Overview

• **Design/build Attributes**
  - Achieved 2% coverage for electric vehicles at opening
  - Capability to expand to 20% coverage

• **18 dual-headed EVSE’s installed**

• **RFID access control not installed but offered as an option**

• **Metering both in aggregate and as individual stations**

• **First for research and fleet vehicle use, second for employee use**

• **At capacity, annual operating cost expected to be between $1500 and $2500/year**
Typical PHEV Consumption Trends

- **PHEV Load**
- **Solar Output (% of Capacity)**

### Monday to Friday

- **PHEV Power Demand (kW)**
- **PV System Output (% of Capacity)**

*Figure illustrates typical PHEV consumption trends over a week.*
Available Vehicles and EVSE’s

Level II AC – 3-7kW 208V 40A

DC Fast Charger AC – 25-50kW 208V/480V 3P
New PEV sales compared to HEV sales over their respective 24 month introductory periods

After 10yrs of availability HEVs are ~1% of total fleet.
** Revisions to NEC now allow integration of building load management methods for reduction of circuit load ratings and cost reduction.
Planning for PEVs on a Highly Renewable Campus

![Graph showing NREL Campus Power Demand (kW) vs Time of Day]

- **Campus Net Load with PV**
- **Bldgs + PEVs (20%, Immediate Charging)**
- **Bldgs + PEVs (2% adoption)**
- **Bldgs + PEVs (20%, Staggered Charging)**

Typical Daily Peak

Daily drop due to on-site solar production

Unmanaged = $11.50/veh/mo
Staggered = $4.50/veh/mo
Station Visibility is Important

Alternative Fuels Data Center

**Fuel Type**
Ethanol (E85)

**Location**
Enter a city, postal code, or address

Include private stations
Not all stations are open to the public. Choose this option to also search private fueling stations.

Search

Caution: The AFDC recommends that users verify that stations are open, available to the public, and have the fuel prior to making a trip to that location. Some stations in our database have addresses that could not be located by the Station Locator application. This may result in the station appearing in the center of the zip code area instead of the actual location.
Future EV / EVSE Interface - Wireless
For More Information…

• **Colorado Incentives and laws**
  - Up to 80% of cost of PEV and/or EVSE installation -
    [http://cleanairfleets.org/documents/detail/electric_vehicle_and_charging_station_grant_application/](http://cleanairfleets.org/documents/detail/electric_vehicle_and_charging_station_grant_application/)
  - Resale of electricity is allowed without regulation as a utility -

• **Resources**
  - Alt Fuels Data Center Handbook on Charging Infrastructure
  - Colorado EV Infrastructure Readiness Plan
  - EVSE Siting Recommendations
  - RMI – Project Get Ready [http://www.rmi.org/project_get_ready](http://www.rmi.org/project_get_ready)