

Electric Vehicle Supply Infrastructure (EVSE)

Electric Vehicles will be in Central Florida in 7 months...here's how to prepare for them

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In Q4, these EVs should be available in Orlando...



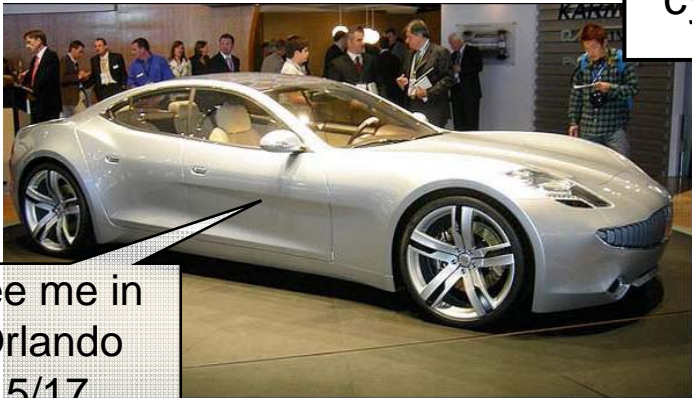
Rent me at Hertz!

Small: Nissan Leaf



Mid-Sized: Chevy Volt

Plus 10 other cars, motor-cycles, & buses



See me in Orlando 5/17

Luxury: Fisker Karma



Commercial: Ford Transit Connect EV

Central Florida is Getting Ready for EVs

■ Project Get Ready: Central Florida

- Rocky Mountain Institute's guidelines
- Steering Committee: Orange County, City of Orlando, OUC, Progress Energy, Palmer Electric
- Working on Permitting now

■ Currently only city/region in Florida...

- To have a Get Ready Program
- To sell Nissan Leaf



Why go Electric? 3 Key Reasons

■ Cleaner!

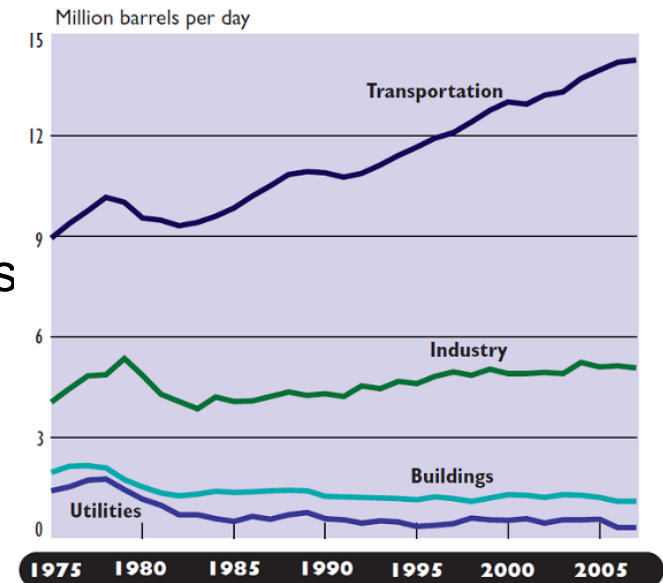
- % of Electricity Generated by Coal is Decreasing in US
- No better way to lower GHG emissions

■ Cheaper!

- 100 Miles of “fuel” for \$3 vs. \$14
- “Fuel” stations (electricity) are everywhere!

■ Reduces dependence on Foreign Oil!

- Reduces US wealth transfer
- Reduces need to do business with unfriendly countries
- Increases our power and independence



Who Will Buy EVs?

■ Ernst & Young Research – Jan 2010

- ~10% said they would consider a PHEV/EV
- = 230,000 Vehicles in Central Florida Households
- Saving money on fuel is key driver

■ Accenture Survey – March 2010

- 42% likely to buy an EV in next 2 years

■ Capitol One Auto Finance Survey – April 2010

- 34% Somewhat or Very Likely to buy

■ Target Buyer

- 70% Male, Mid-40s, Married, >\$75K/y, Homeowner

What are the top concerns with EVs?

■ Battery driving range

- Now: 100 mile range today with Pure EVs

■ Vehicle cost

- Battery is biggest cost
- Now: Nissan Leaf = \$25K after \$7,500 rebate

■ Access to charging stations

- Combats Range Anxiety
- This is where you come in...

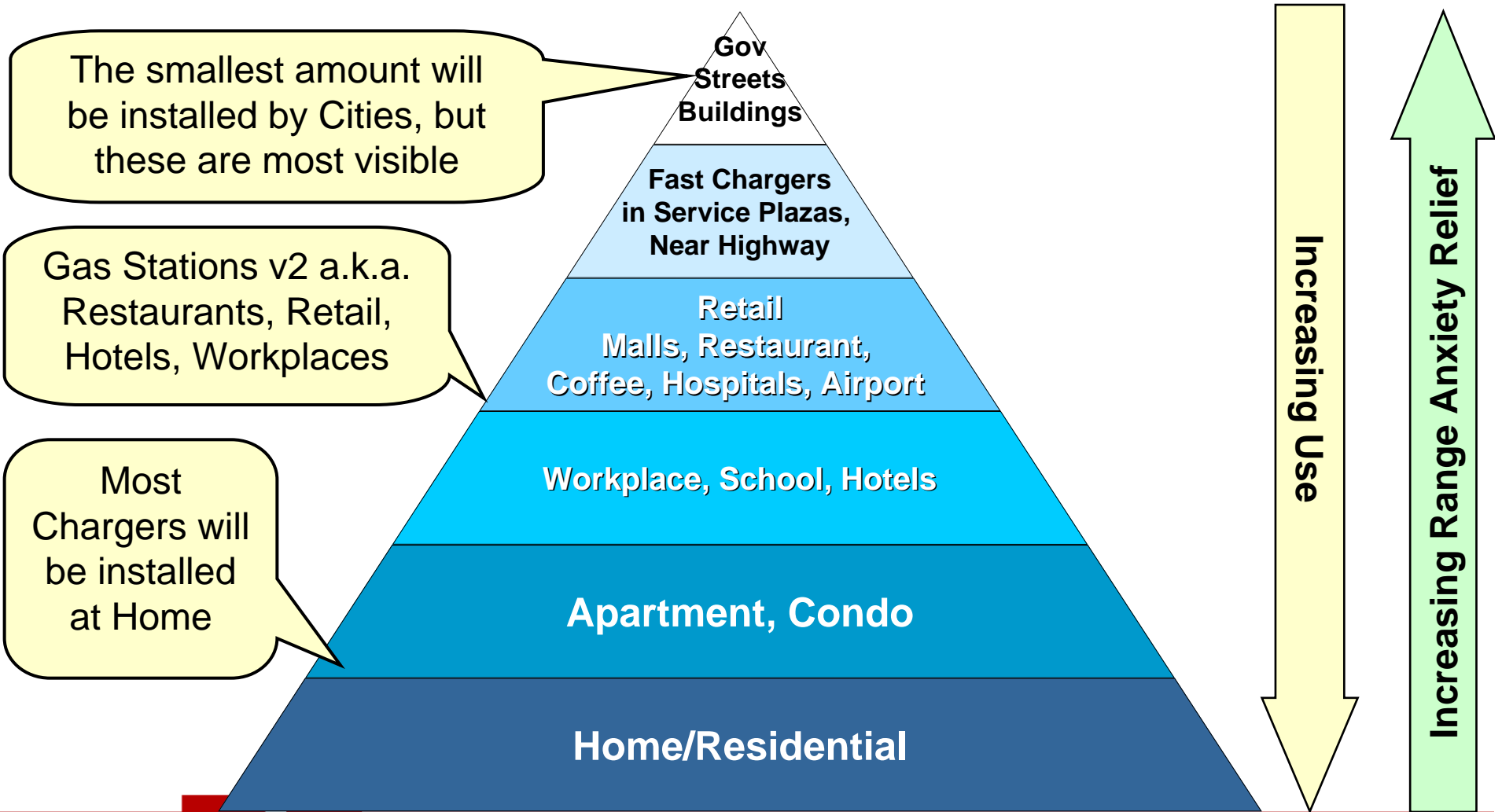


Why Install EV Infrastructure?

- **Attract customers that buy PHEV/EVs, who are typically...**
 - Green/Conservation/Healthy Minded
 - Affluent & Early Adopters
- **Capture customers for 30 min or more**
- **Future Revenue Stream**
 - Typically free charging initially
 - Subscription, Pay per Use, SunPass
 - Packaged in a VIP service
- **Incentives**
 - Federal Tax credit up to \$50K per Site
 - Points for LEED Certification



Where will the Chargers be located?



How Fast do you want to Charge?

■ Level 1: 120V/12A Outlet

- Cheap and Simple
- Customers use their own cable
- Takes 8h-24h to charge from empty
- Cost: \$4.50 at \$0.13/kWh if used all day



■ Level 2: 220V/32A Charging Station

- Has attached J1772 “Filler Hose”
- Takes 2-8h to charge from empty
- Cost: \$22 at \$0.13/kWh if used all day



■ Level 3: 480V Fast Charger

- Uses TEPCO/JARI Cable
- Takes 10-30m to charge from empty
- Mostly for Fleets & Highways



Increasing Charge Speed & Cost

Installation Options

Several EVSE options available today...

...many, many more available in Q3



Wall Mount
Level 1



Pole Mount
Level 2



Bollard Mount
Level 2



Bollard Mount
Level 3

Installation Guidelines

■ Location, Location, Location

- Installation cost vary greatly with distance to power
- Locate some stations in a visible place to aid Range Anxiety and promote awareness
- Locate overage stations in lesser used parking
- Locations that require 30 min stay min
- Locate near bus/train stations
- Locate in secure area to protect people & equipment

Installation Guidelines

■ Plan Big, start Small

- Wire for more chargers than currently needed
- Start out small and expand as EV base matures

■ Indy Airport considering reservation system

■ Market/Advertise

- Website

■ ADA Requirements

■ Striped and Signed



Airport has 4 Types of EVSE Needs

1. Short Term Passengers – Day trips/Cell Lot

- Primary: Level 2. Secondary: Level 1

2. Long Term Passengers – Multiple Day trips

- Primary: Level 1. Secondary: Level 2

3. Employee

- Primary: Level 1. Secondary: Level 2

4. Fleet/Depot

- Primary: Level 3. Secondary: Level 2

Initial Recommendations

■ Phase I – Complete Q2-2010

- Create Master Plan for EVSE

■ Phase II – Complete Q4-2010

- Install 3 Coulomb Level 2 chargers that OUC gave you in Parking A and wire for 6
- Install 3 Coulomb Level 2 chargers in Parking B and wire for 6
- Install (10) 120v weatherized outlets in a less busy lots for overage – wire for 220v

■ Phase II – Complete Q2-2011

- Add 3 more Coulomb Level 2 chargers to Garage A & B
- Add 3 Level 2 chargers to Cell Phone Lot – wire for 6
- Install (10) 120v weatherized outlets to less busy lots for overage – wire for 220v

■ Phase IV – Complete As Necessary

- Expand per Master Plan



Done....Questions?

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