PLUG 'N DRIVE

ZEV Fact Sheet

A collaborative of the Canadian Coalition for Green Health Care and Plug'n Drive

Selecting Charging Equipment

Selecting the most appropriate zero-emissions/electric vehicle charging hardware involves considering the health care organisation's desired features, vendor equipment specifications and operating network. Organisations have the option to fully own and operate the charging stations or out-source to a third-party owner and operator.

IDENTIFY DESIRED FEATURES

There are several factors to consider when making the decision to embrace electric vehicles on your health care campus and integrate them into your organisation's corporate policies - not the least of which targets the actual charging station hardware. The following Features and Benefits listing below may help you be better prepared for discussions with vendors and contractors.

You are also encouraged to discuss your electrification plans with colleagues in other health care organisations as they too may have experiences from which you may benefit. Note the list is not exhaustive and some vendors may have custom options available.

Features	Benefits
Equipment	• Network specific to your charging stations • Charging stations with open charge point protocols – networking software that can (in theory) be used with any equipment • Basic charger
Station Access	• Open access • Member only access (RFID card, smart phone app, or activation code) • Special access for employees at certain times and publicly available at other times
Operating Costs	• Monthly communication and data access fees • Equipment activation fee • Fee per charge session (can provide special rates for employees, general public, vendors and the trades) • No ongoing fees
Maintenance	• Included in contract • Additional fee/contract

BASIC vs NETWORKED STATIONS

For many home and small institutional settings, a basic charging station may work perfectly. However, if small Depending on your needs, you can decide to purchase either networked chargers or basic charging stations using

Basic

Basic, or 'dumb', chargers simply have a plug and/or a keypad to turn the unit on/off and are generally low-cost options that may be very suitable if tracking usage, controlling access and charging users a fee-for-use are not priorities. There are, in some instances, ways to enhance basic chargers to allow for data collection, but, in general, basic chargers are not the best long-term solution. Benefits include lower operating costs, simplicity of operation and no internet or networking fees.

Networked

Networked, or 'smart', chargers tend to be more expensive to purchase, but have onboard internet connections that unlock several features.

They are frequently linked to each other and are able to provide remote status monitoring, customization for automated payment options, data collection and usage reporting, and power management features among other advantages. To learn more about charger options, visit: https://www.plugndrive.ca/guide-ev-charging

VENDOR SELECTION

There are a wide variety of charging station options provided by many different manufacturers and distributors. Once you have conducted your due diligence, we recommend soliciting at least three bids from experienced and trusted contractors. Refer to Plug'n Drive's charging station resources at www.chargemycar.ca or www.plugndrive.ca/lead-the-charge to help identify potential products and suppliers to meet your needs. Their experienced staff can also provide additional guidance throughout the design, implementation, operation, maintenance and monitoring of your workplace charging system.

BUDGETING

A multitude of factors may dictate the size and complexity of the budget required to implement your electric vehicle charging initiative including distance chargers will be from electrical feed panels, availability of in-house technical expertise, etc. Consider the following in preparing your budget:

- Engineering and design fees
- EV charging equipment
- Contract labour
- Internal labour
- Materials/incidentals
- Charger network management software/contract
- Power grid components (transformers, power panels, wire)
- Equipment rentals
- Pavement demolition and repair
- Signage and paint
- Communications initiative
- Permits and inspection costs

Consider also the availability of financial incentives from federal and provincial agencies to help offset costs, and the potential to partner with vehicle manufacturers and equipment suppliers to further reduce installation costs.

PLANNING FOR GROWTH

With the anticipated growth in the adoption of EVs and the increased need for workplace charging capabilities, investing in basic infrastructure enhancements such as trenching, pre-wiring or conduit installation to accommodate future expansion could result in significant future savings and speed project implementation.

Consider scaleability for example - using multiple (oversized) conduits instead of cables, may initially cost more but will avoid future trenching costs when new chargers are required. Similarly, connecting chargers in a daisy-chain manner on a single branch circuit greatly simplifies the addition of new chargers as demand grows, while controlling power usage through power sharing.

MAXIMIZING YOUR SITE'S CHARGING INFRASTRUCTURE

To maximize the use of charging infrastructure, workplaces may wish to consider the following practices:

Time limits for charging

Limiting the parking time at charging stations allows more EV drivers to access the charger per day.

Strategic siting of charging stations

Placing the charging station in between two to four parking spaces allowing drivers more opportunities to access the station.

Parking fees to recover costs and/or limit convenience charging

Fees motivate drivers to vacate charging spaces, allowing more drivers to use the stations. Fees can either be charged for the entire charging session, or they can be charged or increased after a specified time limit.

ABOUT US

Canadian Coalition for Green Health Care is Canada's premier green health care resource network and is leading the evolution of green in Canada's health sector as a national voice and catalyst for environmental change. Collaboratively, we strive to reduce health care's ecological impact from compassionate care delivery while providing a nurturing platform upon which to discuss and promote best practices, innovation, environmental responsibility and climate change resiliency. www.greenhealthcare.ca

Plug'n Drive is a non-profit organization committed to accelerating the adoption of electric vehicles in order to maximize their environmental and economic benefits. Since 2011, Plug'n Drive has established itself as a leader in the electric vehicle (EV) industry, a trusted and unbiased source of information on electric cars, charging stations and the electricity sector. www.plugndrive.ca

The ZEV Fact Sheet is a summary of information contained in Plug'n Drive's new publication *Lead the Charge*. Plug'n Drive would be pleased to assist your organisation navigate EV adoption with a webinar series, EV test drive event, workplace lunch'n learn or engagement opportunities at its Electric Vehicle Discovery Centre. Please email info@plugndrive.ca with your questions.

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PLUG 'N DRIVE A national resource for all your EV questions **www.plugndrive.ca**

The Canadian Coalition for Green Health Care
Coalition canadienne pour un système de santé écologie

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