

# Trends in Workplace Charging

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Ford Motor Company



# Ford's Range of Electrified Vehicles



Ford offers the  
**power of choice**



 **FUSION ENERGI**



 **FUSION HYBRID**



 **FOCUS ELECTRIC**



 **C-MAX ENERGI**



 **C-MAX HYBRID**

# Ford's Power of Choice Line-Up

**EB** ECOBOOST



**H** HYBRID



**P** PLUG-IN HYBRID



**E** ELECTRIC



**Relative Battery Size:**

None



**Source of Electric Power:**

None



**Federal Tax Credit:**

None

None

\$3,750

\$7,500

**Est EV Miles:**

N/A

N/A

approx 21

70-100

# Cost of Charging



**Focus**  
ELECTRIC

**\$2-\$3**

per Charge



**C-MAX**  
ENERGI



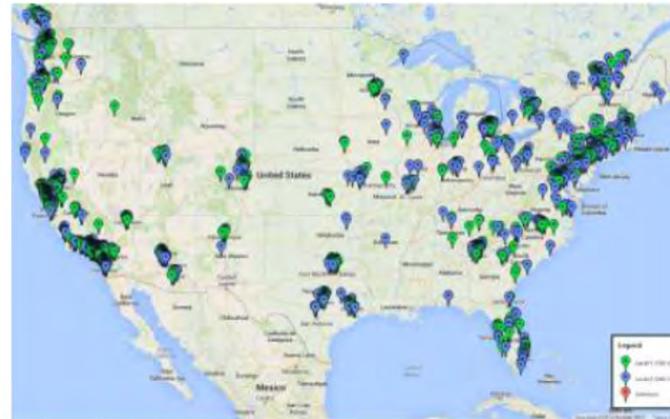
**Less Than \$1**  
per Charge

# What Types of Chargers are Being Used?

## PHEV Chargers



## Focus Electric Chargers



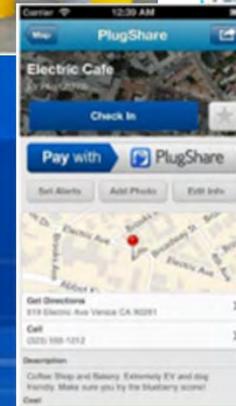
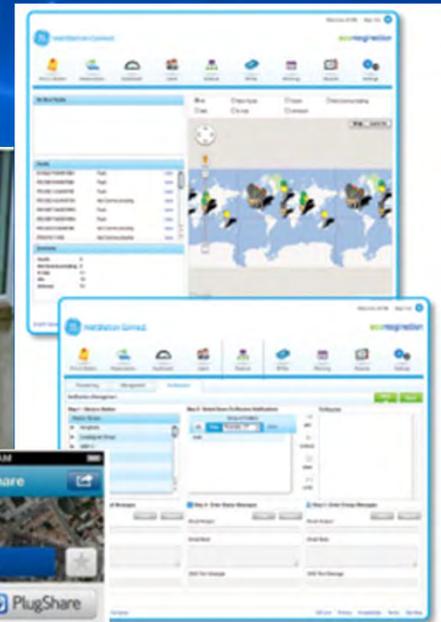
Map data is for the latest week (April 27)

73% Level 1  
27% Level 2

41% Level 1  
59% Level 2

# Considerations for Campus Installations

- Network
  - Ability to monitor usage, develop expansion plans, pay for services
  - Open or Proprietary – ability to change network
  - Creative scheduling (fees, hours)
- Concentration of Stations
  - ADA 1% of spaces
  - LEED certification
- Costs
  - Installation (L1, L2, split power)
  - Electrical Power (commercial v residential rates)
- Fleet Wants and Needs



Station Connect for desktop users  
Provides timely information about EV  
charging stations in a user friendly format.

# Status of Ford Campus Installations

- Installation Plans include SE Michigan, Marketing and Manufacturing sites in the US and Canada
  - Installations in 6 states plus Canada complete. End of project will include 6 additional states with over 80 individual sites.
- GE as Station and Network Vendor
  - Variety of products available to suit location needs
  - Network functionality allows for vehicle charging and station usage analytics

# Examples of Installations

Product Development  
Center – Over 5000  
employees



Research & Innovation  
Center – Over 3000  
employees



Station design utilized for Auto Shows

# Ford World Headquarters DTE Solar Installation – Coming Spring 2015



# Lessons Learned

- Location, Location, Location
  - Location can increase visibility, employee usage and installation costs
- Larger Installations are more cost effective
  - Trenching and electrical upgrades drive costs
  - Design plans should include equipment for expansion
- Leased locations have their own challenges
  - Need to negotiate with Landlord on installation costs, on-going electricity costs and possibly other tenants at the facility

# Infrastructure Continues to Develop

## 2013 Status

- Public Electric Charge Stations <sup>1</sup>
  - US: 12,000
  - Europe: 15,000
- US: 566 Public CNG Refilling Stations <sup>2</sup>
- US: 10 Public Hydrogen Refilling Stations <sup>2</sup>



**EV Charge Stations experienced the highest growth since 2009.**

Notes: 1 – Source PlugShare, 2 – Source DOE Alt Fuels Database



Dylan's EV is at  
5th Avenue, charging.



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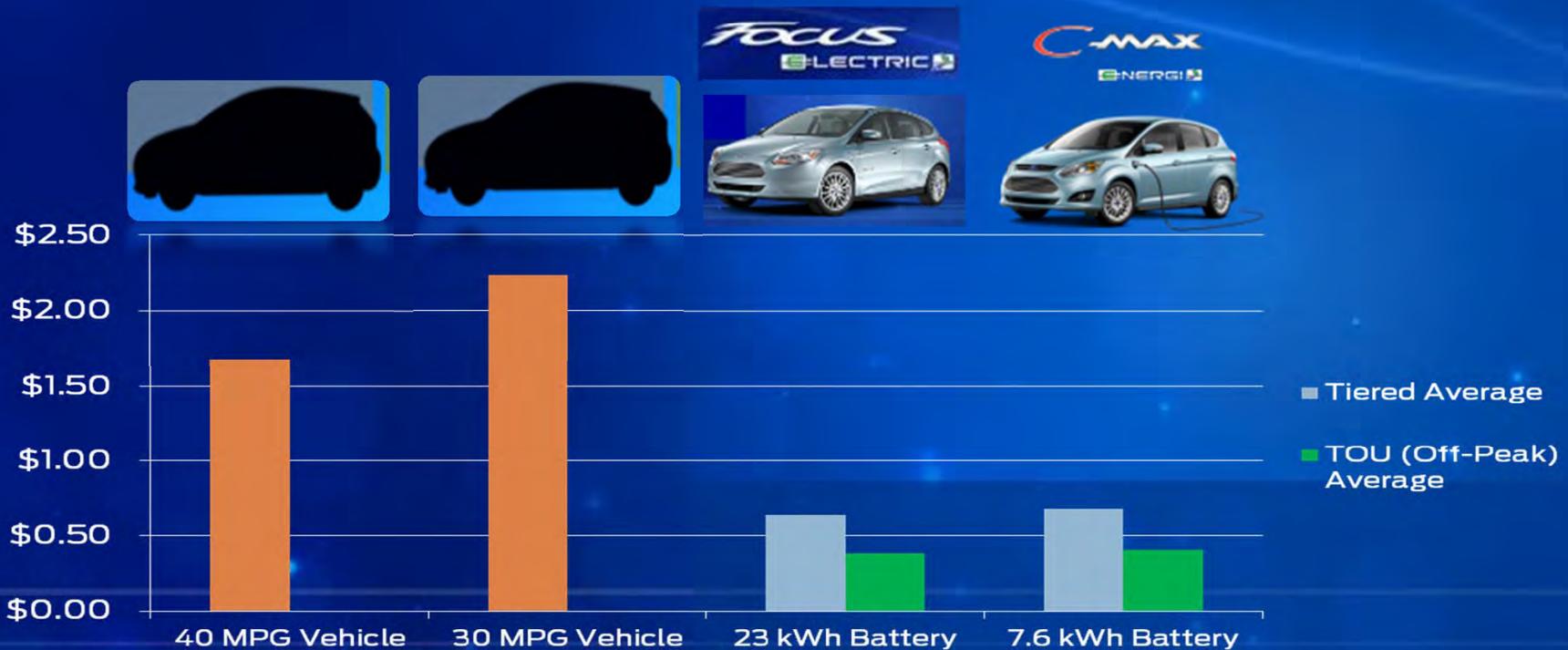
myFORD<sup>®</sup>  
mobile



with  
Value  
Charging

# CHARGE MORE, PAY LESS

## GAS VS. ELECTRIC (20 MILE TRIP)



**Driving on electricity is about 1/4 the cost of driving on gasoline – and could be even less if vehicle is charged during off-peak rates (~\$1 - \$2 per charge).**

# Integrated Approach

Shared Responsibility



**A Sustainable Electrified Market Depends On Close Cooperation  
Between All Stakeholders**

