PLUG 'N DRIVE

ZEV Fact Sheet

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

Benefits of Workplace Charging

Investing in workplace charging can result in multiple benefits for both employers and employees. This resource outlines many of the key benefits and can assist you in helping your many stakeholder groups understand the business case for workplace charging.

1. ATTRACT TALENT AND INCREASE EMPLOYEE SATISFACTION

Offering workplace charging demonstrates adaptability to contemporary issues and new technological innovations. This can be an attractive quality to recruit and retain employees, which can reduce costly employee turnover.

2. FURTHER CORPORATE SUSTAINABILITY PRACTICES AND REDUCE CLIMATE CHANGE RISK

Charging stations are a visible demonstration of an employer's commitment to sustainable business practice and may compliment other initiatives. Workplace charging can provide points towards LEED certification and can be a part of corporate strategy to reduce a company's climate change risk by cutting carbon pollution.

3. ENHANCE BRAND VALUE WITH COMMITMENT TO INNOVATIVE TECHNOLOGIES

Workplace charging is highly visible to employees and the public because it's often placed in lots that are open or widely accessed. This is an opportunity for an employer to showcase environmental leadership.

4. ATTRACT AND RETAIN TENANTS

Health care building owners who have installed charging stations demonstrate to current and potential tenants that they are interested in providing smart, proactive solutions for present and future needs.

5. INCREASE RANGE CONFIDENCE FOR DAILY COMMUTE

Workplace charging can potentially double the daily driving range of EVs, which satisfies the needs of longer distance commutes. For drivers, this can alleviate 'range anxiety', or the fear of running out of battery before reaching their next destination.

WHY WORKPLACE CHARGING?

Electrifying Transportation to Mitigate Climate Change

Canada's transportation sector is currently the second largest source of greenhouse gas (GHG) emissions. The number of vehicles on the road is expected to double by 2030. The target to limit global temperature rise to below 2°C will change the transportation sector. It is not enough to just improve the fuel efficiency standards of conventional internal combustion engines (ICEs). In addition, ICE tailpipe pollutants release harmful contaminants into the air and are responsible for a range of health risks, disproportionately affecting vulnerable groups such as children and the elderly. In Canada, three leading provinces in EV adoption – British Columbia, Ontario and Québec – rely almost exclusively on clean sources of electricity such as hydro and nuclear. In fact, Canada generates about 80% of its electricity from low-emitting sources. As electricity generation continues to convert to cleaner sources, electrified transportation will be required to reduce greenhouse gas emissions and mitigate public health risks.

Emerging Need for Workplace Charging

Electric vehicles are not just an important step to reduce GHG emissions - they are also becoming a more affordable option. Upfront vehicle costs are rapidly falling and their operating costs are significantly lower. Canadians are increasing their adoption of EVs. The uptake is expected to continue to rise, according to Canada's projected zero emissions vehicle sales. As employees decide to invest in EVs, workplaces will be called upon to meet the growing demand.

6. PROVIDE GREATER FLEXIBILITY FOR UNEXPECTED TRAVEL PLANS

With extended EV ranges from workplace charging, employees have greater driving flexibility, allowing them to more confidently make urgent or unexpected trips. Additionally, workplace charging may be a new and important charging opportunity for drivers whose residential charging options are restricted or inconvenient, such as those living in multi-unit residential buildings or those with on-street parking.

7. ENABLE CLIMATE CONTROL PRECONDITIONING OF THE CABIN ON COLD DAYS

Very cold temperatures are known to reduce EV range. All EVs are capable of pre-heating while still plugged in. Because EVs do not have tailpipes and do not produce exhaust, they can be turned on even if they are parked indoors. With workplace charging stations, your employees will be able to take advantage of this unique EV feature, meaning they will not have to sacrifice driving range for their return commute home.

8. REDUCE TOTAL OWNERSHIP COSTS IN COMPRISON TO CONVENTIONAL VEHICLES

Electric vehicles are becoming the more affordable option, because upfront vehicle costs are rapidly falling, governments are subsidizing their sales and the operating costs are lower than internal combusion engines (ICE) vehicles. An increasing number of consumers are experiencing and communicating to their networks about the cost savings, boosting sales further. Workplace charging stations can help individuals further reduce their operating costs through employee-discounted charging rates.

9. INCREASED INCENTIVE FOR ZEV ADOPTION AMONG EMPLOYEES

Workplace charging can also indirectly increase wider adoption by allowing individuals to observe how peers purchase, drive and charge EVs in everyday life. This can give the encouragement and assurance they need to switch from an ICE vehicle. A study by the U.S. Department of Energy* concluded that an employee is six times more likely to drive an EV after learning about the benefits from a workplace colleague.

* Olexsax, Sarah, U. S. Department of Energy, EV Everywhere Workplace Charging Challenge, Mid-year review 2015.

REDUCE TOTAL OWNERSHIP COSTS

Depreciation

Depreciation is the largest cost for vehicle ownership, but values are difficult to predict for a product that has limited data on used vehicles or end-of-life value. Since EVs have only been on the market for a relatively short time, end-of-life depreciation values are not available at this time.

Fuel Costs - 60-70% Savings

Electricity as a fuel is consistently less expensive than gasoline. Paying an average electricity cost of $0.15/kWh and an average gasoline cost of $1.00/L, a driver can save $1,300-$1,900 annually.

Insurance, Interest and Tax

These expenses are not expected to be different between EVs and gasoline vehicles. However, some insurance companies are offering discounted insurance rates for EV drivers to incent EV adoption.

Maintenance & Repair - 30-35% Savings

EV drivetrains are simpler than gas vehicles, which require a transmission and a cooling system to reject heat from the engine. Less moving parts means lower maintenance costs. Note, that of the ten most common vehicle repairs, only one (thermostat replacement), exists in an EV. Maintenance costs of gas-powered vehicles are around $860/year and this could be reduced by at least 35% over the lifetime of an EV. The value of an EV beyond eight years will depend on the condition of the battery and repairability. Some vehicle models are designed to allow for individual cell replacement, so that a battery with reduced capacity can be restored without requiring full battery replacement.

Source: Partners in Project Green. Charge up Ontario. 2016

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.

Partial Funding by Natural Resources Canada | Canada

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

P55-4j-2-2020