

# MICHIGAN ENERGY OFFICE

## **Electric Vehicle Fast Charging in Michigan Communities: Readiness, Needs, and Funding**

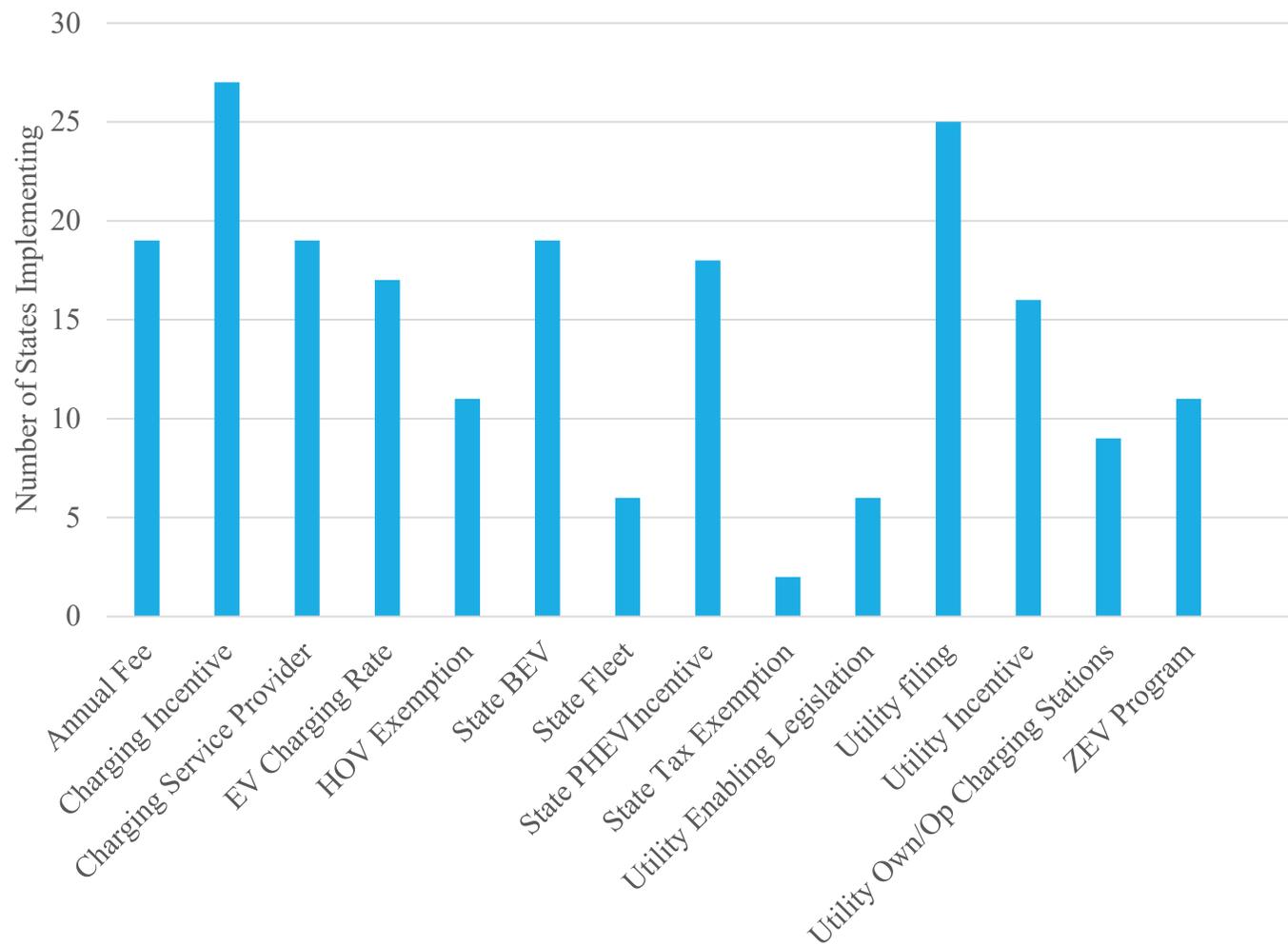
7109 W. Saginaw Hwy  
Lansing, MI 48917

December 19, 2018  
8:00 AM – 12:00 PM

# Agenda

- Welcome & Introductions
- U.S. Policies & Programs
- EV Readiness in Michigan Communities
  - Current Status & Survey Feedback
  - Community needs
- Next Steps
- Questions

# Common EV Policies and Programs in US.<sup>1</sup>



# Five Most Popular EV Programs and Policies

- Financial incentives to install charging stations (27 states).
- Utility filings regarding utility vehicle and charging incentives (25 states)
- Annual fee to cover lost revenue from motor fuel taxes (19 states)
- Charging service provider certainty (regulatory or legal) in ability to sell charging services per kWh without utility style regulations (19 states)
- State BEV financial incentives to encourage adoption, such as sales tax exemption, rebate or tax credit (19 states)

# Municipal Support for EVs

## Shared Mobility Programs

- BlueIndy (Indianapolis) and BlueLA (Los Angeles) – EVs only
- Maven (Ann Arbor) – Cars, SUVs, and EVs

## EV Charging Infrastructure and Placement

- Public charging, workplace charging, EV charging on residential streets

## Charging Space and Parking Access

- Time limits on charging, fines/illegal for non-EVs parked in charging spot, free parking for EVs in municipal parking, etc.

## EV Ownership

- Programs supporting low-income EV uptake (California)

# EV Readiness in Michigan

- Michigan local governments have not done too much in regards to EV readiness.
  - NASEO PEV Policy Evaluation Rubric
- However, there is a need to be EV ready in Michigan.
  - Ex. Ann Arbor - Preliminary projections of 25,042 EVs by 2030 (conservative)

2017 TWO VEHICLE HOUSEHOLD AVERAGE VEHICLE MILES/CAR <sup>2</sup>			ANN ARBOR 2030 EV MILES/DAY	CHARGING EVENTS/DAY		
				50 Miles to Charge	80 Miles to Charge	100 Miles to Charge
Min (Vehicle 1)	29	veh mi/day	726,218	14,524	9,078	7,262
Max (Vehicle 2)	38	veh mi/day	951,596	19,032	11,895	9,516

# EV Readiness in Michigan: Infrastructure Matters.

Available EV charging infrastructure can considerably impact the user experience.

- Ex. Ann Arbor in 2030 continued.

EV CHARGING INFRASTRUCTURE TYPE	CHARGING RATE ASSUMPTIONS		MIN CHARGING TIME		MAX CHARGING TIME	
			Minutes/veh	Hours/veh	Minutes/veh	Hours/veh
Level 1	5	miles/60 min	348	5.8	456	7.6
Level 2	20	miles/60 min	87	1.45	114	1.9
DC Fast Charging	80	miles/20 min	7.25	0.12	9.5	0.16

# Next Steps

# Thank you!

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# References

1. Atlas EV Hub. (2018). Retrieved from: <https://www.atlasevhub.com/materials/market-data/>
2. Vehicle Technologies Office, U.S. Department of Energy. (2018). Retrieved from: <https://www.energy.gov/eere/vehicles/articles/fotw-1047-september-17-2018-daily-vehicle-miles-traveled-varies-number>.