ChargePoint America Overview

• **Timeline**
  - Start – May 2010
  - Finish – Dec 2013

• **Budget**
  - Total Project Funding
    - DOE: $15,001,287
    - Contractor: $22,897,220

• **Barriers**
  - EV Sales and deliveries
  - Installation Costs
  - Trained Installers
  - Davis Bacon

• **Partners**
  - BMW
  - Fisker
  - Ford
  - GM
  - Nissan
  - Smart
ChargePoint America Overview - Relevance

- Department of Energy Award DE-EE0003391 $ 37M Project ($15M DoE)
- 10 Metro Areas
- Approximately 4,600 stations Public and Private Level 2: SAE-J1772
- Two Phases
  - Deployment phase ends 06/30/2012
  - Data analysis phase ends 12/31/2013
ChargePoint America Overview - Relevance

• Accelerate the development and production of electric vehicles to substantially reduce petroleum consumption, reduce greenhouse gas production, and create jobs.
• Demonstrate the viability, economic and environmental benefits of an EV charging infrastructure
• Roll out an infrastructure for EV drivers to facilitate a rapid increase in the use of Electric Vehicles
• Coordinate Stakeholders and OEM EV deployments to maximize charging station infrastructure usage
• Provide EV charging stations for public, commercial and residential locations to encourage consumers to buy Electric Vehicles
  • Residential stations via OEM partners
  • Public/Commercial stations via Coulomb and Partners
• Collect data from the project (analyzed by INL) to help formulate national EV policies and best practices. The information will be used to understand charging information, such as utilization, charge frequency, duration etc. This information can be used to better understand the infrastructure needs and benefits. Ex. Help Kohl’s understand utilization at their stores and benefits to them (encourage people to visit their store, etc.)
ChargePoint America - Relevance

**Regions**
- New York Metro
- Washington
- DC/Baltimore
- Orlando/Tampa
- S. Michigan
- Boston
- Central Texas
- LA Metro
- Sacramento
- SF/SJ Bay Area
- Bellevue/Redmond
Coulomb ChargePoint Network - Relevance
Observations - Approach

- We used existing commercial distribution partners to identify, place, and coordinate installations. This was a low cost solution that worked well.

- Excellent distribution of stations for different type of sites.

- CTI reached out to cities and towns who might otherwise not have been able to afford stations and installations.
Observations - Approach

• Deployment Distribution
  o No one area represents more than 20%
  o Public Parking Garages (Edison Parking, Manhattan Parking, Icon parking, > 15%)
  o Federal/State/Local (Sacramento, San Jose, Ventura, SF, Boston, NYPD, Baltimore, Detroit, Redmond, > 10%)
  o Workplace (Vornado, GM, Whirlpool, Walmart, Denny’s, Bloom Energy > 10%)
  o Public Parking Lots (NYC Municipal parking, SF City Hall, > 12%)
  o Retail (Spartan Stores, Kohl’s <5%)
  o Utilities (OUC, National Grid, Consumer’s Energy, Austin Energy >10%)
  o Major Airports/Train Stations (Kennedy, LaGuardia, Dulles, SFO, Reagan – 4%)
  o Educational Institutions (Stanford, UC Davis, UofW, Menlo college, Austin Community college, UCF, USF, MSU, U of Maryland> 5%)
Program Update - Progress

- Deployment underway since 2010
- EVSE Unit shipments happening daily
- Shipped over 3200 units
- Installed over 2200 units
- Developed and released CT2021 & CT2025 products
- Commercial Program
  - Units fully allocated
  - Stopped accepting applications since Nov 2011
  - Deployment to be completed by June 2012
  - Waitlist for commercial stations
- Residential Program
  - In-progress
  - Deployment to be completed by June 2012
  - Accepting applications, application Process
    - Customer applies through www.ChargePointAmerica.com
Accomplishments

• Coulomb is proud of our accomplishments and the progress with the program
  o Home and public stations installed in every region of program
  o Hundreds of stations installed every month putting people to work
  o We are fully allocated for public stations, and no longer taking applications

• Coulomb is incentivizing private industry: putting people to work.
  o Good for auto industry. Good for Americans. Good for economy
  o Every station installed puts 3 people to work for a day 2 people to build it and one to install it
  o Matching grant subsidizes the cost of the charging stations to businesses and consumers and, in turn, stimulates matching funds.

• We are laying the groundwork for to reduce our dependence on foreign oil in our nation
  o You can see the results of this grant today in every region of the US where these charging stations are installed.
  o Consumers know their community is committed to this new form of transportation.
  o Dramatic network commercial usage increases to 354 MWh power consumption and 2000 charging sessions a day
• Charger deployment will match OEM vehicle flow
  • BMW ActiveE
  • Fisker Karma
  • Ford Focus BEV and Transit Connect
  • GM Volt
  • Nissan LEAF
  • Smart fortwo EV
• Home installations will be coordinated through OEM’s
• GM/Volt installed through SPX Services
• Other Home installations through National and Regional installers
ChargePoint Network: The Only Open Network

- ChargePoint Network: the only open network
  - First charging network, live since Jan 2009
  - Largest network of independently-owned electric vehicle charging stations
  - 800 ChargePoint service providers
  - 2,000 charging sessions every day
  - 354 MWh of energy dispensed per month
  - 50% of EV drivers have a ChargePoint card

- Drivers and station owners demanding network-enabled charging services
  - Follow-on charging station orders must be ChargePoint Network-enabled

- Offers unique, differentiated services to drivers, EVSPs, utilities
  - One stop shop for all driver services
  - Unique services for EVSPs, utilities
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
ChargePoint 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: 6,000 non-residential 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

CT500
- One Level 2 connector
ChargePoint Driver Services

- All CPA drivers have a ChargePoint card
- Stations are visible to all drivers who use:
  - ChargePoint mobile apps
  - A variety of mobile & in-car navigation systems
  - ChargePoint web site
- Drivers prefer & seek out stations on ChargePoint Network because they:
  - Find stations from a variety of devices
  - See station availability before they go
  - Map trips
  - Reserve stations from smart phone or web site
  - Receive notification when charging is complete
  - Get alerted if charging is ever interrupted
  - View charging stats as car charges
  - Get summary of usage across all stations
- The information is used to collect data on operation
CPA Organizations Providing EV Charging via ChargePoint Network

Parking Services
- Priority Parking
- ACE Parking
- Central Parking System
- USA Parking
- SP Parking
- ABM
- InterPark
- 717 Parking

EV Service Providers & Utilities
- MGE
- SDGE
- Duke Energy
- Austin Energy
- CenterPoint Energy
- CarCharging
- Q

Municipal Parking
- City of Bellevue
- City of San Jose
- City of San Francisco
- City of Los Angeles

Fleets
- Hertz
- Enterprise

Retailers & Hospitality
- Holiday Inn
- Walgreens
- Disney
- Whole Foods Market

Workplace
- SAP
- Dell
- AMD
- Pixar
- Netflix
- Adobe
- Microsoft
- GM
- MasterCard

Apartments
- TGI
- Equity Residential
- Alliance Residential Company
- United Methodist Retirement Communities

THE TOWER COMPANIES
The 50 Best Inventions of 2010

ChargePoint Network: Open Charging Network Leader

- Nearly 50% of EV drivers carry a ChargePoint card
- 6,000 non-residential charging spots up and running
- EV drivers plugging in for over 2,000 charging sessions every day
- 354 MWhs of electric fuel dispensed monthly by ChargePoint stations
- Over 800 companies providing charging through ChargePoint Network
- Over 33,000 ChargePoint smart phone app downloads
- Operating in 14 countries
- 35 patent applications, 9 granted patents

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ChargePoint
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Over 800 companies
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ChargePoint
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Future Work

- Remaining deployments
- Davis Bacon paper work
- Data Collection
Summary

- Complete deployment by June 30, 2012
- Collect Davis Bacon paperwork for the completed installations
- Collect data and upload the data to INL until Dec 31, 2013