utility about local resources, incentives, and specific electrical capacity and service.

7 Add Signage to EV Parking Spaces

Adding signage and paint to designate EV charging station parking spaces enhances visibility, avoids misuse, reinforces and clarifies policies (i.e. time limits, when public/visitor access is permitted) and raises awareness among employees.



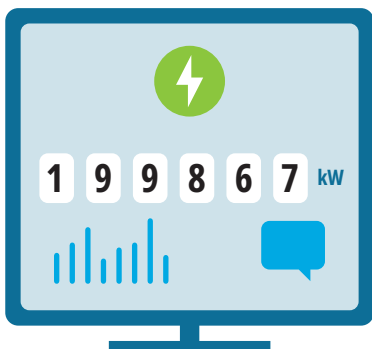
✓
Promoting workplace charging availability through email, internal newsletters and break room flyers helps increase awareness and usage of the new amenities.

Resources:

Signage guidance:
https://afdc.energy.gov/fuels/electricity_charging_station_signage.html

8 Monitor Usage

Tracking usage data for installed EV charging stations and gathering feedback from employees provides **valuable insights** to guide workplace charging improvements.



Metrics to Track:

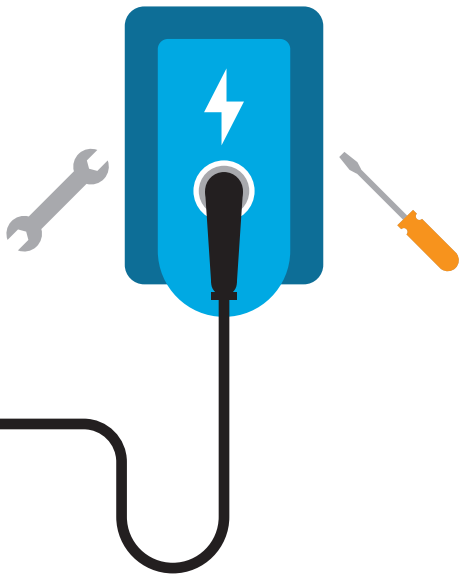
- * Utilization rates
- * Charge session patterns
- * Station reliability
- * Demand forecasting
- * Cost recovery
- * Employee feedback
- * Electricity consumed (*kWh*)
- * Emissions reduced (*CO₂ equivalent [CO₂e]*)

Resource:

- Employee feedback survey questions: satisfaction with charger types, quantity of chargers, costs (if applicable), time limits (if applicable), charging policies, etc. Recommended to keep feedback survey short with a combination of Likert scales and open ended responses to assess concerns or opportunities for improvements.

9 Maintain Charging Stations

Proper maintenance helps maximize uptime of stations, reduce user frustrations, and **optimize** workplace charging.



Maintenance Steps Include:

- * Conduct periodic equipment checks and cleaning
- * Conduct annual inspections to ensure no wear or damage of cords and connectors and ensure proper operation
- * Establish a reporting system for users to quickly report any issues with the equipment
- * Develop internal skills or contract with external providers to promptly repair EVSE
- * Build a maintenance budget to proactively address replacement of stations parts that degrade with time

Resources:

- EV charger maintenance:
<https://energy5.com/electric-vehicle-charger-maintenance-basics>
- Contact EMPOWER regarding EVSE maintenance training for your workplace's facilities staff at empower@cwcleancities.org