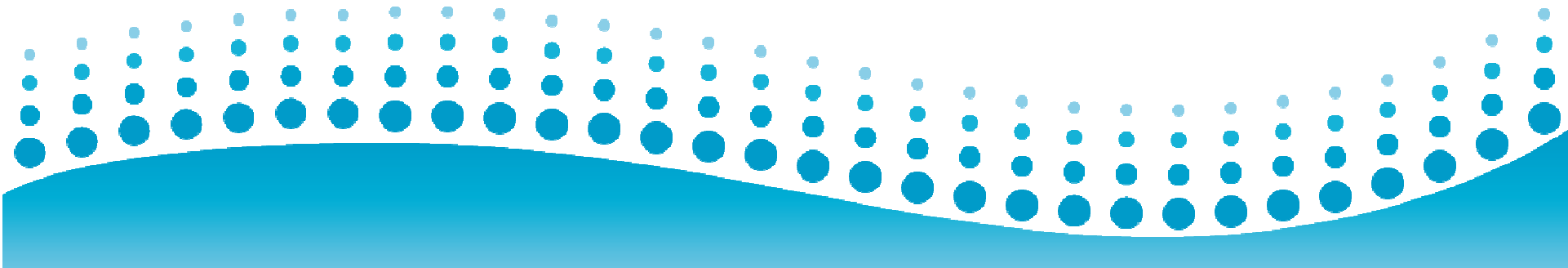# Coulomb Technologies

Coulomb
The business of Charging

Coulomb's Business

- Coulomb's mission is to ensure people don't hesitate to buy electric because of fueling concerns

- We realize our mission by providing a toolkit of everything a company needs to offer charging services to drivers

- We are a business model company – our toolkit gives station owners what they need to maximize revenue and minimize cost

- We do that by offering cloud services and charging station hardware products

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2

The State of EVSE Networking

- What people are getting from it today
  - Real time station status – no use searching for stations that might be in use
  - Reservations – Not many station owners have enabled it
  - Billing – by KWH, time, or session
  - Authentication – keeping your neighbor from charging
  - Record-keeping – providing data to station owners, governments, and drivers
  - Reliability – providing station owners and drivers knowledge of broken stations
  - Utilization – tells station owners when they need more charging spaces
  - Driver notifications – when cars are charged up, when they're interrupted, when you forgot to plug in

- What is just starting to be used
  - Demand Response
  - TOU Price signaling
  - Employee compensation measurement

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Charging Service Models

Business	Cost Plan	Value Prop
Workplace	Subsidized	$550/year to retain an employee
Workplace	Paid	Employee pays $2 a day
City	Cost recovery	Resident pays $1 a charge
Apartment building	Vending Machine	6 year payback, then $1000 a year income
Pure service provider	Subscription business	$60/month, 6 year payback
Hotel	Amenity	$550/year to attract guests
Retail	Amenity	$1 subsidy to bring in a customer

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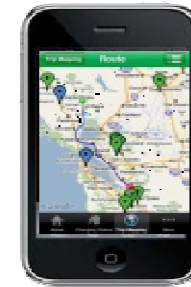
ChargePoint Open Network Solution
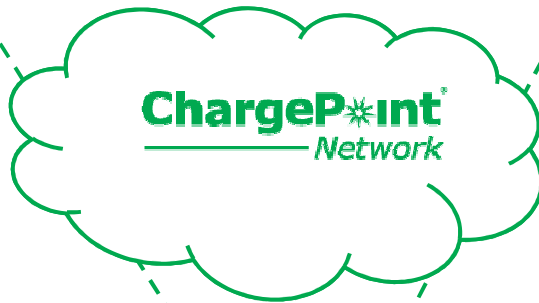
Services for Station Owners
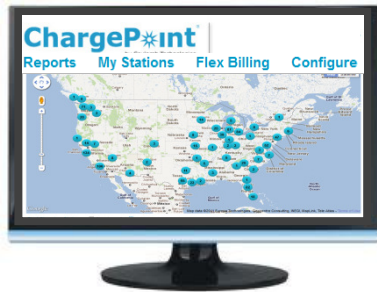
ChargePoint Service Plans
Cloud-based solutions for managing EV charging

Services for Drivers

Driver applications & services
Web, mobile, in-car apps from Coulomb & ecosystem providers

Any ChargePoint-Ready Stations

From Coulomb or other manufacturer

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Over 870 Companies Providing EV Charging via ChargePoint Network

ChargePoint Network: Open Charging Network Leader

Nearly 50% of EV drivers carry a ChargePoint card

6,000 non-residential charging spots up and running

Over 870 companies providing charging through ChargePoint Network

EV drivers plugging in for over 2,000 charging sessions every day

35 patent applications, 9 granted patents

400 MWhs of electric fuel dispensed monthly by ChargePoint stations

Over 32,000 ChargePoint smart phone app downloads

Operating in 14 countries

Market Forces are Driving EV Adoption

Nissan Leaf
In Market

Chevy Volt
In Market

Ford Transit Connect Electric
In Market

Fisker Karma
In Market

BMW ActiveE
In Market

Ford Focus
In Market

Toyota Prius plug-in hybrid
2012

Consumers

Support for clean energy

Better driving experience

10:1 Long-term cost advantage

Auto manufacturers

Must average 35 MPG across the fleet by 2020

Delivering 40+ new EV models in next few years

Governments

Providing purchase incentives

$2 billion in grants issued

Energy independence

Cost Declines

Supply chain improvements narrowing the initial cost gap

Battery cost declining significantly

Tesla Model S
Mid 2012

Toyota RAV 4
Mid 2012

Audi A1 E-tron
2012

Ford C-MAX Energi 2012

Honda Fit EV 2012

VW Golf Blue-e-motion 2014

Projected EV Installed Base (millions)

Legend:
- Wall Street Research (green)
- ABI Research (blue)

(Bar chart showing values for years 2011 through 2016, vertical axis 0.0 to 8.0)

Battery Technology Roadmap

Battery costs expected to collapse

(Line chart, vertical axis $0 to $40,000, horizontal axis 2009 to 2030)

Battery weight expected to plummet

(Bar chart: 2009 = 333, 2015 = 222, 2020-2030 = 55; vertical axis 0 to 400)
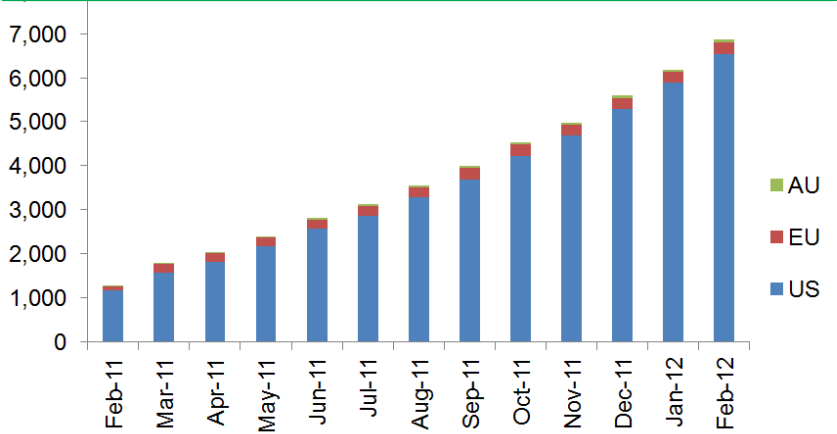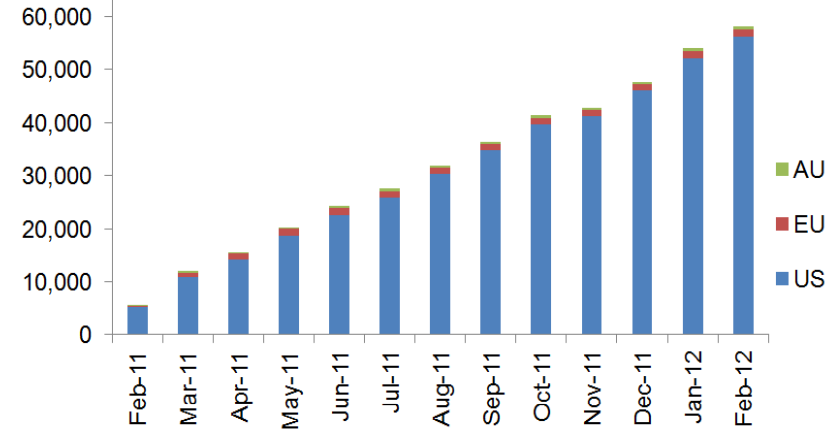
Source: Wall Street Research

First Mover Advantage in Establishing Network

ChargePoint Charging Spots

ChargePoint Charging Sessions

Energy Dispensed on ChargePoint Network (MWh)

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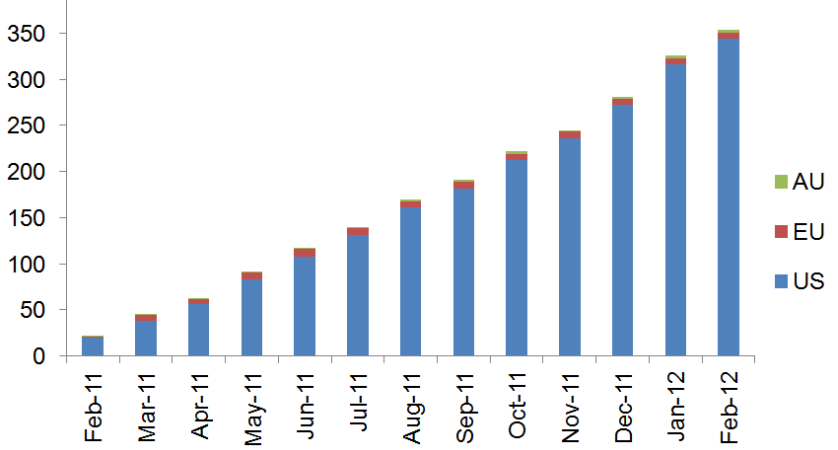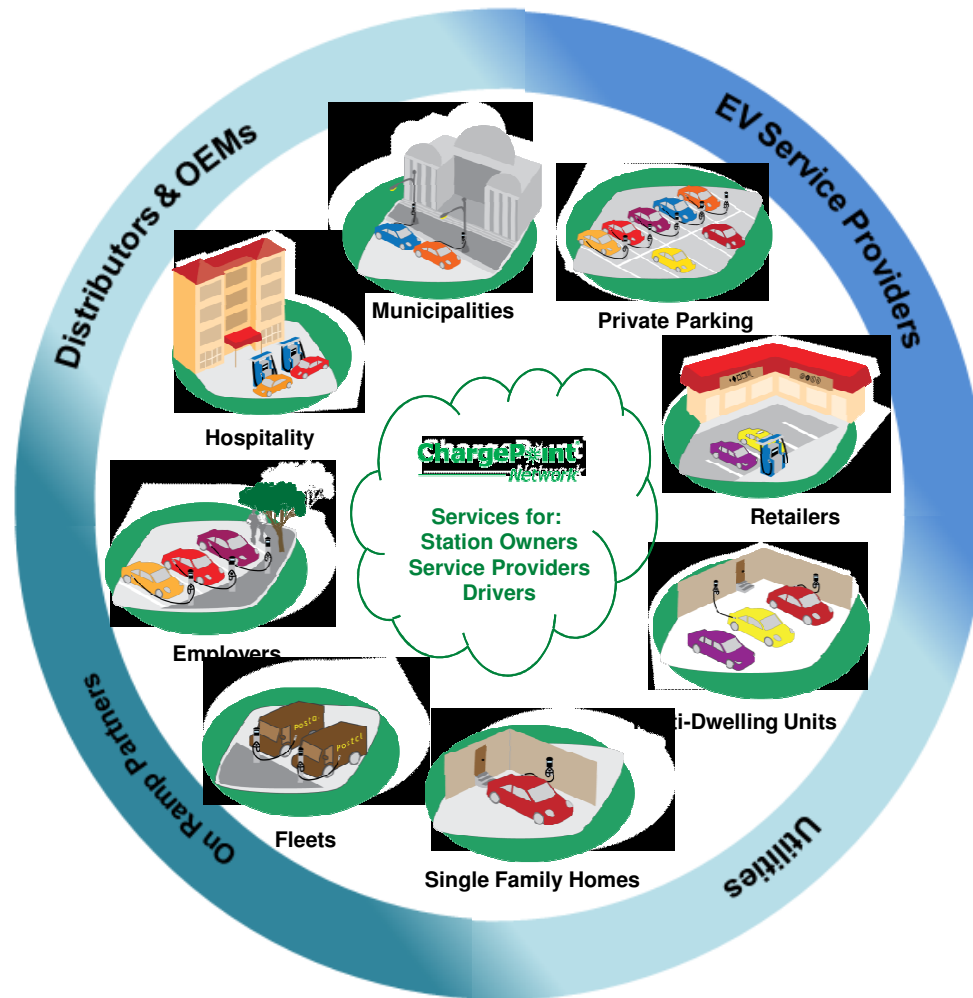
Coulomb Go To Market Strategy

8 market segments

Motivations vary by segment
- Attract customers
- Attract tenants
- Pay charging
- Economic development
- Employee amenity
- Fleet optimization
- Convenience

4 channel approaches

Distributors & OEMs

EV Service Providers

On Ramp Partners

Utilities

ChargePoint Network

Services for:
Station Owners
Service Providers
Drivers

Municipalities

Private Parking

Hospitality

Retailers

Employers

Multi-Dwelling Units

Fleets

Single Family Homes

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Open Network Enables EV Charging Ecosystem

Services — Nav Database, Telematics, Building Mgmt, Advertising, Auto OEMs, Billing

Network — Closed Network Services, Open Turn-Key Network Services (ChargePoint)

Hardware — EVSE

Distribution — Utilities, EVSP, Distributors

Charging Spot Owner — Property Owner/Manager

Driver

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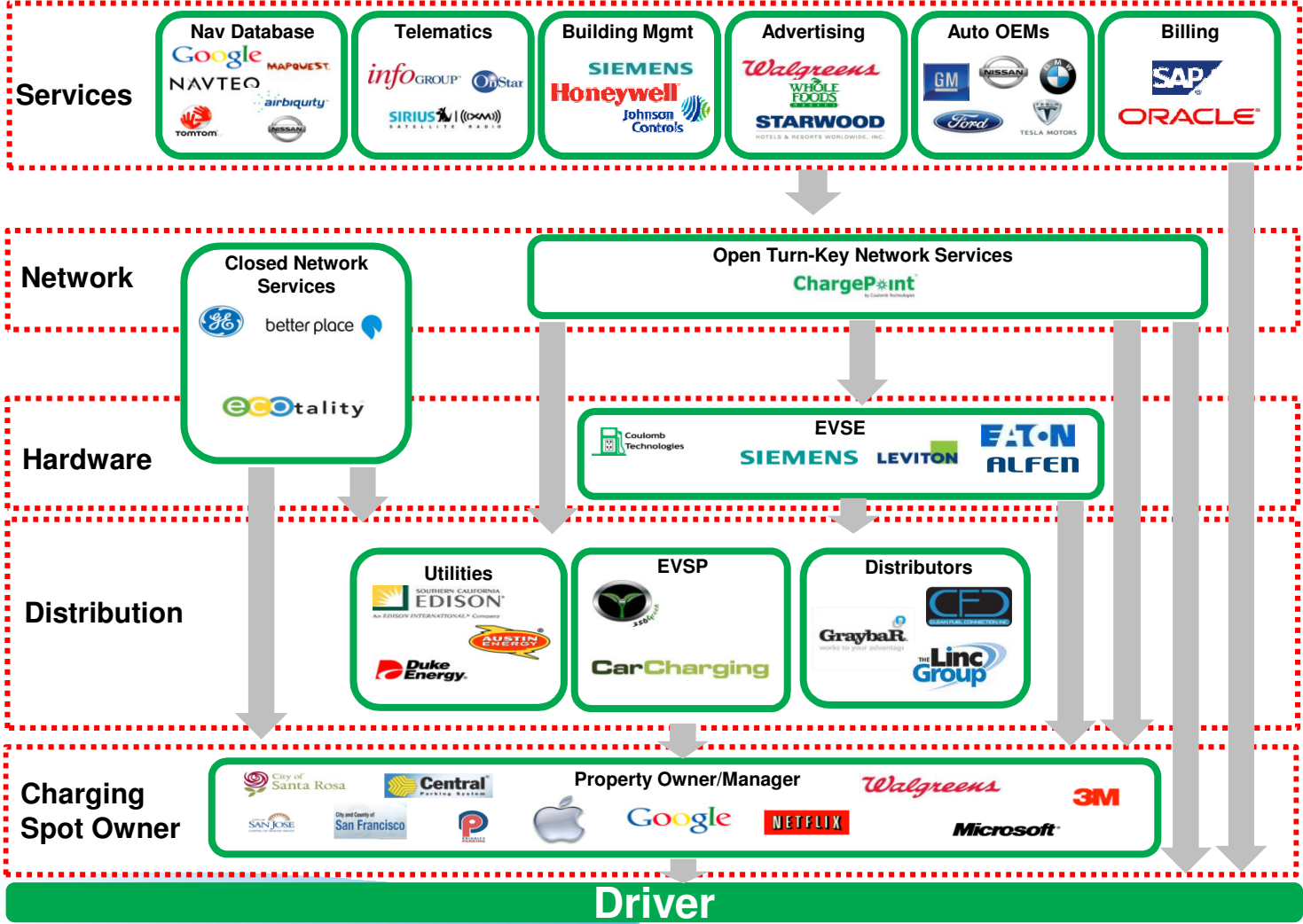
Smart Charging Saves You Money

Annual Fuel Costs
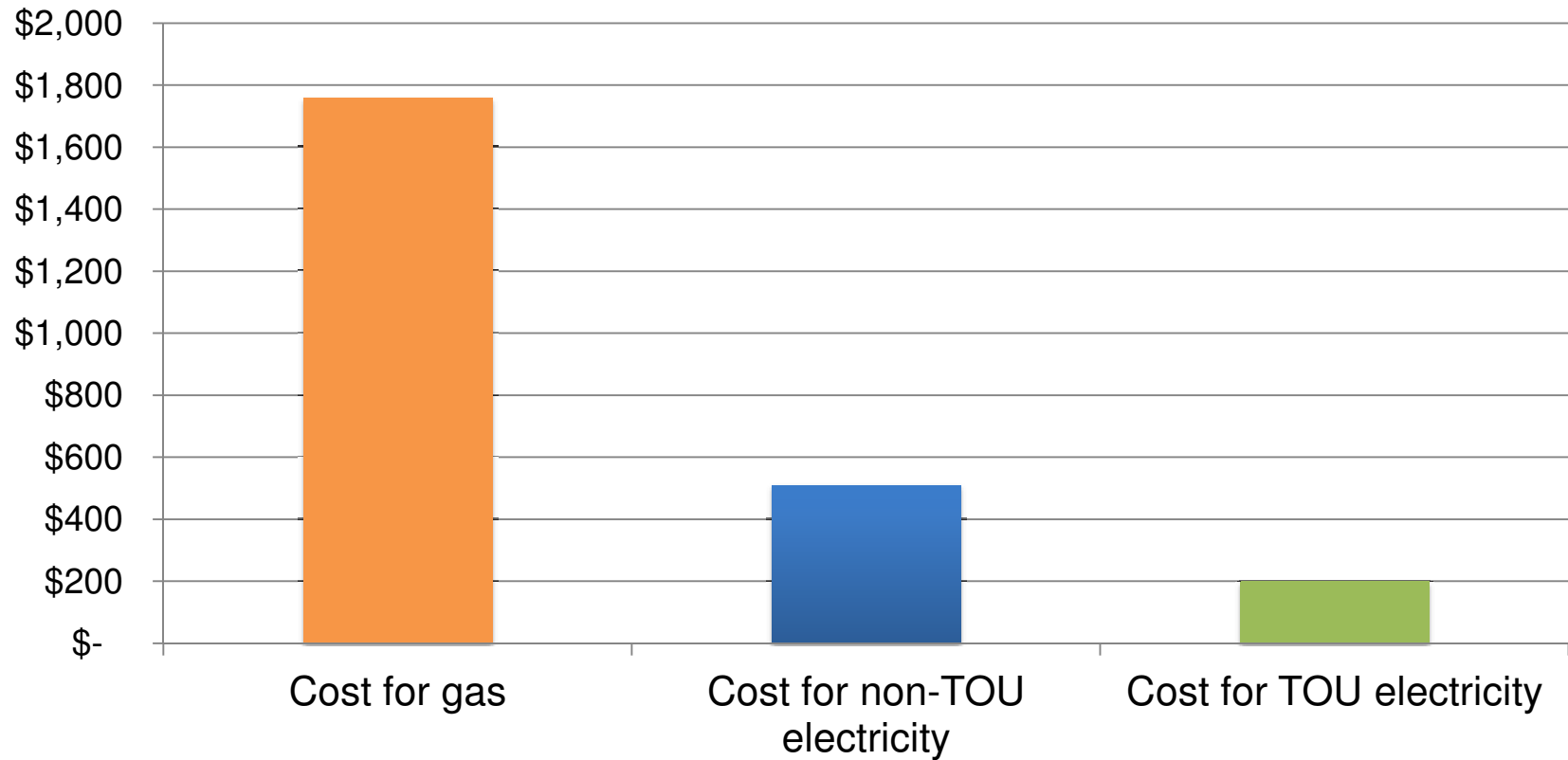
Charging Stations

- Standard features:
  - Embedded on-board computer
  - Communications subsystem
  - Display
  - Standards-based RFID reader
  - Utility-grade power meter
- Minimize on-site maintenance with support of:
  - Over-the-air firmware upgrades
  - Remote real-time alarm monitoring
  - Remote diagnostics & servicing
- Enable the flow of power to be controlled in accordance with grid load
- *Mature:* First stations installed in 2008
- *Proven:* 5,300 non-residential charging spots up & running
- *Open:* ChargePoint service plans also work with stations from other manufacturers

CT2025
- Two Level 2 connectors
- Retractable cords
- Top light

CT2021
Two Level 2 connectors

CT2000
One Level 2 connector

Bollard   Pole   Wall

CT500
One Level 2 connector

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Provide Convenient Electric Fuel Beyond the Depot

- Allow driver to roam from city to city
  - Regardless of charging service or Utility provider

- Choose access options
  - Major credit card
  - ChargePass™ card
  - 24/7 toll free telephone number

- Drivers can locate available charging stations with ChargePoint Network Driver Portal or smartphone app

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Myth Busting

Myth	Reality
Because most charging will be done at home, shared charging isn't interesting	1) 31% of Americans live in MDUs 2) 20% of Charging will be public
Plug-in Hybrids don't need charging stations	The smaller the battery the more people charge. PHEV drivers get gas anxiety
Better battery technology will mean cars will have enormous range	Better battery technology will mean cars will be affordable

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Questions?

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