

City of Palm Coast, Florida Agenda Item

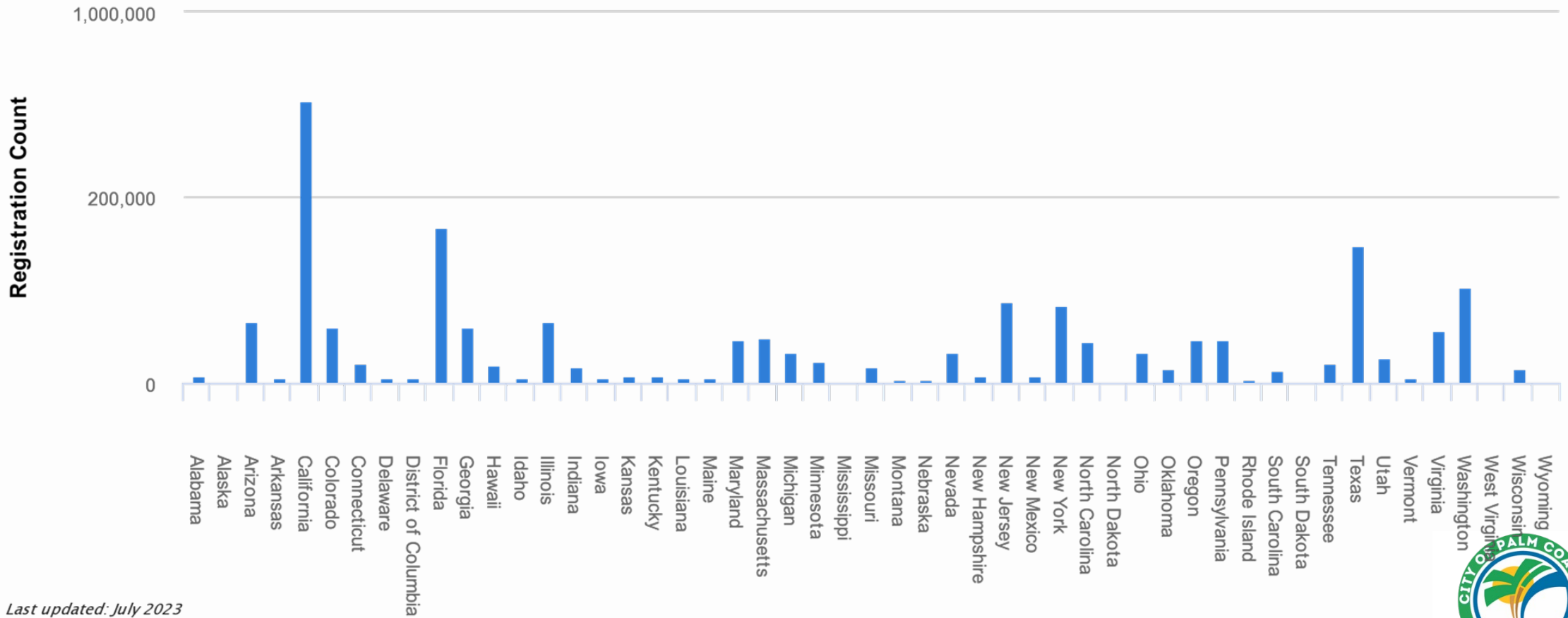
Agenda Date: September 12, 2023

Department	CONSTRUCTION MANAGEMENT & ENGINEERING	Amount
Division	ENGINEERING	Account #
Subject: PRESENTATION - ELECTRIC VEHICLES & EV CHARGING INFRASTRUCTURE		
Presenter: Maeven Rogers, Chief Sustainability & Resiliency Officer		
Attachments: 1. Presentation		
Background: Council Priority: D. Sustainability Environment and Infrastructure 1. Collaborate with FPL and community partners to provide electric vehicles fast charging stations across multiple locations in the City. a. Explore ways to add revenues for street improvements/enterprise fund through user fees for EV charging stations. Presentation on the current EV market and update on various fee structures for our two EV Level II dual chargers, one at City Hall and a future charger at our Southern Recreation Facility.		
Recommended Action: FOR PRESENTATION ONLY		



Electric Vehicles & EV Charging Infrastructure

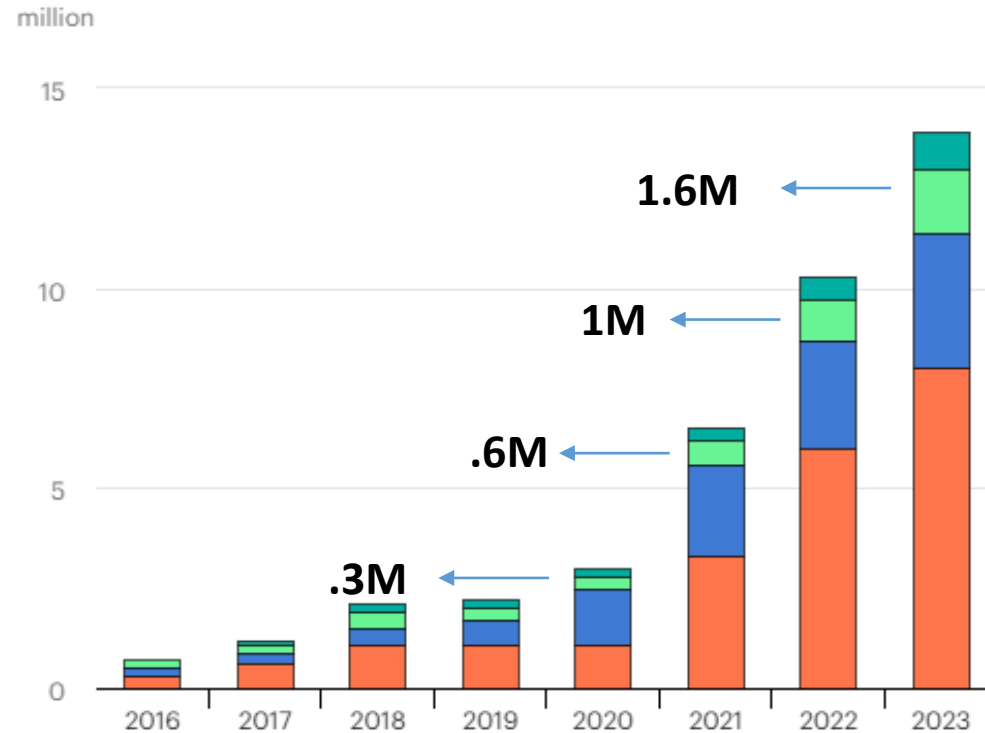
Electric Vehicle Registrations by State



Last updated: July 2023
 Printed on: August 17

Electric car sales, 2016-2023

[Open](#)






IEA. Licence: CC BY 4.0

● China ● Europe ● United States ● Other

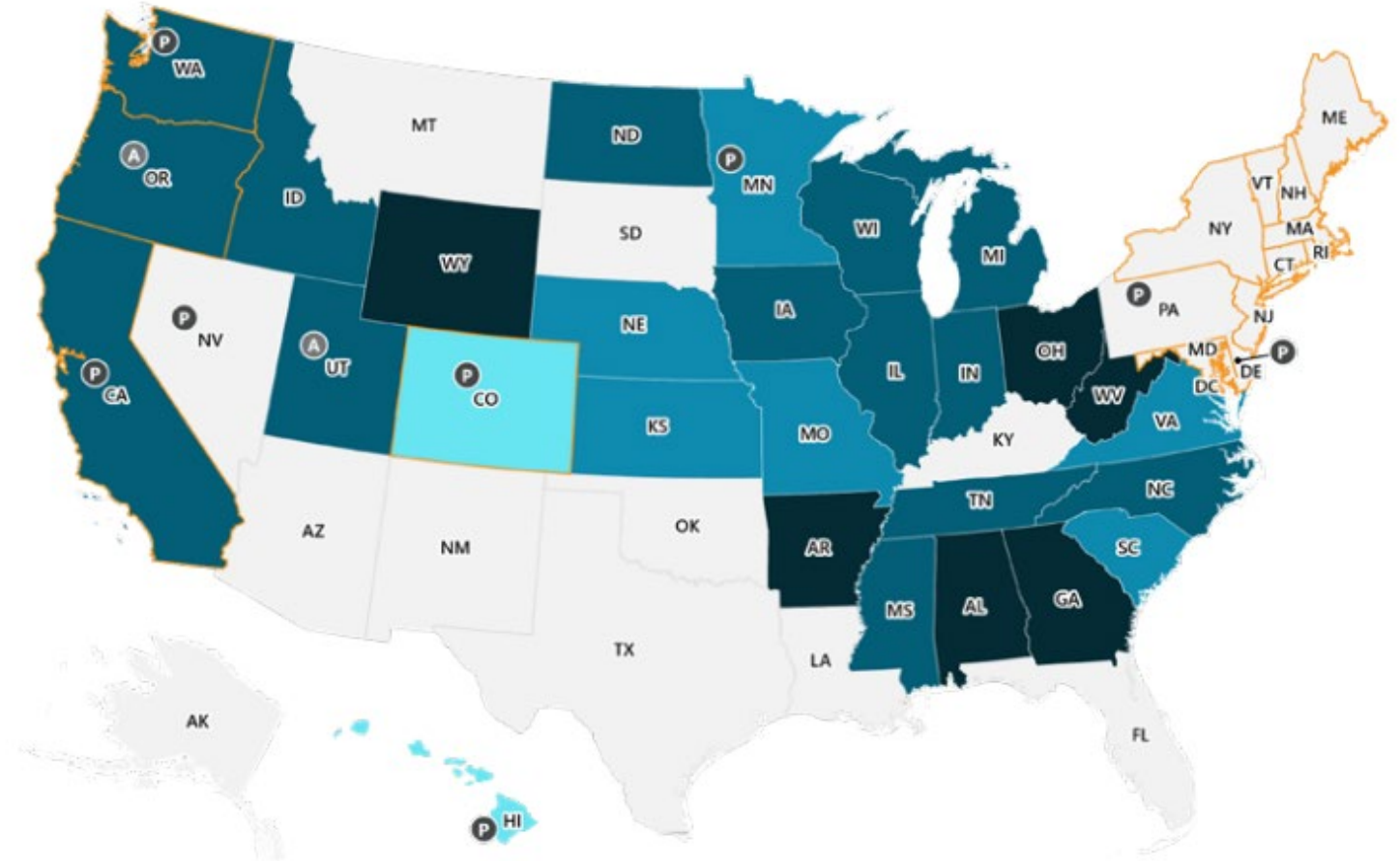


- Reductions in Air Pollution
- Predictable Costs
- Energy Diversity
- Resiliency
- Life Cycle Cost Savings



	2020	2025	2030	2035		
	2% - 8% Annual EV Sales		8% - 30% Annual EV Sales		30% - 50% Annual EV Sales	
PHASE	EARLY PHASE		MIDDLE PHASE		LATER PHASE	
OBJECTIVE	Build Out the Network		Grow and Density		Density and Maintain	
ACTION	Fill in the Gaps Between Locations (New Locations)		Increase Number of Chargers at Each Location		Decrease Intervals Between Stations	
METRIC	40 Mile Spacing Between EVSE Locations Along the SHS		Approximately 1MW of Peak Charging Demand at Each Location (6 DCFC Stations per Location)		25 Mile Spacing Between EVSE Locations Along the SHS	
	 <p>40 miles 40 miles</p> <p><i>At least 2 EVSE at each location</i></p>		 <p>40 miles 40 miles</p> <p><i>At least 6 EVSE at Each Location</i></p>		 <p>25 miles 25 miles</p> <p><i>6+ EVSE at each location</i></p>	

- Total Cost of Ownership
- EV Taxes/Fees



EV Registration Fees by State

0	\$76-\$150
<=\$50	\$151-\$212
\$51-\$75	

Road Usage Charge (RUC) Piloted Projects

- (A) Active Program
- (P) Pilot/Demo

Zero Emission Vehicle (ZEV) Regulated State

- Active Participant

Grants

Charging & Fueling Discretionary Grant Opportunity
Alternative Fuel Infrastructure Tax Credit
EECBG Funding
Clean School Bus Program
Congestion Mitigation & Air Quality Improvement Plan
Others...

Private

Installation, Paint & Utility Costs Covered
After 10 years, equipment can be removed or kept in place
City would collect \$0 of fees with a potential of a 50/50 split at a later date

State Funds

NEVI

- More than 500,000 chargers across the Country deployed under one funding. Does not include other funding sources, businesses, at home chargers and others.
- State of Florida has 6,070 Electronic Engineering Technologists & Technicians.
- Average mean wage in Florida \$61,330.



NEW STUDENT RESOURCE



Daytona State College / Academic Departments / Mary Karl College of Workforce & Continuing Education / School of Workforce Training /
Electrical Apprenticeship - Union

Electrical Apprenticeship - Union



**Level II
Charger**



**DC/Fast
Charger**

- **Level II:** 12-80 miles of range per hour of charging; overnight full battery charge
 - Potential ROI: \$1-3,000+
- **Level III:** Up to 20 miles of range per minute; full battery charge in under an hour
 - Potential ROI: \$60,000

Long-Range Travel

Community Charging

DCFC Installation Site - Long-Range Travel



Level 2 Installation Site - Community Charging



- D** DCFC STATIONS
- 2** LEVEL 2 CHARGERS

- Creekside at Grand Haven (2)
- City Hall (1)
- Supercharger at WAWA (4)
- AdventHealth Palm Coast (4)
- Best Western Plus (1)

Coming...

- Hilton Garden Inn Town Center (1)
- Southern Recreation Center (1)



Location	Fee Structure
Legacy Vacation	Free for patrons only
Creekside at Grand Haven	\$1 for 4 hours, \$3 every hour after
Best Western Plus	Free for patrons only
AdventHealth Palm Coast	Free
City Hall	Free
WAWA	30¢/kWh

City	Fee Structure
Satellite Beach	15¢/kWh
Rockledge	\$1.95 per hour and \$0.15 per minute after charging stops
Melbourne	13¢/kWh
Orlando	12¢/kWh
Coral Gables	4¢ per min eq. \$2.40 per hour
Oldsmar	15¢/kWh, plus a .50 connection fee
Orange County	12¢/kWh
City of St. Augustine	Free

ROI on .15 per kWh

Monthly kWh Usage	2,400
Purposed kWh Rate	.15
Gross Revenue	\$4,320
Annual Energy Costs	-\$3,456
Misc. Costs	-\$1,330
Annually	-\$466
Initial Charge (.50)	+\$511=Total ROI: \$45

ROI on .18 per kWh

Monthly kWh Usage	2,400
Purposed kWh Rate	.18
Gross Revenue	\$5,184
Annual Energy Costs	-\$3,456
Misc. Costs	-\$1,400
Annually	\$328
Initial Charge (.50)	+\$511=Total ROI: \$839

ROI on .20 per kWh

Monthly kWh Usage	2,400
Purposed kWh Rate	.20
Gross Revenue	\$5,760
Annual Energy Costs	-\$3,456
Misc. Costs	-\$1,500
Annually	\$804
Initial Charge (.50)	+\$511=Total ROI: \$1,315