



Primer: What you need to know before you purchase & install EV chargers

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MAKING THE TRANSITION TO THE FUTURE

Seven key considerations prior to installing EV Chargers for your organization

Installing an electric vehicle (EV) charging station for fleet use and employee access involves several considerations. This primer outlines key areas an organization should understand before making such an investment.

1. Assessing Needs and Goals

- **Fleet and Employee Usage:** Estimate the current and future needs of your fleet and employees. Consider the types of EVs (e.g., cars, vans), their battery capacities, daily mileage, and charging requirements.
- **Type of Charging Stations:** Different EVs may require different types of chargers — Level 1 (slow, using a standard electrical outlet), Level 2 (faster, requiring a 240V outlet), and DC Fast Charging (very fast, for commercial use). Most workplace and fleet charging use Level 2.

Charger Type	Range per Hour	Time to Fully Charge
Level 1 (1.3 kW–2.4kW) AC	5-8 km per hour	24 hrs (or more)
Level 2 (3kW–19.2kW) AC	~30 to 80 km per hour	6 hrs (less or more)
Level 3 (50kW-350kW) DC	Up to 30 km per minute	1 hr (less or more)

Note: The times to fully charge listed above is highly dependent on the useable battery capacity of the vehicle, the ambient temperature, whether the battery was pre-conditioned prior to charging, and the EV charger, among other factors. Typical EV owners will charge from 20% to 80 % battery remaining for most day-to-day use and only charge to 100% for longer trips.

- **Installation Location:** Determine optimal locations considering accessibility, proximity to electrical infrastructure, and parking needs/patterns.

2. Financial Considerations

- **Costs:** Initial costs include the purchase of charging stations, installation costs (which can vary widely based on electrical upgrades needed), and ongoing costs for maintenance and electricity.

Charger Type	Charger Cost	Installation Cost
Level 1 (1.3 kW–2.4kW) AC	Typically included with the vehicle	Plugs into standard 120V AC outlet
Level 2 (3kW–19.2kW) AC	\$1,000 to \$15,000	\$500 to \$10,000
Level 3 (50kW-350kW) DC	\$30,000 to \$250,000+	\$15,000 to \$150,000+

- **Incentives and Grants:** Research federal, provincial, and local incentives or grants available for installing EV charging stations. These can significantly offset initial costs.
- **Revenue Opportunities:** Consider whether you will offer charging for free or if you will implement a fee-for-use model for employees or other users.

3. Electrical Infrastructure and Installation

- **Site Assessment:** Conduct a thorough site assessment to understand the capacity of your current electrical system and what upgrades will be necessary.
- **Professional Installation:** Use qualified electricians with experience in EV charging station installations. They can ensure compliance with local codes and regulations.
- **Safety and Accessibility:** Ensure the installation meets all safety standards and is accessible to all employees, including those with disabilities.

4. Software and Management Systems

- **Charging Management Software:** Look for solutions that allow you to manage access, monitor usage, and possibly adjust pricing. Some systems offer features such as scheduling to maximize usage and minimize costs.
- **Integration with Fleet Management:** If using for a fleet, consider how the charging data can integrate with your existing fleet management systems to track and optimize energy usage and costs.

5. Regulatory and Legal Considerations

- **Permits and Regulations:** Check for any permits required for installation and ensure compliance with all local, provincial, and federal regulations.
- **Liability and Insurance:** Understand the liability issues and ensure you have adequate insurance coverage for the installation and operation of EV charging stations.

6. Sustainability and Futureproofing

- **Green Energy Options:** Explore options for powering your charging stations with renewable energy sources (e.g., solar panels) to enhance your organization's sustainability efforts.
- **Scalability:** Plan for future expansion as your fleet grows and as demand from employees increases. Consider the ease of adding additional chargers and upgrading existing ones.

7. Education and Promotion

- **Educate Employees and Users:** Provide information and training on how to use the charging stations, EV benefits, and any policies or procedures related to their use.
- **Promote Usage:** Encourage EV adoption among employees and fleet drivers through incentives, awareness campaigns, or showcasing of the environmental benefits.

Conclusion

Installing EV charging stations is a significant step towards sustainability and supporting the transition to electric vehicles. It requires careful planning, financial investment, and ongoing management. However, with the right approach, it can offer substantial benefits to your organization, employees, and the community at large. By considering the points outlined above, your organization can make informed decisions and ensure a successful implementation.

If you would like further assistance in navigating these steps for your organization, please reach out to the Eco-West Canada team at zev@eco-ouest.com and one of our team members will be in contact with you.