



Economic Impact of Electric Vehicles on the Florida Economy

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FPL advocates for the adoption of electric vehicles across Florida

Benefits of Driving an Electric Vehicle

- Clear the Air
- Energy Independence
- Downward Pressure on Rates
- Stimulate the Florida Economy



Driving an electric vehicle makes good fiscal sense

FPL originally commissioned AECOM in 2013 to perform an economic benefit analysis and updated the study in 2016

Study Results

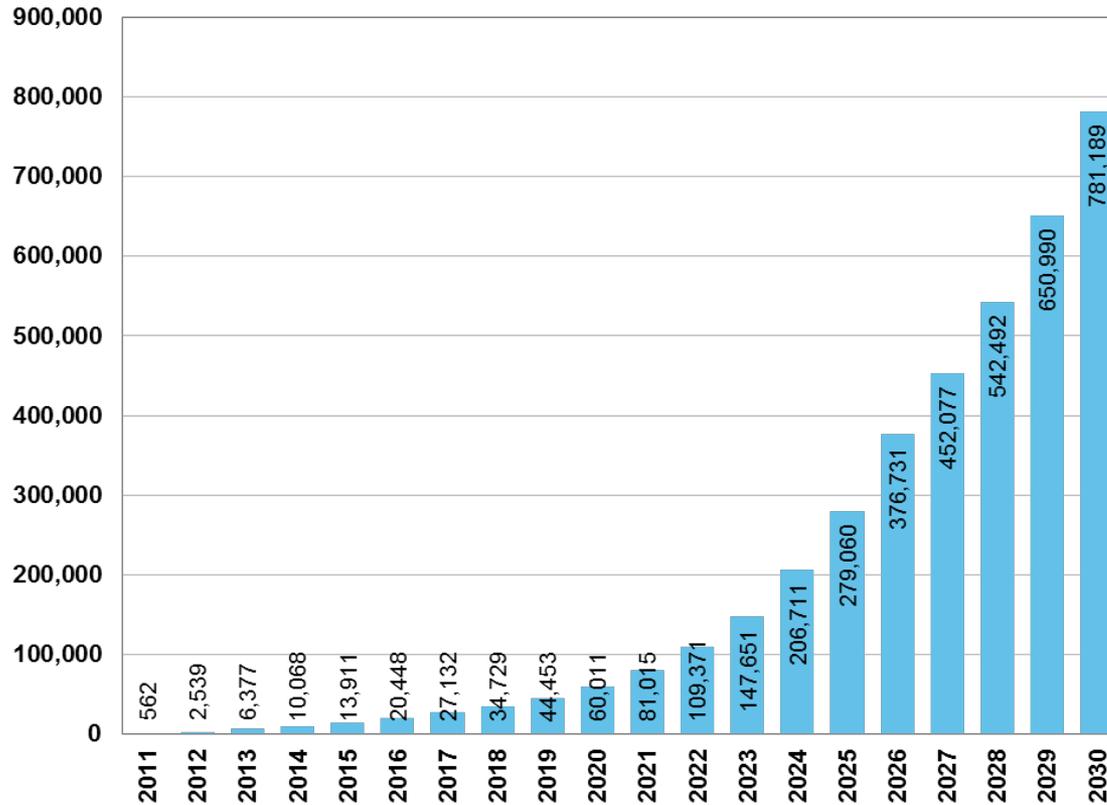
- **Both studies determined that money spent on operation and maintenance are redirected to other segments of the Florida economy**
 - Gasoline price inflation is included at two different rates to account for current and historical price volatility
 - Current gasoline prices are dramatically below historical average
 - IMPLAN data used to determine location specific impact analysis
 - Multipliers used to measure re-spending and calculate both direct and indirect impacts to economy
 - FPL provided electric vehicle forecast

Education and Outreach efforts will benefit from research identifying present and future savings



Past performance indicates steady growth through 2030

Florida Electric Vehicle Forecast



Source: Florida Power & Light

FPL forecast has been within 3% of actual since 2011



Electric vehicle purchases shift personal spending away from gas and maintenance to retail categories

Analysis Anchored by Two Relationships

- **Electricity prices tend to change slowly over time vs. gasoline that has proven to be high and volatile**
 - Oversupply has led to significantly lower gas prices
- **An electric vehicle is less expensive to maintain and operate than a gasoline powered vehicle**
 - Fueling costs decrease by at least 50 percent
 - Maintenance costs decrease by at least 35 percent

Low gasoline prices do not negate the economic benefits of driving an electric vehicle

AECOM study used average Florida costs and average mileage as reported by the U.S. Department of Energy

Reliable Data Used to Calculate Savings

- **Average fuel consumption is based on annual driving habits and manufacturer estimates**
 - 15,000 miles
 - Electricity @ .11 cents per kWh
 - Gasoline @ \$2.17 per gallon

Individual results will vary based on annual mileage and fuel price fluctuation

Electric vehicle adoption in 2016 shifts annual household spending of \$1,717

Direct Spend Results

- **Spending shifts of \$1,717 based on**
 - (-\$1,666) per year reduction in gasoline and motor oil
 - (-\$542) reduction in other vehicle expenses including maintenance
 - (+\$491) average annual increase in electricity to power vehicle
- **Economic Impact for Florida**
 - In 2020 \$96M
 - In 2030 \$1.4B
- **Job creation and spending in other economic sectors**

Study averaged savings between pure electric and plug-in hybrid vehicles

The findings of the study show increased electric vehicle adoption leads to job creation

Shifts in Spending Lead to Job Creation

- **2020**
 - 656 jobs created
 - \$20M in wages
 - \$96M in total dollars spent
- **2030**
 - 8400 jobs created
 - \$311M in wages
 - \$1.48B in total dollars spent

Summary of Impacts, Baseline Scenario, Current Fuel Prices

	2016	2020	2025	2030
Personal EVs	20,448	60,011	279,060	781,189
Total Impact	\$31,030,000	\$96,266,000	\$485,864,000	\$1,489,439,000
Jobs	226	656	3,020	8,398
Wages (millions)	\$6,601,000	\$20,488,000	\$102,771,000	\$311,815,000

Sources: FPL, IMPLAN, AECOM

Household spending will shift to non-transportation industries

Categories of Spending

Changes in Spending Linked to EV Use, 2016

Retail Category	Decrease in Spending	Increase In Spending
Vehicle Operations		
Gasoline and motor oil	-\$1,666	\$147
Maintenance and repairs	-\$542	
Electricity		\$491
Spending Redistributed		
Food at home		\$468
Food away from home		\$301
Alcoholic beverages		\$58
Household operations		\$107
Household furnishings and equipment		\$98
Apparel and services		\$262
Entertainment		\$200
Personal care products and services		\$72
Reading		\$6
Total	-\$2,208	\$2,208

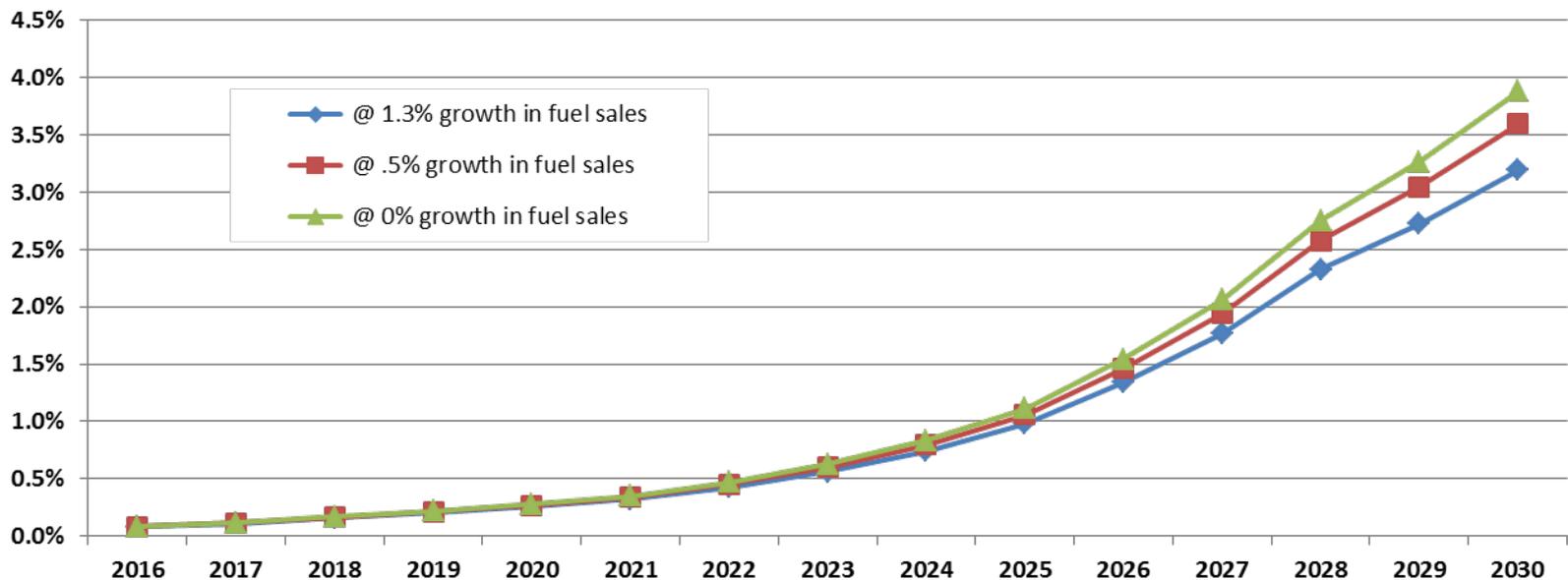
Source: BLS

Total household spending will not increase, but where it will be spent shifts

Future state fuel tax revenue decline will be driven by fuel economy improvements, not electric vehicles

New Vehicle Efficiency Increases 1.2 Percent Per Year

- **Electric vehicle market share of 4 percent by 2030 will have minimal effect on collection of fuel tax**



Buying an electric vehicle has a positive impact on environment, society and the economy

Conclusion

- **For each new electric vehicle purchased in Florida**
 - A spending shift occurs that benefits local businesses
 - Less money is spent on vehicle fueling and maintenance
 - Less money is spent on foreign oil
 - Increased spending leads to job creation

