EMOBILITY ON COLLEGE AND UNIVERSITY CAMPUSES

Charging forward: EVs accelerate campus sustainability

usa.siemens.com/eMobility

As the focus on a cleaner environment becomes more intense, along with the demand for electric vehicles (EV), from personal vehicles to ground fleets to buses, there is a need to for integrated EV charging on your campus. Deploying smart charging technology in your parking lots and garages and electrifying your fleet not only help reduce your campus' carbon footprint, but also demonstrates to students and staff your leadership in adopting innovative, sustainable technologies.

Siemens is helping universities and colleges easily deploy, manage, and reduce their overall cost of ownership of their charging systems while also helping reduce energy consumption. We are helping shape the market with innovative electric vehicle charging solutions and powering the infrastructure, as well as planning and implementing secure grid connections with renewable integration to enable the growth of EV adoption.

A recent study conducted by EY (Ernst & Young) found that 41% of consumers stated their next vehicle purchase would be a plug-in hybrid EV or a battery EV.[1] With this influx of EVs, campuses need to be ready to support students, staff, and guests driving EVs. There should be two overarching considerations for EV charging: ease of use and ease of managing the charging infrastructure. People want to find an available EV charger, pull into the parking space, plug in, and continue with their day with ease.

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[1] Gitlin, Johnathan M. (July 20, 2021), 41% of consumers say their next car will be electric, ARS Technica, https://arstechnica.com/cars/2021/07/41-percent-of-consumers-say-their-next-car-will-be-electric/

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Battery Storage

Solar PV

eMobility

Asset Performance Services

Energy Supply Mgmt.

Geothermal Energy

Energy Efficiency

Demand Response

EV Charging

Hydrogen Power

Cogeneration

Wind Power

Livings Labs

Chiller Optimization

Electrical Distribution

MicroGrid

Developing an environmentally friendly campus

Campuses have a large landscape, that includes a sizeable carbon footprint. As campus leaders take a closer look at carbon reduction goals and their plans for sustainability, transportation accounts for a significant portion. Siemens is here to assist in developing your environmentally-friendly campus.
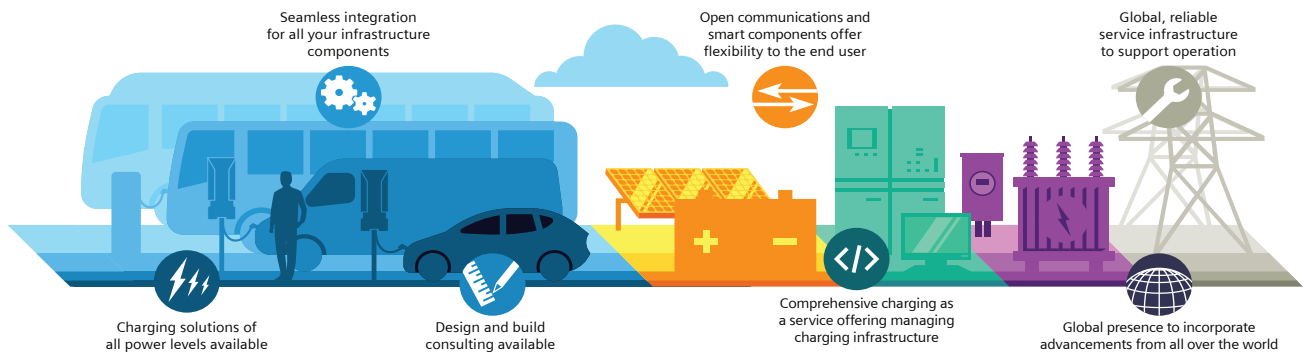
- Easily connect your EV chargers to the grid with Siemens eMobility open protocol charging technology - For parking areas, ground fleets, and buses

- Add smart electrical power distribution solutions

- Renewable energy solutions to power your chargers and campus

- Integrated energy storage, demand response and microgrid solutions

- Enhance your campus buildings to be smart to help further reach your sustainability and energy reduction goals

Today, there are a variety of financial incentives from both state, city, and federal funding available to support transportation electrification efforts. Siemens can help navigate through those complexities and provide a letter of support during the process of filing for electrification grant funding. In addition, we offer financing options to help you reach your goals by bridging any gaps.

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Making EV charging
easy for everyone

To ensure a seamless charging process for all, Siemens offers PlugtoGrid™, an end-to-end set of solutions for EV charging infrastructure. PlugtoGrid can provide multiple solutions, including our Level 2 VersiCharge™ AC charger, our Level 3 VersiCharge Ultra™ DC fast chargers, or our SICHARGE UC heavy-duty vehicle chargers commonly used for buses, along with electrical equipment, and cloud-based services to support and manage EV chargers.

Siemens offers both AC and DC charging for all vehicle categories. Our VersiCharge AC series is an optimal solution for light to medium-duty vehicles

Seamless integration for all your infrastructure components

Open communications and smart components offer flexibility to the end user

Global, reliable service infrastructure to support operation

Charging solutions of all power levels available

Design and build consulting available

Comprehensive charging as a service offering managing charging infrastructure

Global presence to incorporate advancements from all over the world

that can charge over extended periods of time, whereas our VersiCharge Ultra chargers offer faster charging options for those looking to "top off their tanks" in a less than an hour. These chargers also offer options, such as credit card readers and both CCS and CHAdeMO plug-in connections. In addition, Siemens offers plug-in and/or overhead charging solutions for buses.

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| eMobility® solutions

VersiCharge AC™
- Level 2 AC charging – Up to 11.5 kW
- Light to medium-duty vehicles
- Building management system integration including Siemens Desigo CC and WinCC
- Flexible communication connections
- Open payment options
- OCPP integration
- NEMA 4 outdoor/indoor rating
- Charges all standard EV models
- Cost efficient
- VersiCharge Blue - Buy American compliant

SICHARGE UC™
- Fast, secure charging for buses and heavy-duty vehicles - 150 kW of power
- Sleek, compact plug-in dispensers
- Easily upgradeable
- Sequential charging with up to 4 dispensers
- Compatible with the Combined Charging System (CCS) charging standard and OCPP compliant.
- Interoperability and future-proof up to 950 V
- Manufactured in America

Electrical equipment
- Panel boards
- Load centers
- Meters
- Breakers
- Safety switches
- Transformers
- Switchgear

VersiCharge Ultra™
- Level 3 DC fast charging
- Light to heavy-duty vehicle charging
- 175 kW DC power
- Both CCS and CHAdeMO plug connections
- Easy installation
- OCPP integration
- Built in credit card reader option
- Can be custom wrapped
- Simple cable management

Cloud-based services
- Remote diagnostics
- Load management and control
- Detailed reporting
- Managed billing
- Firmware updates
- Commissioning
- Drive app
- RFID management

Renewable integration
- Solar PV inverters and skid solutions
- Distributed energy systems
- Energy storage solutions
- Microgrids and controllers
- Solar PPA
- Renewable energy procurement

Services
- Preventative maintenance
- Start-up and commissioning
- Energy, markets and business consulting
- Turnkey solutions
- Structured finance

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Revenue opportunties

Campuses have parking spaces and garages where electric vehicle service equipment (EVSE) can be installed and offer pay-to-charge options. As part of the parking pass purchase, colleges and universities can also charge students (and/or staff) an upfront fee for charging their EV using RFID (Radio-frequency identification) management, where the card can be waved in front of the charger to process the transaction. Or they can offer pay as they charge, each time they charge. Both can provide an additional revenue source for the campus. Secure billing can be managed through Siemens Cloud-based services or through building management systems integrated with Siemens EV chargers. Easily connect VersiCharge chargers into an existing building management system through various connections, including ModBus and OCPP.

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Charging minds, innovating the future

Not only does having EVs and EV charging on campuses benefit the users experience, but it also offers students and staff the opportunity to further develop the next generation of workforce. As EV adoption grows, so does the need for the people to support it – from parts and components of EVs, to charging technology, along with software development and management.
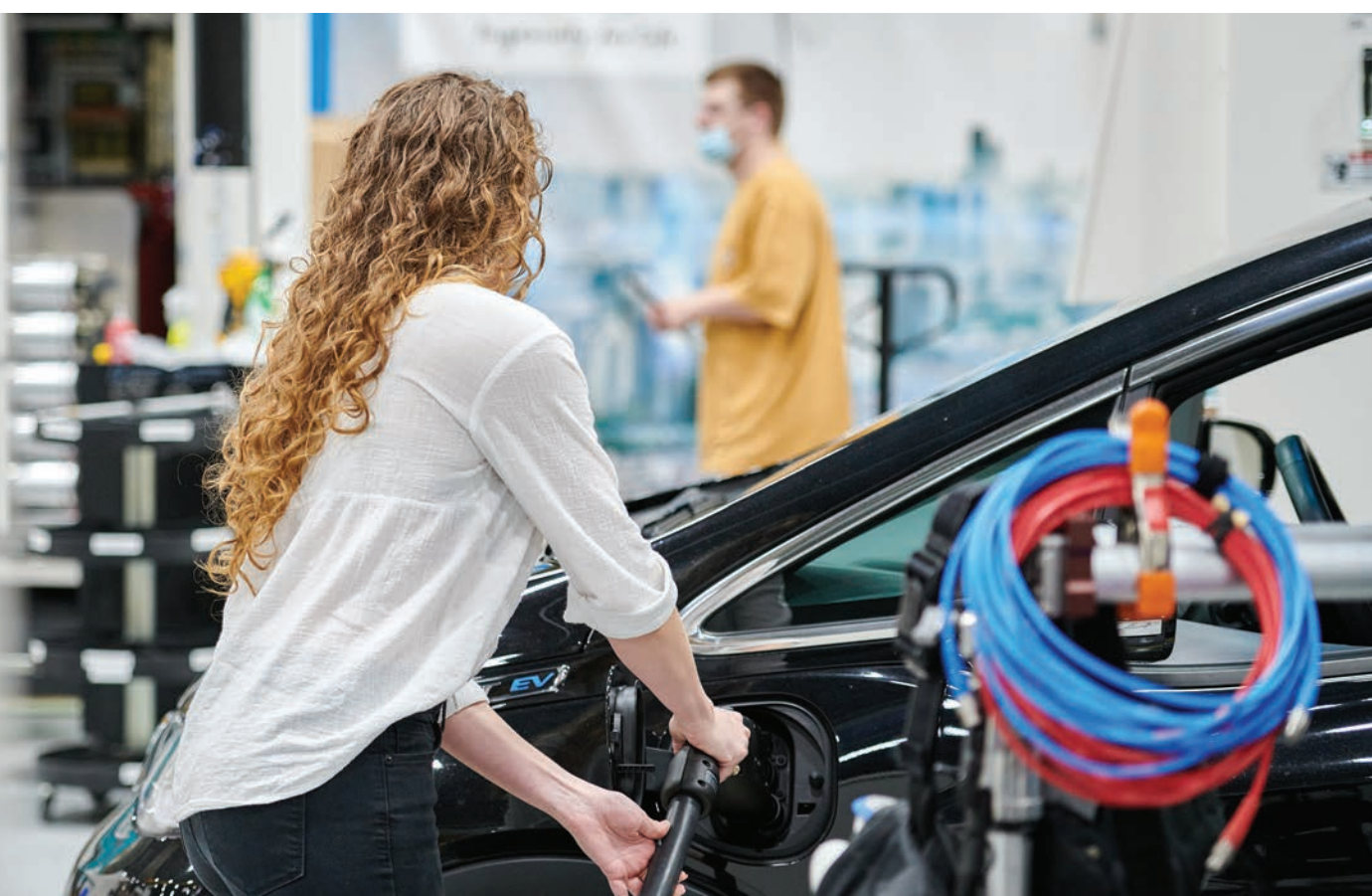
Electrifying buses and other on-campus fleets

Electrifying buses, shuttles, and other campus vehicles on your campus can greatly reduce overall carbon emissions, as well as reduce the total cost of fleet ownership. Siemens can help you with a holistic transportation electrification strategy so you can make the best decision for your fleet today and tomorrow. We are working with campuses to help answer critical questions, like what chargers best fit their specific needs, how many chargers are optimal, and what power grid connections are required. Siemens can also answer questions like, what is the best way to manage the electrified fleet.

In addition, Siemens offers a variety of plug-in options—from our VersiCharge AC chargers with 11.5 kW of charging to 175 kW of DC fast charging, as well as our SICHARGE UC heavy-duty fleet charging solutions depending on your vehicles and operational needs.

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Charging forward

Whether deploying a few charging stations, designing complex charging solutions, or transitioning an entire fleet with existing infrastructure, Siemens is here to support your ongoing goals for implementation. Siemens extensive experience in designing/deploying technology and software solutions at campuses worldwide will have students, faculty and guests charging toward a brighter, cleaner future.

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