SPOTLIGHT

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Sustainability drivers are no longer just ethical; there is a strong business case for electrification.

Making the Business Case for EV Charging

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In one of the boldest actions by a business leader taken to date, Patagonia founder Yvon Chouinard announced that he and his family are giving away their ownership in the company, dedicating all profits from the company to projects and organizations that will protect wildland and biodiversity and will fight the climate crisis. Donations from the business are expected to be worth approximately $100 million annually.

While Patagonia is an extreme example of a business' commitment to environmental responsibility, IDC research confirms that sustainability is top of mind for many organizations — not only for ethical reasons, but also because sustainability initiatives are driving competitive advantages.

AT A GLANCE

IDC defines Social Sustainability as a proactive way to identify and manage business impacts — both positive and negative — on employees, workers in the value chain, customers, and local communities.

IDC's 2022 Worldwide Social Sustainability survey found that:

- Nearly 70% of respondents rated Social Sustainability as a very or extremely important business priority.
- The main stakeholders driving Social Sustainability are consumers/customers and Boards of Directors.
- Customers and employees from a younger demographic will choose organizations based on their sustainability initiatives.

Eighty-six percent (86%) of organizations have already or are in the process of integrating sustainability programs into the business, according to IDC's research. The top business drivers for sustainability are improving operational efficiency and costs, improving brand reputation, responding to customer demand, hiring and retaining top talent, and improving employee experience.

In creating their sustainability goals, organizations need to consider numerous factors, including waste reduction, energy management, and alternative power sources. Many are looking at ways to reduce greenhouse gas emissions directly related to the company's operations, as well as those that are indirectly associated with company activities — for example, the emissions created by employees, clients, and patrons who travel to

IDC estimates EV adoption rate in North America is at its all-time historic high, with about 65% year-over-year growth in new vehicle sales for 2022

the business' location. One way organizations are reducing these consequential emissions is by installing electric vehicle (EV) chargers onsite, thereby supporting and encouraging the use of EVs among their employees and customers.

With more than 45% of consumers basing their decisions about doing business with a retailer based on their sustainability record, according to IDC research, installing EV chargers can help organizations achieve sustainability goals and create competitive advantages and differentiators. Several leading organizations, such as Hertz, Amazon, British Petroleum, Walmart, and Cadillac Fairview, are already working with EV charging solution providers to drive down the cost of their fleet operations and attract the growing number of EV drivers, skewed toward an economically influential younger demographic.

Appealing to the Younger Demographic

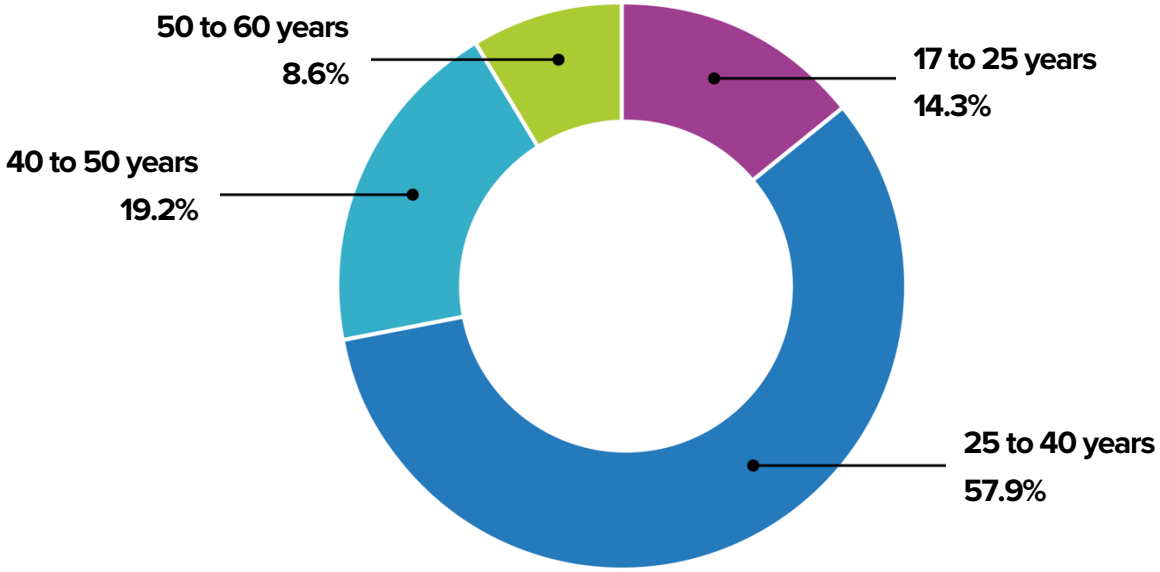
IDC's North America's Auto Consumer Survey 2022 indicates that over 70% of respondents currently using EVs and those planning to buy a new EV in the next three years belong to an age group between 17 to 40 years (see **Figure 1**).

According to Statistic Canada's 2021 census summary, Millennials (born between 1981 and 1996) are the fastest-growing generation in Canada due to immigration, and account for the largest share of the working population, including over one-third of the downtown population of large urban centers. This influential generation, along with Gen Z (born between 1997 and 2012), values brands that are environmentally responsible and sourcing sustainably more than older consumers, according to IDC's research.

This under-40 demographic tends to select an employer and choose products and services based on how well an organization is positioned toward values such as clean energy, zero-emission transportation, ethical sourcing, position on sustainability initiatives to attract this young demographic of EV buyers.

In some cases, the installation of EV charging stations will result in a direct revenue benefit for a business, as EV drivers will gravitate to destinations with charging points. While most consumers prefer online shopping, over one-third prefer in-person shopping, according to IDC research. Offering the ability for customers to charge their vehicle while shopping could increase in-store purchases. For other organizations, like cultural centers and hospitals, EV charging may drive indirect benefits such as increased patronage by the EV cohort, potentially enhancing reputation, donations, or funding.

Figure 1: EV Drivers By Age, North America, 2023



Source: IDC's *2023 North America Auto Consumer Survey Analysis*, 2022 N = 875

A society-altering shift is happening now with electric vehicles. Organizational leaders who fail to realize the significance of investing in EV charging infrastructure now risk falling behind their peers in the next three to five years as more and more EVs are coming off the production lines.

Biggest Auto-Factory Building Boom in Decades

To curtail greenhouse gas emissions, countries worldwide are setting targets for replacing conventional internal combustion vehicles with zero-emission technology such as EVs:

- The incumbent U.S. government has signed an executive order setting an ambitious goal for new EV sales. The administration wants **50 percent of American automakers' U.S. sales by 2030 to consist of zero-emission and hybrid vehicles.**
- Canada aims to reduce the country's greenhouse gas emissions from transportation, from 186 Mt in 2019 to 143 in 2030. **Hence, the country has also announced new zero-emission vehicle sales goals for Light Duty Vehicles (LDVs), targeting at least 20% by 2026, 60% by 2030, and 100% by 2035.**

Empowered by federal incentives and subsidies toward new EV purchases, auto original equipment manufacturers (OEMs) operating in these regions are ramping up the production of EVs and planning to introduce a range of EVs at different price points that are accessible to every consumer. This is giving birth to the biggest auto-factory building boom in the U.S. and Canada in decades.

With a growing new range of moderately priced EVs available in the market, their ownership is becoming more attractive to the masses. In addition, other factors, such as the volatility in oil prices and the lower

periodic maintenance cost associated with EV operations, are moving drivers away from gasoline-powered vehicles to new EVs with lower operational expenses.

With this ongoing drive toward promoting EV sales, IDC anticipates that EVs will gradually replace a large existing base of gas-powered vehicles across North America.

Readily Accessible Charging, Anywhere You Go

Widescale EV adoption for both personal and commercial applications will require an expansive network of EV chargers. Drivers of EVs who reside in large residential complexes without access to domestic charging options will depend solely on public charging options. IDC believes that even EV drivers with dedicated domestic charging facilities will still rely on publicly available charging infrastructure about 20% of the time, for long commutes and long-distance traveling.

Governments have set aggressive network targets:

- The U.S. federal government aims to install 500,000 EV chargers – both publicly and privately owned – nationwide by 2030.
- Canada also aims to host a robust EV charging network with 50,000 charging stations by 2030.

Governments are also imposing regulations and offering incentives to drive network expansions:

- U.S. cities like Atlanta, Chicago, Seattle, and San Jose have building mandates and regulations requiring at least 10% of visitor parking to be EV charging-ready.
- Federal, state, and local governments across North America are actively promoting the installation of EV chargers with tax incentives and subsidies for businesses and establishments.

In addition, the U.S. is providing incentives and tax credits to local governments and businesses, including:

- The National Electric Vehicle Infrastructure (NEVI) Program, which allocates $5 billion to states to create a nationwide, interconnected network of DC fast chargers along the National Highway Systems
- The U.S. Department of Transportation's Charging and Fueling Infrastructure (CFI) Competitive Grant Program, which provides $2.5 billion for primarily community charging deployments; Low or No Emission Grant Program; and Grants for Buses and Bus Facilities Competitive Program
- The 30C Alternative Fuel Infrastructure Tax Credit, which gives businesses a credit of up to 30% of the cost of "qualified census tract" EV charging stations, to a maximum of $100,000 per station

Canada is also providing incentives and tax credits, such as:

- The Zero Emission Vehicle Infrastructure Program (ZEVIP)
- The Electric Vehicle Alternative Fuel Infrastructure Deployment Initiative

EV Use Cases

IDC classifies use cases based on the EV owner's relationship with the location:

- Residents and Guests: Residents of multi-tenant buildings such as apartments and condos, as well as hotel guests, will need access to overnight charging. Facilities with convenient EV charging stations will be preferred locations for EV owners.
- Clients and Patrons: The technological shift with EVs will significantly impact customers' decision-making and buying preferences. EV owners will actively seek establishments with charging access and are more likely to purchase goods and services or attend events at these locations. Clients and patrons frequent a wide variety of establishments, such as:
    - Boutiques
    - Malls
    - Restaurants
    - Theaters
    - Museums, Cultural Centers, and Attractions (Zoos, amusement parks, etc.)
    - Charities
- Employees: In the immediate future, employees driving EVs will anticipate a charging facility provided at their workplace for destination charging. The availability of EV charging will assist employee recruitment and retention, particularly among younger employees. Workplace is a broad term that covers numerous destinations, such as:
    - Corporate Offices
    - Universities, Colleges, and Schools
    - Hospitals
    - Museums and Cultural Centers

The locations for each use case are not mutually exclusive. A hotel may offer guests overnight charging, employees charging while on shift, and clients of the hotel's restaurant short-term charging while dining. It is critical that organizational leaders take a holistic and multi-perspective view of EV charging. The electrification of transportation impacts multiple areas of business operations.

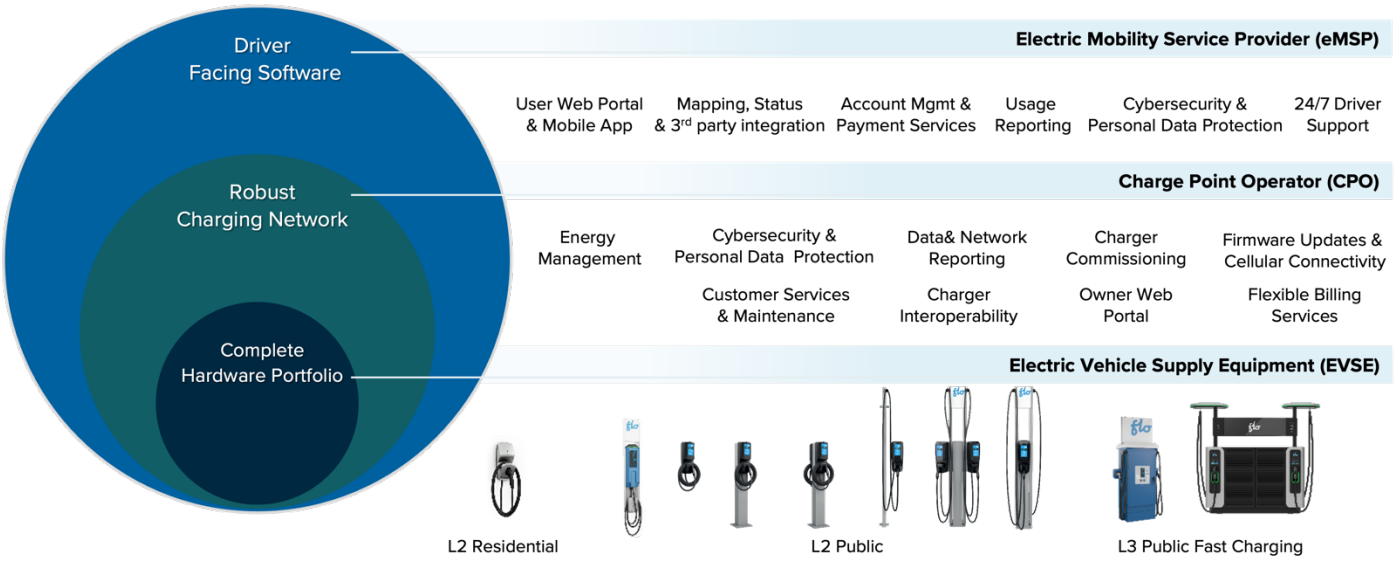
For businesses and workplaces planning to host EV chargers, a vertically integrated charging solution renders a single entity responsible for the charging experience, ensuring quality in the best of times and a single point of contact should trouble arise.

Considering FLO – A Vertically Integrated EV Charging Solution Provider

FLO is a leading residential, commercial, and public EV charging solution provider in North America, with an expansive network of EV charging stations across the U.S. and Canada. The company aims to take a more holistic approach toward EV charging with vertically integrated hardware, software, and services by:

- Research, development and assembly of complete EV charging hardware portfolio
- Turnkey consulting services management, and maintenance of the charging network
- Digital tools, platforms, and services supporting both enterprise and driver's needs

Figure 2: Vertically Integrated Hardware, Software, and Services Portfolio at FLO



Benefits of the one-stop-shop approach at FLO:

- Domestic assembly of charging hardware in the U.S. and Canada
- Commercial products designed to be FHWA Buy America and ADA compliant
- Patented PowerSharing™ and PowerLimiting™ energy management solutions helping organizations monitor and optimize electricity usage to lower costs without disrupting operations by managing peak loads while charging alongside overall energy consumed for business operations
- FLO Global Management Services (GMS) that ensures station connectivity and provides 24/7 support by proactively monitoring and updating network-connected charging stations
    - The owner web portal provides a handy dashboard to control station access or restrict charging to specific drivers. It also provides a snapshot of charging stations, including usage and revenue
    - Real-time station status available to EV drivers via FLO.com, mobile app, and third-party platforms
    - PCI-compliant billing for secure and reliable payment processing
- Industry-leading charger uptime guarantee of at least 98% and priority maintenance service with 24/7 toll-free support line for EV drivers when subscribing to FLO Performance Warranty

- Interoperability with some of the largest EV charging networks in North America, providing access to over 65,000 chargers from coast-to-coast
- Open Charge Point Protocol (OCPP) compliant and one of the first DC fast chargers manufactured in North America to be officially certified by an independent laboratory

Challenges in North America

The North American EV charging equipment market is fragmented, with several domestic and international hardware suppliers offering EV chargers at various price points. With a large base of the existing low-cost suppliers, hardware quality is a huge concern.

The overall reliability of North America's EV charging network remains a concern, too. And the lack of federal regulations isn't helping. According to J.D. Power's Electric Vehicle Experience Public Charging Study, failed charging attempts were more than 21% in Q3 2022. Charge point operators and supporting technology suppliers must ensure that almost all chargers are available and stable, operating 24 x 7 without fail. IoT-based, real-time asset monitoring, active customer support services, and optimized maintenance, repair, and operations (MROs) are necessary to ensure reliability and eliminate downtime.

To build a truly future-proof technology, EV charging solution providers must consider these quality and reliability challenges while deploying a charging network that can accommodate a wide range of EVs. Providers should also, enable EV chargers with connectivity to allow for continuous firmware updates, condition monitoring, and to provide drivers with information on location and charger status.

Conclusion

The burgeoning rate of EV adoption will undoubtedly have a significant impact on organizations, forcing them to rethink their strategies to accommodate oncoming changes. By transitioning to EVs and providing EV charging facilities to customers and employees, organizations can reduce greenhouse gas emissions, significantly lower expenses associated with company-owned vehicles, further bolster ESG goals and sustainability initiatives, appeal to younger demographics and attract new talent.

An expansive network of EV chargers is vital to the growth of EV adoption in a region.

Also, by providing EV chargers, organizations make it easier for customers and employees to switch to electric and avoid high gas prices with ongoing volatility in the market.

Businesses and workplaces that are late in realizing the significance of investing in EV charging infrastructure can miss out on capitalizing on available incentives or even lose a large base of customers and employees who are and will be EV drivers.

About the Analyst

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Sandeep Mukunda is the research manager of the IDC Digital Automotive and Transportation Program, responsible for providing research, analysis, and guidance on key business and I.T. products and services in ACES technologies (Autonomous, Connected and Shared) technologies platforms, shaping the future of the mobility sector in the public sector and consumer market. He leads the Worldwide Digital Automotive Program which focuses on Auto OEM's strategies in the passenger vehicle market and the Transportation Program with insight on North American's smart city team, providing fact-based research, analysis, and insight on best practices and the use of information technology to assist clients in improving their capabilities in these areas.

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