Best Practices for Deploying Electric Vehicle (EV) Charging Stations at Commercial Buildings

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Electric Vehicle Market Overview

- Electric vehicles sold in the U.S since 2010: 680,000
- Non-residential charging outlets: 45,000
- Workplace charging outlets—and growing!: 4,400

Source: EPRI

Source: U.S Department of Energy
ENERGY STAR Version 1.0 EVSE Specification Overview

- Version 1.0 published on December 27, 2016
- In scope,
  - Level 1 AC
  - Level 2 AC

Criteria for:
- No Vehicle Mode,
- Partial On Mode,
- Idle Mode, and
- Optional Connected Functionality
Key Features

1. Energy Savings
2. Safety
3. Open Communications

Communications details:
• Grid Communications
• Open Access
• Consumer Override
A Day in the Life of an Average Car

<table>
<thead>
<tr>
<th>Workplace</th>
<th>Leisure Destination</th>
<th>Shopping Centers</th>
<th>Travel Stops</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5-8+ hours</td>
<td>47 min-2 hours</td>
<td>28-48 min</td>
<td>15-53 min</td>
</tr>
</tbody>
</table>

Source: U.S Department of Energy
The Value of Workplace Charging

- Supports Employees
- Supports Broader Sustainability
- Aligns with Sustainability Strategies
- Strengthens Corporate Image
Workplace Charging and Employees

Current EV Drivers
- Increased range confidence
- Increased electric vehicle miles traveled

Potential EV Drivers
- Increased EV awareness and education

Peer Effect
Getting Started!

- To turnkey or not to turnkey?
- Role of your building manager?
- Important steps:
  - Select site
  - Sol.
  - Important state
  - Consult with your
    - Site preparation
    - Permitting & inspection
    - May contact utility
    - PR opportunity

Do your research!
Getting Started: Incentives

Over 50 different charging station financial incentives in the U.S.!

Helpful Resource

The Alternative Fuels Data Center

Laws & Incentives database

afdc.energy.gov/laws
Getting Started: Technical Resources

Helpful Reference

*Clean Cities PEV Handbooks*

[afdc.energy.gov/publications]
More Information

AFDC

www.afdc.energy.gov

AFDC’s Workplace Charging for Plug-In Electric Vehicles

www.afdc.energy.gov/fuels/electricity_charging_workplace.html

AFDC Case Studies

www.afdc.energy.gov/case

Clean Cities

www.cleancities.energy.gov
Thank you!

For more information on the specification or to see the products that qualify, go to: energystar.gov/products/other/evse

Please see the contact information below for questions on:

• DOE’s Alternative Fuels Data Center (AFDC) resources and general questions, contact technicalresponse@icf.com

• The ENERGY STAR Buildings program, contact www.energystar.gov/buildingshelp

• The ENERGY STAR-certified EV Chargers, contact Peter Banwell (Banwell.Peter@epa.gov), Gustavo Collantes (Gustavo.Collantes@icf.com), or Emmy Feldman (Emmy.Feldman@icf.com)