



# **FPL Electric Vehicle Initiatives**

**Jason Gaschel**

**Program Manager, Electric Vehicles**  
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## Agenda

-  Electric Vehicle Suitability Assessment

# FPL has long supported clean transportation

## FPL Initiatives

- **FPL's Green Fleet**
  - Over a decade of leadership
  - 100 million miles using biodiesel
  - Over 570 hybrids and electric vehicles (EV)
- **Promoting plug-in EVs**
  - 100+ consumer education events a year
  - Engage with national advocacy groups
  - DOE Workplace Charging Ambassador
  - 150+ charging ports at FPL locations



**FPL's programs have been recognized by the U.S. Department of Energy**

# FPL analyzed feasibility of fleet transformation

## FPL Fleet Study

- **FPL collaborated with NREL and EZEV to evaluate fleet vehicles**
  - Determine criteria for replacement with electric vehicle (EV)
  - Smart phone based telematics / no vehicle data transmitted
- **Project parameters and outcomes**
  - Selected 25 vehicles in Customer Service Business Unit
  - Monitored driving habits for 3 months
  - Benchmarked against several electric vehicle options
  - Report produced at end of study to guide future purchase decisions



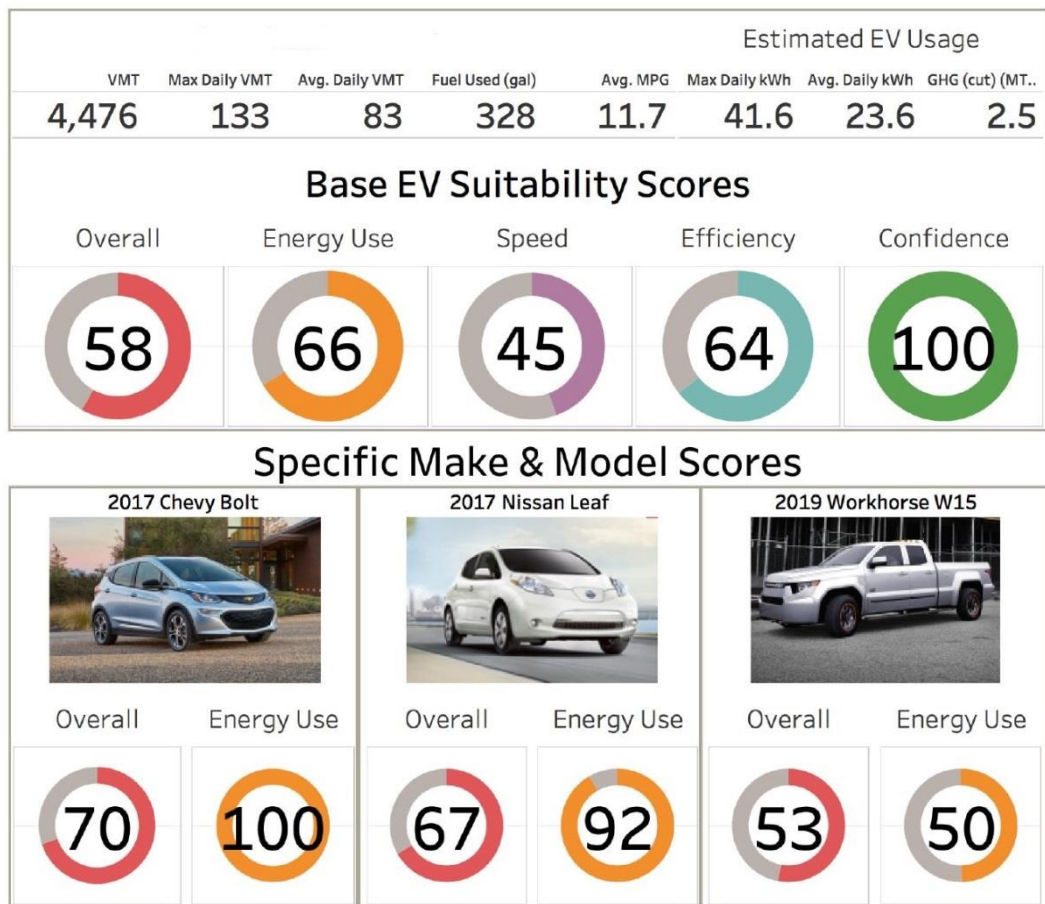
# The pilot project allowed FPL to gain internal experience that can translate to benefits for customers

## Pilot Details

- **Requirements to participate:**
  - Fleet vehicle approaching end of service life
  - Drivers possess a company cell phone with downloaded app
    - Each participant vehicle's characteristics modeled
    - Passive trip monitor with USB beacon located in vehicle
- **Report determined Base EV Suitability Score**
  - Driver range evaluated in 5 categories
    - Overall, Energy Use, Speed, Efficiency, Confidence
    - Scores are compared to electric vehicle models
  - Report determines if the driver's profile is good fit for EV
    - GPS map of daily routes and charging station locations
    - Idling time, mileage and mpg calculated

# Visual data allows for meaningful comparison between vehicle choices

## Example Screenshot from Report



# The pilot project provided a data driven report to inform fleets about electric vehicles

## Conclusion

- **Pilot helps to get the conversation with fleet managers started**
  - Internal fleet vehicle replacements
  - FPL customers who own and operate fleets
  - Give vehicle manufacturers feedback on future product offerings
- **Allow utility fleets to meet EEI's 5% capital spend challenge for electric vehicles**
  - Data needed to drive decision making
  - Report helpful to the FPL as tool to plan for future vehicle replacements and determine locations to add charging stations

# FPL is here to help

## FPL Contact

Jason.Gaschel@FPL.com

Office: 561-694-3340







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# Appendix

# Volkswagen violated several sections of the Clean Air Act

## Background

- Emission Control Systems were programmed to circumvent dynamic emissions control testing required by the EPA
- Approximately 500,000 light duty Volkswagen 2.0L Turbo Diesel vehicles produced between 2009-2015 were found to be non-compliant
- Initial settlement with U.S. Government \$14.7B



Expensive for VW, but an opportunity for the EV market

# Settlement has three sections, two of interest to Florida

## Settlement Details

- **Automotive repair or buyback (\$11B)**
- **The Mitigation Trust (\$2.9B)**
  - Florida allocated **\$166 M** based on 5.6% of vehicle population
  - Trust funded over 3 years to be spend over 10 years
  - FL Department of Environmental Protection overseeing plans
- **Zero Emission Vehicle (ZEV) Investment (\$2B)**
  - Electrify America (EA) created as VW subsidiary to deploy chargers
  - California investment \$0.8B, and Florida gets a share of \$1.2B
  - Private, 10 Year Investment, where EA decides charger placement

# Trust funds can be spent on commercial vehicle upgrades and electric vehicle charging infrastructure

## Eligible Spending Actions

- **Repower/Replace commercial vehicles**
  - Includes buses, forklifts and ground service equipment
  - Funding model favors electric drive
  - Opportunity to fund electric buses
- **Up to 15% of funds can be used EV chargers (\$24 M)**
  - Purchase, install, O&M
  - EV charging: public, workplace, multi-unit dwelling, fast charging

**Public Comment in Florida has supported investment in Electric Vehicle technologies**

# The goal is to achieve NOx reductions

## Eligible Actions

### 1) Class 8 and Drayage Trucks



### 2) School, Shuttle, Transit Buses



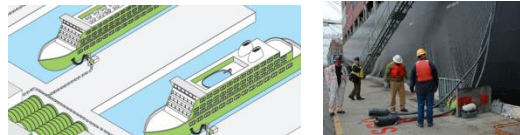
### 3) Freight Switchers












### 4) Ferries/Tugs



### 5) Ocean Going Vessels Shore Power



### 6) Class 4-7 Freight Trucks

Class 7	26,001 - 33,000 Lbs.	 utility	 beverage	 distribution van
Class 6	19,501 - 26,001 Lbs.	 rollback recovery	 grocery	 general freight
Classes 4 & 5	14,001 - 19,501 Lbs.	 stake	 cell forward distribution	 walk-on van

**Medium Truck**

### 7) Airport Ground Support Equipment



### 8) Forklifts



### 10) DERA Program

Used to off-set cost share expense for grant program funded as part of Energy Policy Act.

### 9) EV Supply Equipment (Chargers)



# Funding favors municipal over private fleets

## Heavy Duty Vehicle Repower or Replacement

- Government and privately owned buses qualify for different funding support
- Florida has already decided not to fund projects at 100%

Cost percentage that may be funded	Govt-Owned	Non-Govt Owned
Repower with new diesel or AFV engine	100%	40%
New diesel or AFV vehicle	100%	25%
Repower with new all-electric engine (incl. infra.)	100%	75%
New all-electric vehicle (incl. infra.)	100%	75%

» Source: EEI VW Settlement Webinar