

Electric Vehicles: Experience from the Field

Learn about the many benefits of providing EV charging infrastructure. The panel will discuss opportunities to expand EV charging infrastructure regionally from the perspective of the local power utility, county and city government, EV vehicle owners and industry.

RCAP IMPLEMENTATION WORKSHOP

APRIL 30, 2015



Accelerating PEV Growth in Florida

Todd Jensen

Program Manager - Commercial Electrification

FPL has been promoting electric vehicles for years due to the benefits that they offer our customers

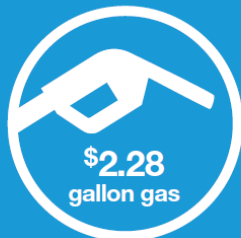
Get charged up about driving electric!

Plug-in and save

An electric vehicle takes you dollar further.



\$0.70
eGallon



\$2.28
gallon gas

Charge up with electricity for less than the equivalent of \$1 per gallon, saving you more than 70 percent on fuel costs.

Clear the air

No to low tailpipe emissions.

70%
fewer emissions

Cars powered by FPL's clean electricity have 70 percent fewer emissions than gas-powered vehicles when power plant emissions are considered – making them a feel-good option for car buyers.

Reduce oil-dependence

Fuel your car with domestic electricity rather than foreign oil.

less
than
1%
fuel oil

Less than 1 percent of all FPL power comes from oil – so FPL customers can charge their cars with electricity generated from largely domestic sources of fuel.

An electric vehicle that's right for you!

Electric vehicles go as far as you do

Choose an electric range to suit your driving needs.



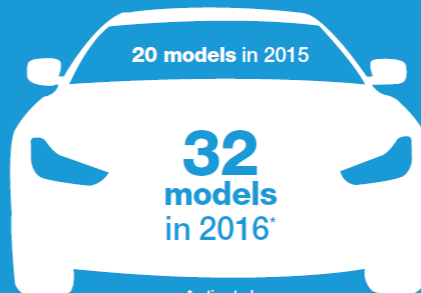
Up to
260
total miles
Fully Electric
Vehicle



Up to
540
total miles
Plug in Hybrid
Electric Vehicle

Many plug-in models

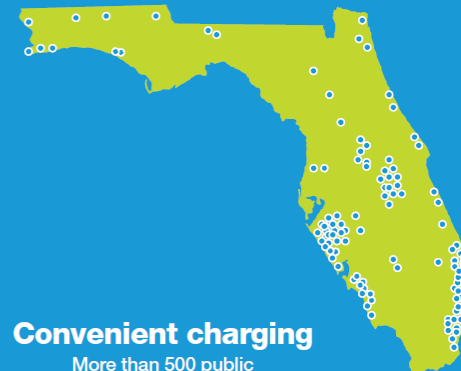
Choose from sports cars to family sedans.



20 models in 2015

32
models
in 2016*

*estimated



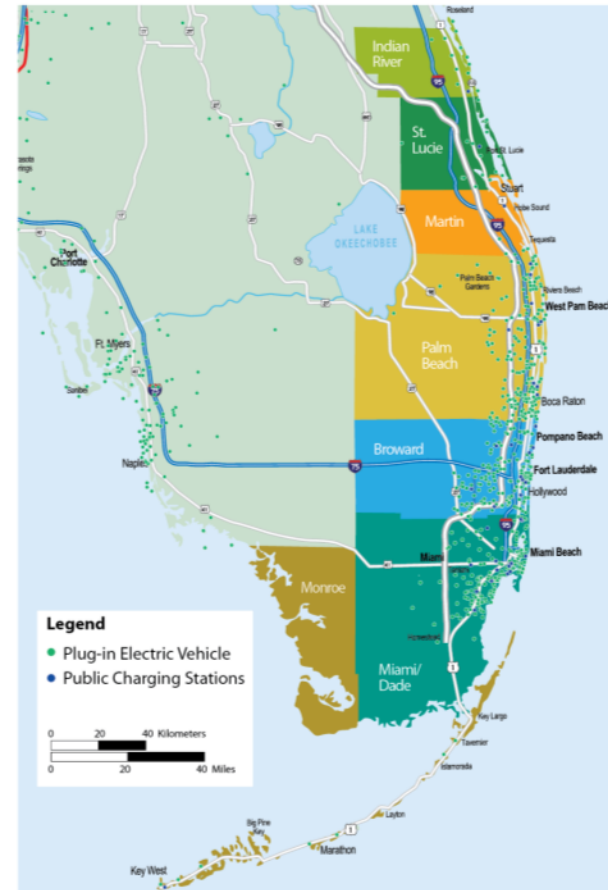
Convenient charging

More than 500 public charging stations in Florida.

In 2011 FPL assisted the Southeast Florida Clean Cities Coalition and SFRPC on their DOE community readiness grant

Southeast Florida Planning Grant

- One of sixteen grants nationwide to stimulate infrastructure planning and policy development
- Award of \$500,000 was for a seven-county regional planning effort to help prepare Southeast Florida for PEV growth
- Teams focused on:
 - Fleet adoption,
 - Infrastructure development,
 - Policy/permitting/codes/incentives,
 - Education & outreach,
 - U.S. 1 corridor demonstration project
- Funding through June 2013



There were nearly 100 Southeast Florida stakeholders from public and private sectors involved in the work

The grant allowed for the creation of many tools and resources to help our communities prepare for the PEV future

Tools and Resources

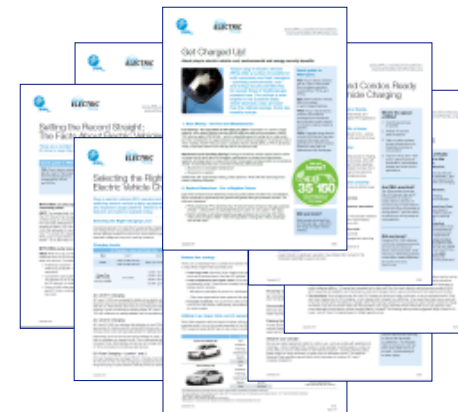
Contact us

Electric-vehicles@FPL.com



Review the fact sheets on topics including:

- Installation at multi-unit dwellings
- Equipment selection
- Siting charging stations
- Workplace charging
- Fleet considerations
- and more...



The full report – and nine topical fact sheets can be found at www.DriveElectricFlorida.org



After grant completed, a transition from regional planning to statewide coordination was needed; Drive Electric Florida was formed and formalized into a 501 (C)6 organization in January

Mission

Advance the energy, economic and environmental security of the state of Florida by promoting the growth of plug-in electric vehicles and equipment and the needed infrastructure to support it

Vision

Accelerate the adoption of plug-in electric vehicles and equipment in Florida by engaging and educating public, business, and policy-makers to gain support for smart electric policies and programs

Structure

Executive Committee

Education & Awareness

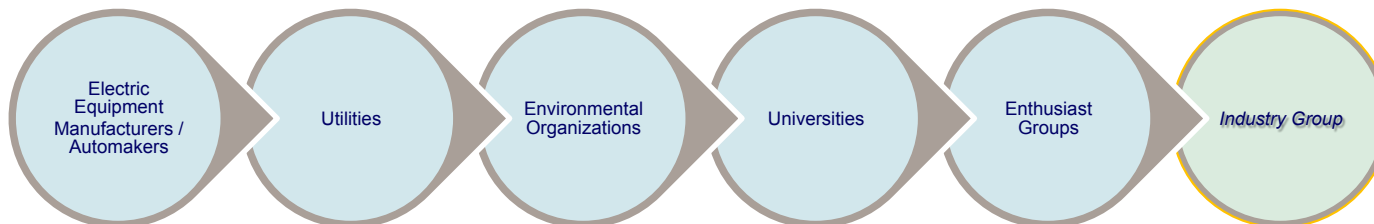
Incentives & Policy

Organization & Funding

Success Factors

- Engaged membership
- In kind contributions
- Shared resources
- State-wide scope
- Focus on limited number of annual priorities

Member Organizations

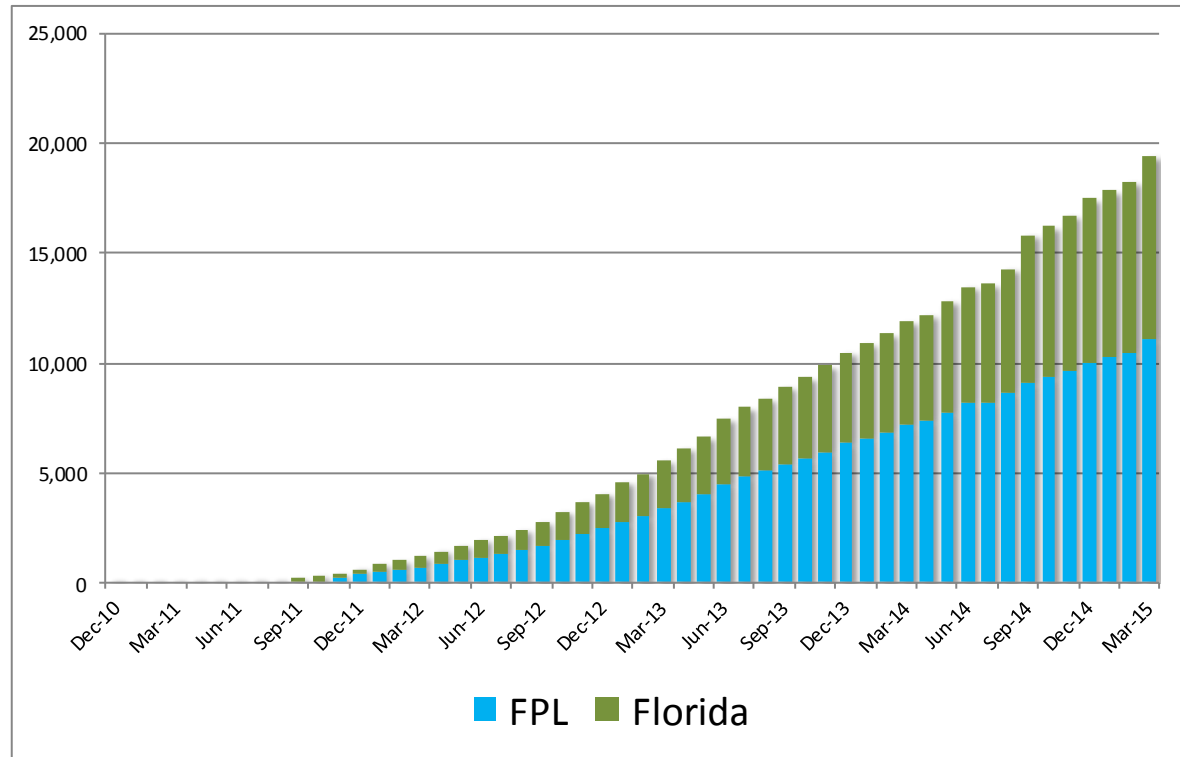


Consider joining Drive Electric Florida – membership materials available here today



PEV sales continue growth in Florida and in FPL's territory

Florida PEV Sales through March 2015

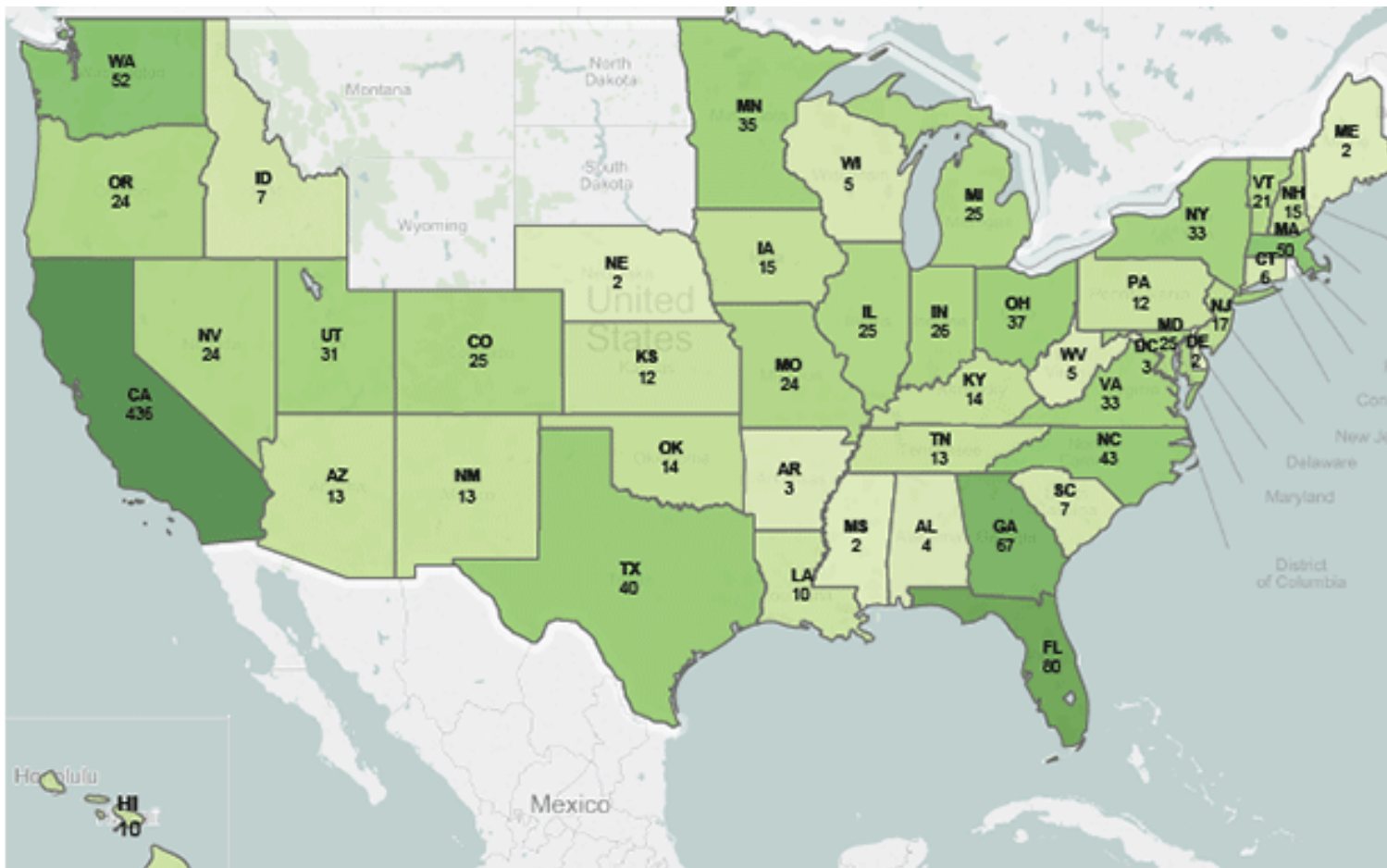


FPL's share of PEVs within its territory is continuing to increase

FL Source: Florida Dept. of Highway Safety and Motor Vehicles



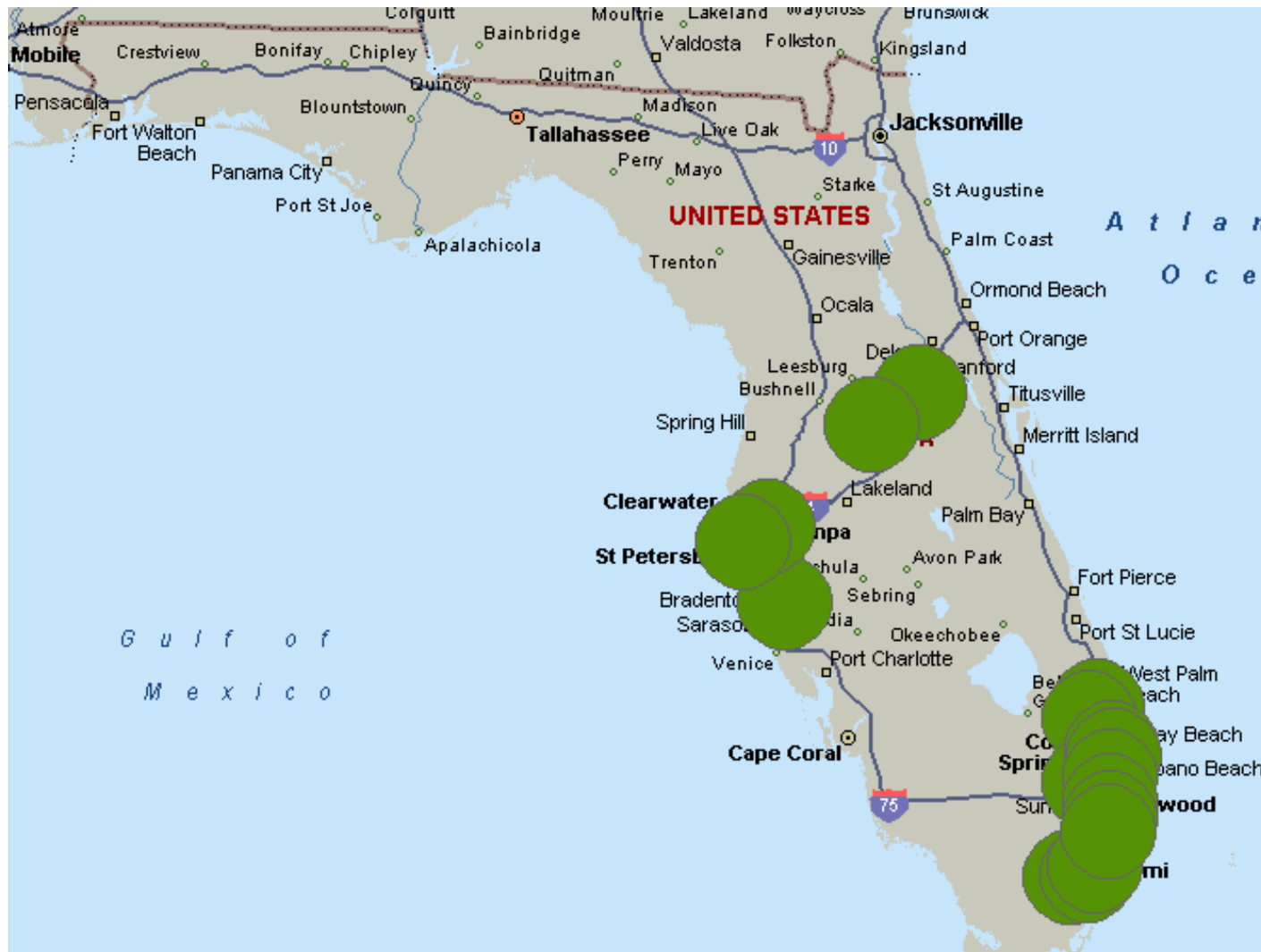
The strong growth in Florida is also seen in 1st quarter installations by state



Station Installations by State, 2015-Q1. Levels 2 and 3, all types of connectors. (Source: PlugShare Quarterly)

Though installations are strong compared to other states
Florida seems to have a need for more

Underserved Areas – PEV to Public EVSE Ratio above 20



FPL will continue to do its part to increase adoption of electric vehicles – while saving money for its customers

FPL's Electric Vehicles Program

FPL's Corporate Electric Fleet

- Operating electric vehicles since 1990s
- 92 percent light duty fleet is HEV/PEV
- Purchased additional electric vehicles in 2014
 - 68 bucket trucks with PHEV systems
 - 4 PHEV system materials handling buckets
 - 50 electric passenger cars
- Electric pool car program
- All results in significant fuel cost savings



Support Residential & Commercial PEVs

- Consumer awareness and education
 - Display PEVs at ~ 100 community events
 - Robust PEV website, fact sheets, articles
- Commercial outreach
 - Customer, government fleet acquisition support
 - Educating business and government on benefits of electric equipment
- Industry engagement
 - Exec committees of EDTA, CALSTART, etc.
 - Co-Founder of Drive Electric Florida



Broward County: Strategy to expand plug-in electric vehicles infrastructure

POLICY 19.2.5 OF THE BROWARD COUNTY
COMPREHENSIVE PLAN CLIMATE CHANGE ELEMENT

Maribel Feliciano, Planning Administrator
Environmental Protection and Growth Management Department

Getting Broward Plug-in Ready!



In February 12, 2013 the Broward County Board of County Commissioners adopted the Broward Comprehensive Plan Climate Change Element www.broward.org/planninganddevelopment/comprehensiveplanning

Policy 19.2.5: Broward County shall continue to work with the Department of Energy Florida Gold Coast Clean Cities Coalition to support initiatives which seek to diversify fuel options for public transit and fleet vehicles, expand infrastructure for charging electric and hybrid electric vehicles, and incentivize parking for alternative fuel vehicles.

Plug-in Electric Vehicle Workshop

October 2, 2013



Construction Management
Facilities Maintenance
Environmental Protection &
Growth Management
Broward County Transit
Port Everglades

Purpose:

To increase PEV public infrastructure and vehicles in Broward County by identifying common barriers and potential solutions.



PLANNING AND REDEVELOPMENT DIVISION

Getting Southeast Florida
Plug-in Ready



The Strategy



Strategy to Implement Policy 19.2.5 of the Broward County Comprehensive Plan Climate Change Element

Goal: To expand the use of alternative fuels and infrastructure

April 28 • 2014

Includes Model Ordinances for Local Governments



PLANNING AND REDEVELOPMENT DIVISION



PLANNING AND REDEVELOPMENT DIVISION


Getting Southeast Florida
Plug-in Ready



Leading by Example



BROWARD COUNTY PLANNING AND REDEVELOPMENT DIVISION
FLORIDA



Workplace Charging Challenge
Partner Plan

June 20th, 2014



Broward County Recognized by the US Department of Energy Workplace Charging Challenge



FIGURE 7: BROWARD COUNTY'S PUBLIC ELECTRIC VEHICLE CHARGING STATIONS

U.S. DEPARTMENT OF ENERGY Energy Efficiency & Renewable Energy EERE Home | Programs & Offices | Consumer Information

Alternative Fuels Data Center

Alternative Fuels Data Center SEARCH

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Electricity Basics

Benefits & Considerations

Stations

Locations

Infrastructure Development

Vehicles

Laws & Incentives

Electric Vehicle Charging Station Locations

Find electric vehicle charging stations near an address or ZIP code or along a route in the United States. For more alternative fueling stations, use the [Alternative Fueling Station Locator](#).

Find Stations Plan a Route

Q broward Go

Electric

[more search options](#)

Electric stations near broward
Excluding private stations

- A Sawgrass Ford**
14501 W Sunrise Blvd
Sunrise, FL 33323
Phone: 800-622-0300
Fuel: Electric
Electric charging types: Level 2
Distance: 3.3 mi
- B Coral Springs Nissan**
9350 W Atlantic Blvd
Coral Springs, FL 33071
Phone: 954-753-1700
Fuel: Electric
Electric charging types: Level 2
Distance: 7.9 mi



Regional Climate Action Plan Implementation Workshop

Electric Vehicles: Experience from the Field

April 30, 2015

**John Morgan
Sustainability Officer
City of Delray Beach**



Electric Vehicle (EV) Charging Stations

- Partnering with Plug In Florida
- Provide and install up to six (6) Electric Charging Stations within the Downtown Area at no cost to the City
- Three (3) stations operational in Bankers Row Parking Lot



Cost of Electric Service for Stations

- Less than \$3 per month in 2011 (GM and Nissan didn't start formal deliveries in Florida until early 2012)
- Less than \$10/month in 2012
- Less than \$20/month in 2013
- Less than \$45/month in 2014
- Less than \$60/month in 2015
- Electrical cost for lighting the Banker's Row parking lot -- just that one lot -- each night, runs about \$252 per month



Usage and Feedback

- Average of 17 charging sessions per day in March 2015
- Increase of 425% since summer of 2014
- EV drivers are choosing to visit downtown Delray Beach to have a meal or shop because they can use our charging stations



Trouble-shooting and Station Growth

- Tesla trips circuit breakers
- New developments voluntarily installing stations (becomes condition of approval)
- Site selection for 3 new City stations underway

ATTN: TESLA OWNERS
Please set on-board charger
To 30 amps or less



THANK YOU



EV Charging Technology and Infrastructure

Carlos de Jesus, President/Owner,
Crown Electric Florida.

Electric Vehicle
Owner

Regional collaboration to align sustainable transportation options with funding opportunities

Gregory Stuart, AICP. Executive Director, Broward Metropolitan Planning Organization



Electric Vehicle
Owner