

Electricity Fuel Infrastructure

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Powering forward. Together.





Level 1 and Level 2 EVSE Examples



DC Fast Charger Examples



SMUD Workplace Charging Case Study

- SMUD just launched its employee charging policy
- Employees pay for charging through a payroll deductions
 - Simple placard mirror hangar used to verify program participation
- 19 Charging units installed
 - 4 Level 2's 6.6kW units
 - 15 Level 1's 1.5kW units
- Charging units are staggered in between parking spots to allow cord sharing and support additional charging activity
- Installed adjacent to our DC Fast Charging Station
 - Station is open to the public

Fleet Charging Input

- Level 1 versus Level 2 charging dependent on operational schedule
 - A mixture of both supports multiple options
- Stagger chargers in parking stalls to allow cord swapping to maximize charging capability
- Incorporate cord management systems / retractors to reduce cord mess and reduce safety tripping hazards
- Can sometimes be combined with employee workplace charging
- Charge management systems can be used to reduce peak energy usage
- U.S. Department of Defense is sponsoring some vehicle to grid experiments to send power back to the grid at peak times if available
 - Fleet applications seem ideal for technology development

Public Charging is still developing

- Most public charging is currently free in the Sacramento Area
- Mapping services exist to help find the chargers
 - Recargo – Plugshare
 - U.S. DOE
 - Individual charging network providers
 - Integrated mapping with vehicle navigation systems
- DC Fast Charging seems to be gaining popularity for real public charging
 - 20 minute recharge time
 - Supports through traffic and range extensions
 - SMUD opened its first station at the end of March
- Very difficult business model given the low price of electricity and small through put in the emerging market

Questions