

Grid-Integrated Fleet & Workplace Charging for ! Plug-in Electric Vehicles !



J.C. Martin
Workplace Charging Challenge – Summit 2014
November 18, 2014

SDG&E Goal – Grid Integrated Charging !

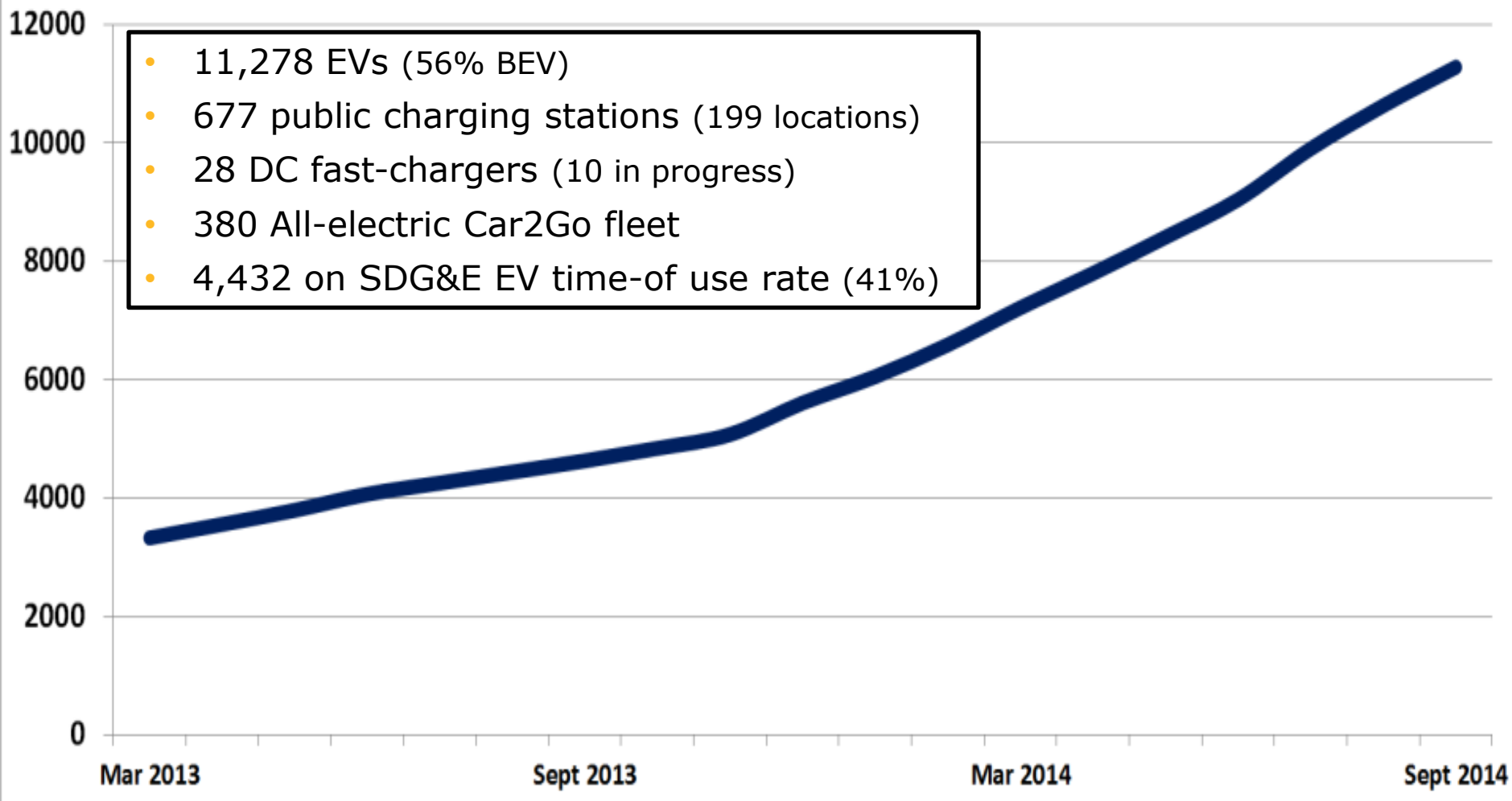
Create an excellent customer experience and accelerate the growth of electric transportation by ensuring the safe, reliable and **efficient integration** of EV loads with the grid



- **Technology ***
- **Pricing**
- **Innovation ***
- **Education ***

- More plug-in electric vehicles
- More electric grid integrated miles

San Diego Regional EV Growth !



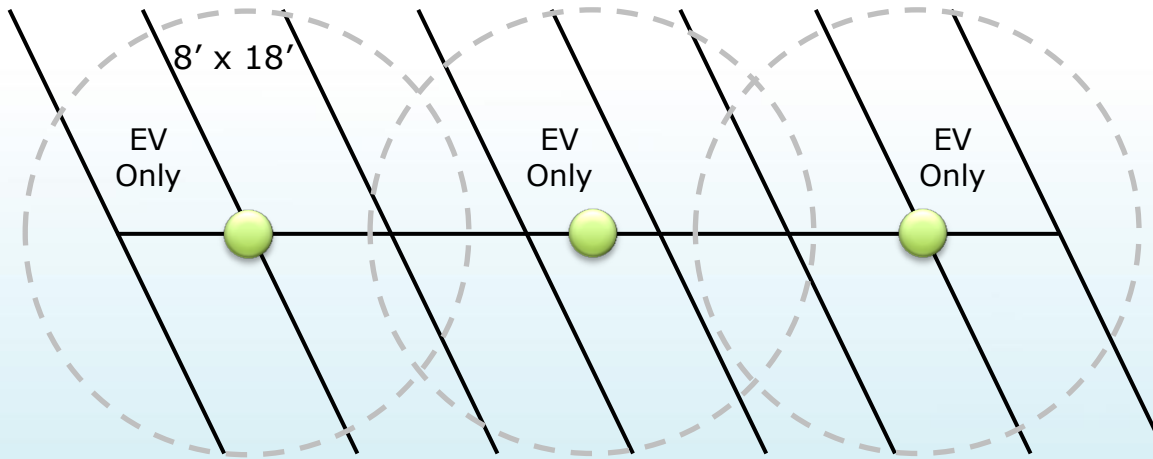
October 2014 "

Workplace Charging Commitment !

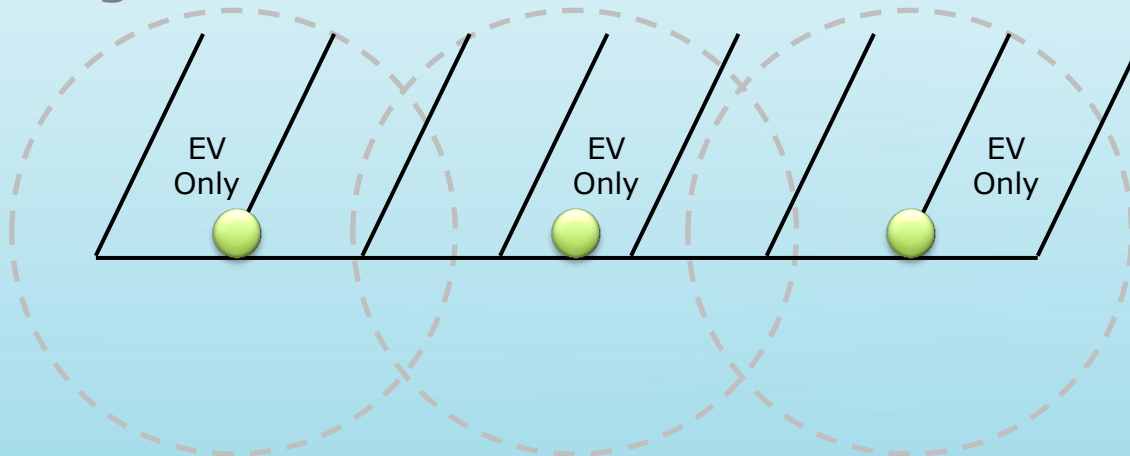
- CA Governor Jerry Brown's "Zero Emission Vehicle Action Plan"
 - "Drive the Dream" commitment to workplace charging pledge – Fall 2013
- DOE Workplace Charging Challenge – SDG&E is a partner
 - Achieve a tenfold increase in U.S. employers offering workplace charging in 5 years
- Over **70** SDG&E employees with PEVs (4,000 employees; 2,000 at HQ)
- SDG&E today: **50** EVSE (21 dedicated to fleet, **10** Vehicle-Grid Integrated)
- SDG&E by end of Q1 2015 about **150** Vehicle-Grid Integrated EVSE
 - Up to **72** at SDG&E HQ (Century Park)
 - Up to **75** at **13** other SDG&E facilities
 - Five year EVSE expansion plans



Minimize Cost & Maximize Accessibility !



18' cord length



Spacing allows each charger to be used several times each day, without moving cars – just move the cord.

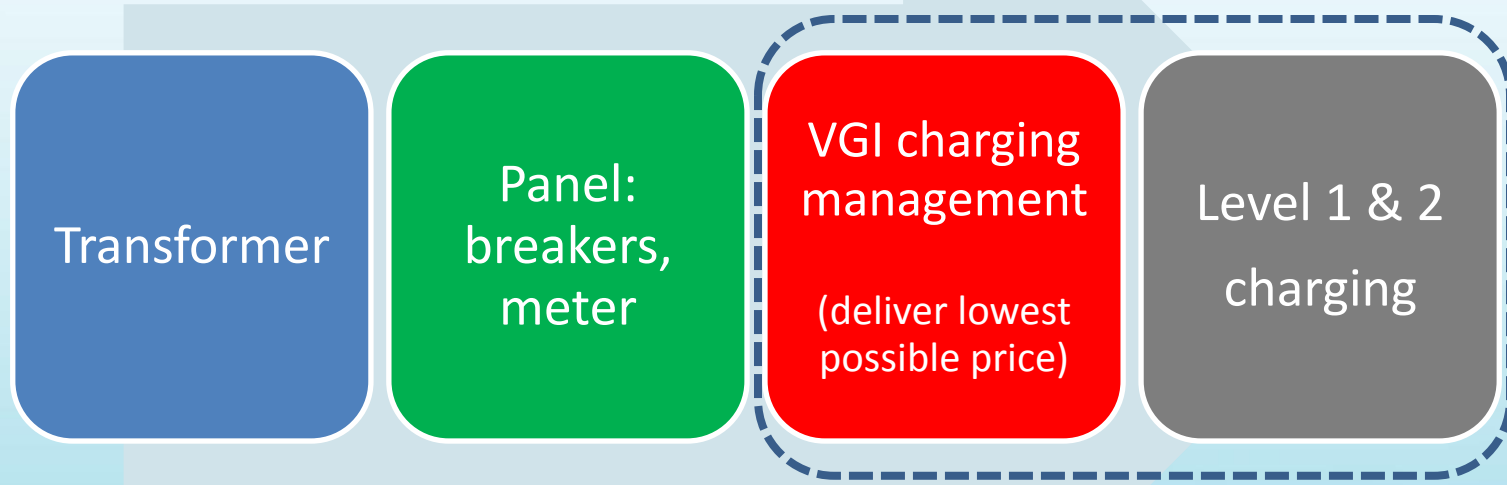


Employee Grid-Integrated Charging Pilot

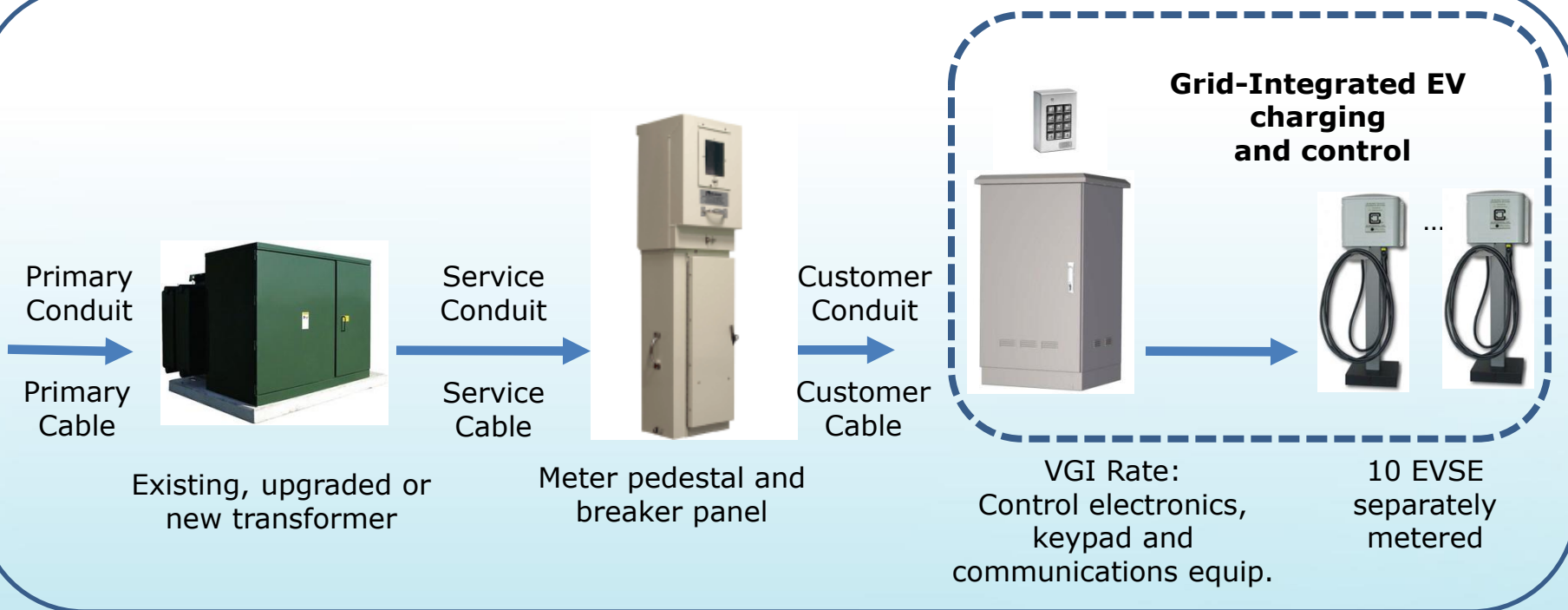


Employee Grid-Integrated Charging ! System

- Communicating – utility-specified, time-variant prices, day-ahead "
- Pricing – opportunity to get lowest price and meet charging needs "
- Billing – directly to employee

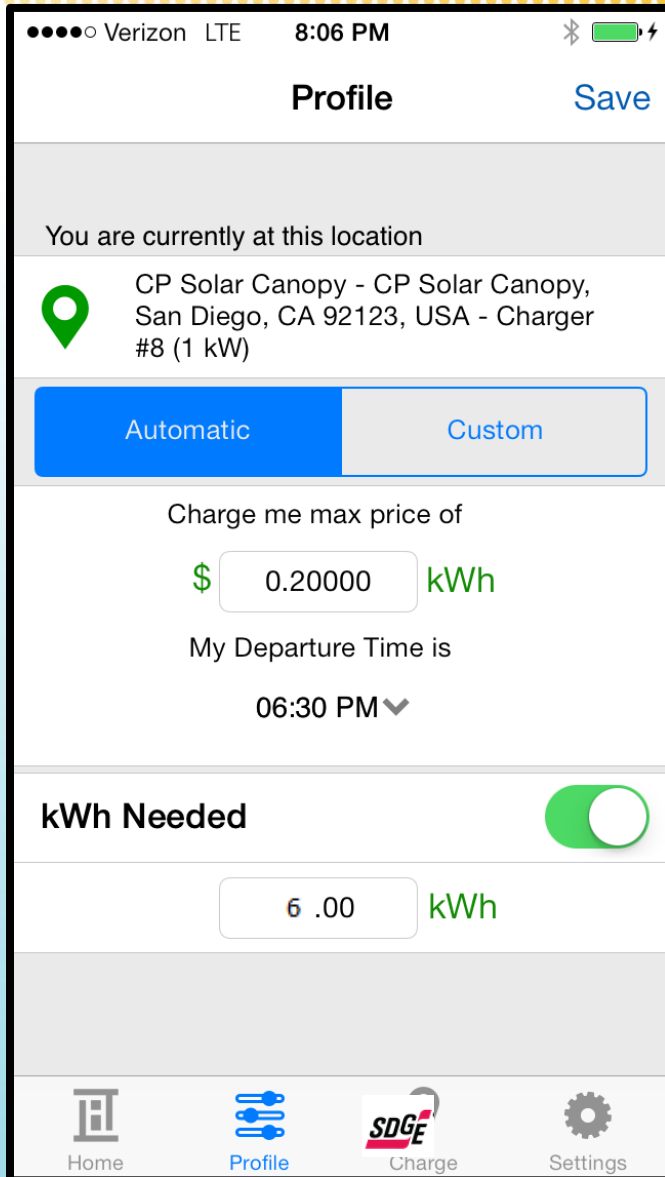


Employee Grid-Integrated Charging Installation

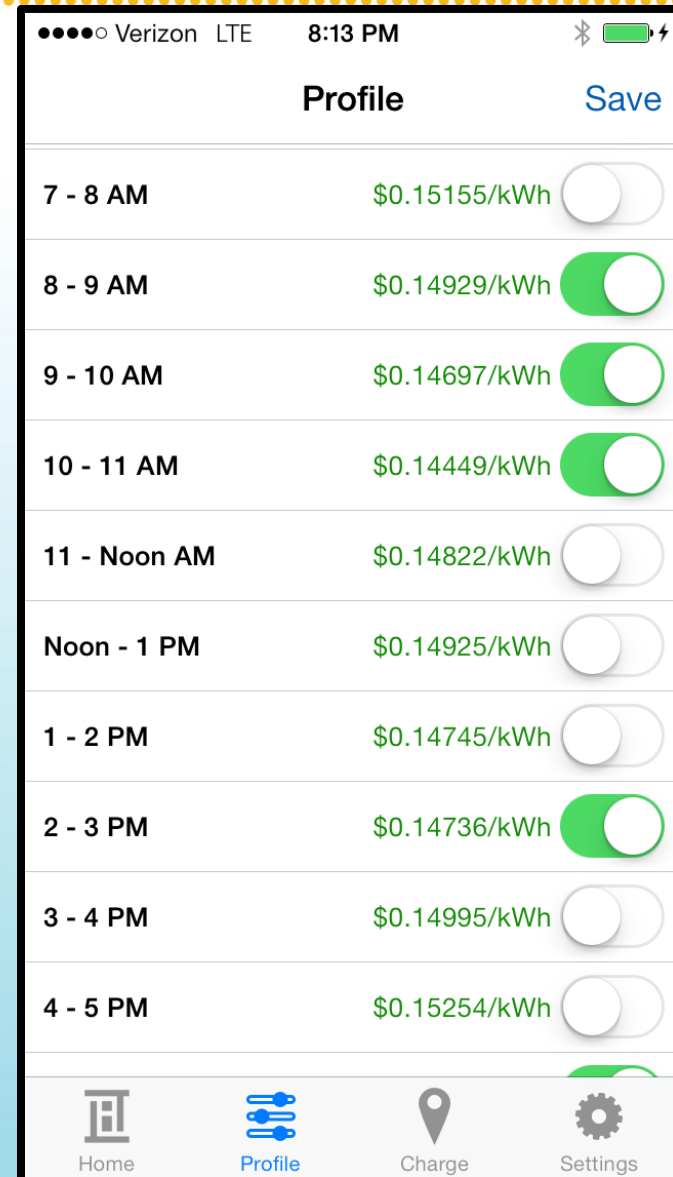


Employee Grid-Integrated Charging Phone App

Automatic Settings



Custom Settings



Electric Vehicle Grid Integration (EVGI) Pilot Proposal

- Pending proposal to introduce an hourly rate and EV charging infrastructure to efficiently integrate and manage charging loads with the grid
- Give EV customers the electricity they need at the best price possible
- Pending proposal to allow SDG&E to install EVGI enabling charging infrastructure in multi-family communities and places of work
 - Best opportunity for grid-integrated charging due to long parking durations
- To greatest extent possible use third parties to build, install, operate and maintain EVGI charging system to SDG&E specifications
 - Install 550 facilities (with 10 chargers each) over 5 years
- To have EV charging billed to an EV drivers' SDG&E bill

Questions? !

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