EAST BAY MUNICIPAL UTILITY DISTRICT

Renewable Energy Update

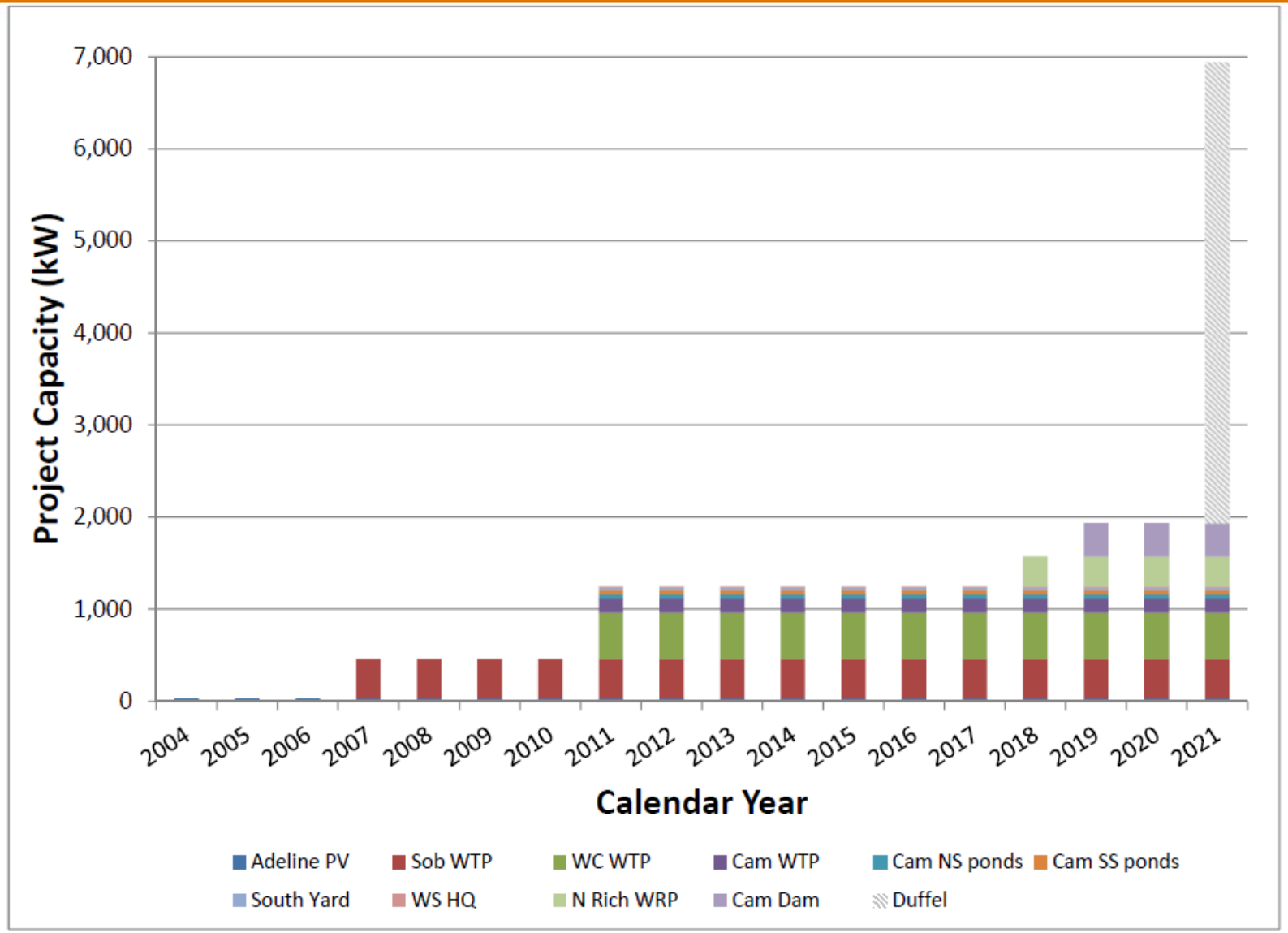
Sustainability/Energy Committee

April 28, 2020

Overview

- District renewable projects
- Duffel Photovoltaic (PV) Project
- Other project types
- Next Steps

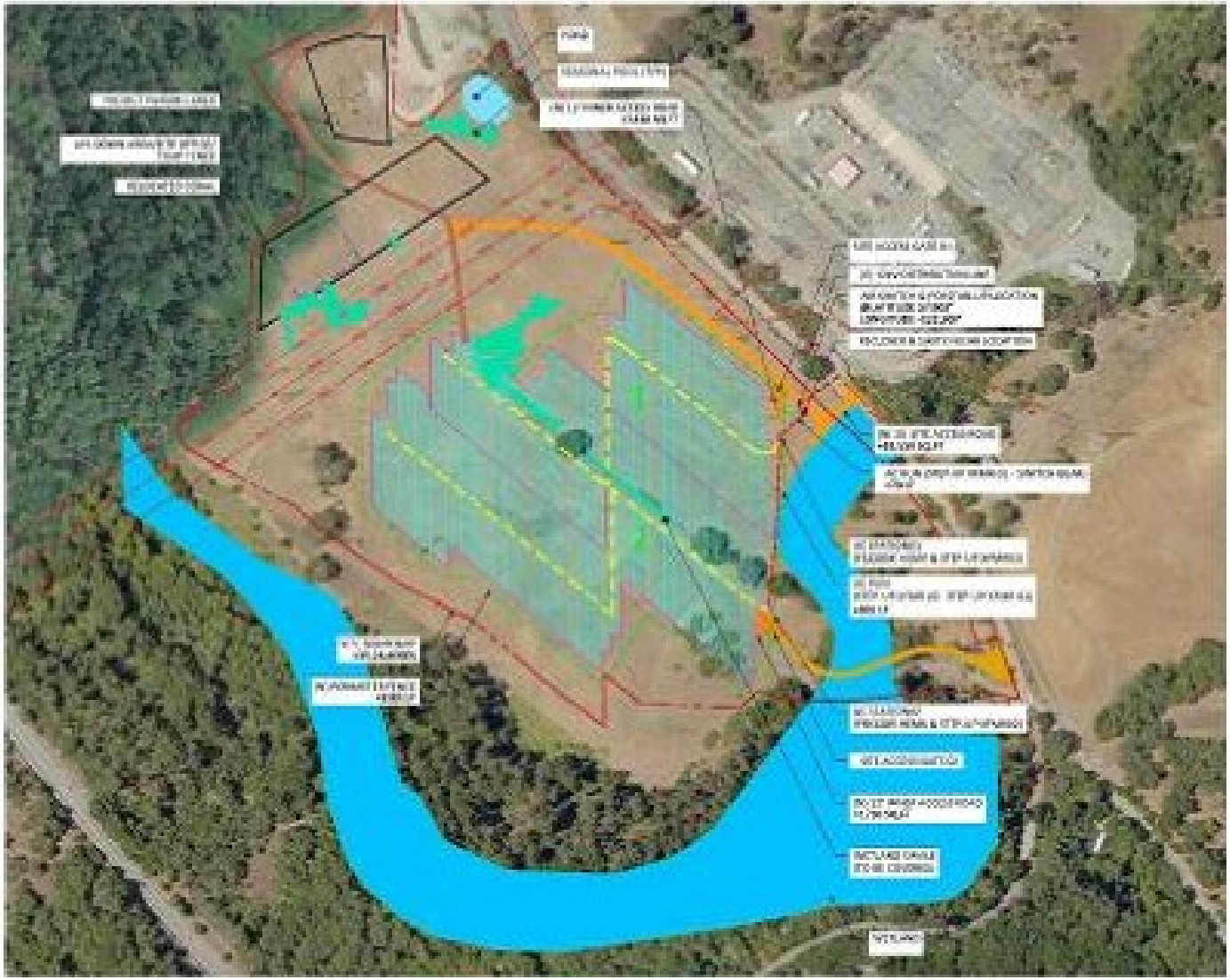
District Renewable Projects



Duffel PV Project Summary

- 20 acre site
- 5 MW capacity
- 10,000 MWh annually
- Tracker system

Duffel PV Project
Preliminary Layout



Progress on Duffel PV Project

- CEQA complete (Mitigated Negative Declaration)
- Implement project through a Power Purchase Agreement (PPA)
  - 8 proposals received, SunPower selected
  - 20 year net present value $8 million
  - Board to consider agreement on May 26

Other Project Investigations

- Micro-hydro (power small regulators)
- Pump-storage
- Floating PV
- In-conduit Hydro

Next Steps

- Negotiate PPA (May)
- Complete preliminary design (June)
- City of Orinda approvals, Summer 2020
  - Design review
  - Conditional Use Permit
- Execute PG&E agreement – Fall 2020
- State & federal permits – Fall 2020
- Construction – 2021

Questions

EAST BAY MUNICIPAL UTILITY DISTRICT

Integrated Pest Management (IPM) Program Update

Sustainability/Energy Committee

April 28, 2020

Agenda

- IPM Recap
- 2019 Highlights
- Product Evaluation Process
- 2020 Activities
- Next Steps

IPM Program Recap

What is IPM?

- Comprehensive, systems-based process that uses appropriate control methods based on pest and site conditions, while minimizing impacts to human health and the environment.

Independent Expert Review Process

- Recommendations for improvement
  - Enhanced training
  - Enhanced communication
  - Consistent records management
  - Standardize processes

Enhanced Training

- Annual IPM training February 2020
- Monthly workgroup meetings
- Encourage outside training & certification

Enhanced Communication

Internal

- Leverage existing Pest Control Advisors (PCAs) for site visits and comprehensive recommendations
- Third-party PCA reviews

External

- Coordination with sister agency IPM Programs
  - Regional IPM Coordinators Meetings
  - East Bay Regional Park District

Consistent Records Management

Decision Documents

- All sites completed (~400 documents)
- Update with three land use classifications
  - Facilities, rights-of-way, watersheds

Electronic Data Collection

- IPM field worksheet fine-tuning
  - Revisions planned
    - Land-use classifications, product inventory
- Data auditing frequency

Standardize Processes: New Product Evaluation Process (PEP)

EBMUD

Request

- **Unit Sup/PCA**
- Product Request Form
- Work plan (post form approval)

Evaluation

- **PART I: FORM**
- **Review Panel**
- Decision Options: Recommend, Denied, Incomplete (resubmit) in written form
- **PART II: WORKPLAN**
- Approved or amend and resubmit

Pilot Test

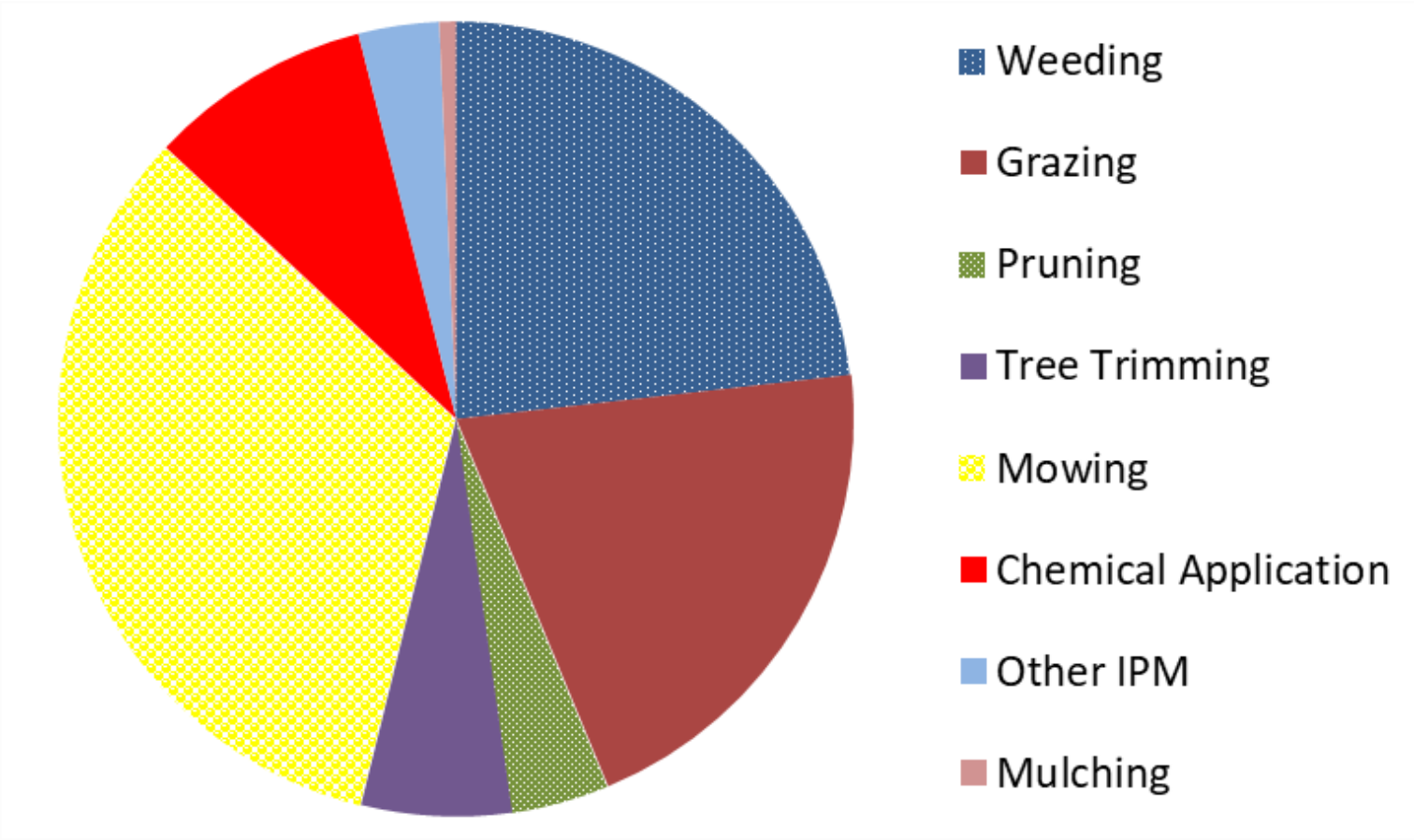
- **Unit Sup/PCA**
- Implement plan as approved
- Results Report and Recommendation Tech Memo

Decision

- **Review Panel**
- Review data; document decision logic
- Product accepted for use or denied

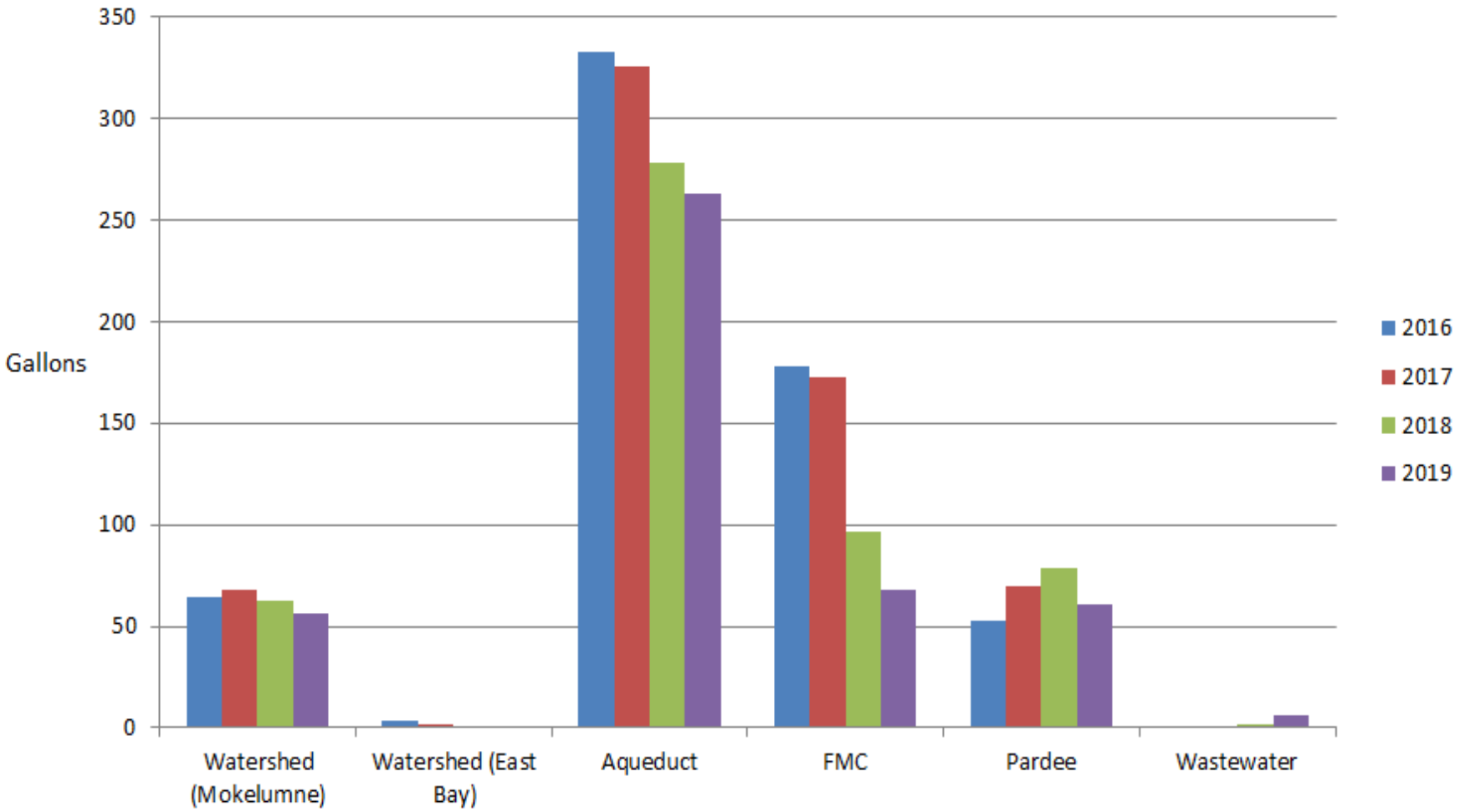
Review Panel Composition: *IPM Program Administrator; SME from each division w/IPM responsibilities (FMC, Aqueduct, Watershed East Bay, Watershed Upcountry, Pardee, Wastewater); independent 3rd party PCA*

IPM Methods Used in 2019



Staff Hours Dedicated to Method Type

Annual Pesticide Use Trends



2020 Activities

- Initiate IPM Program Guidelines Update
  - Host public session to share changes
- Pesticide Inventory List Finalized
- Training
  - Invite alternative presenters
- PEP Evaluations
  - Pilot tests

Next Steps

- Continue incorporating recommendations from third-party review
- Continue capturing data for trends analysis
- Evaluate future training opportunities
- Independent PCA reviews as needed
- Continue public outreach
  - Website updates
  - Coordination with IPM partners

Questions

EAST BAY MUNICIPAL UTILITY DISTRICT

Electric Vehicle Charging Stations

Sustainability/Energy Committee

April 28, 2020

Overview

- Vehicle technology trends
- Employee survey results
- Charging stations
- Next steps

Light-Duty Trends

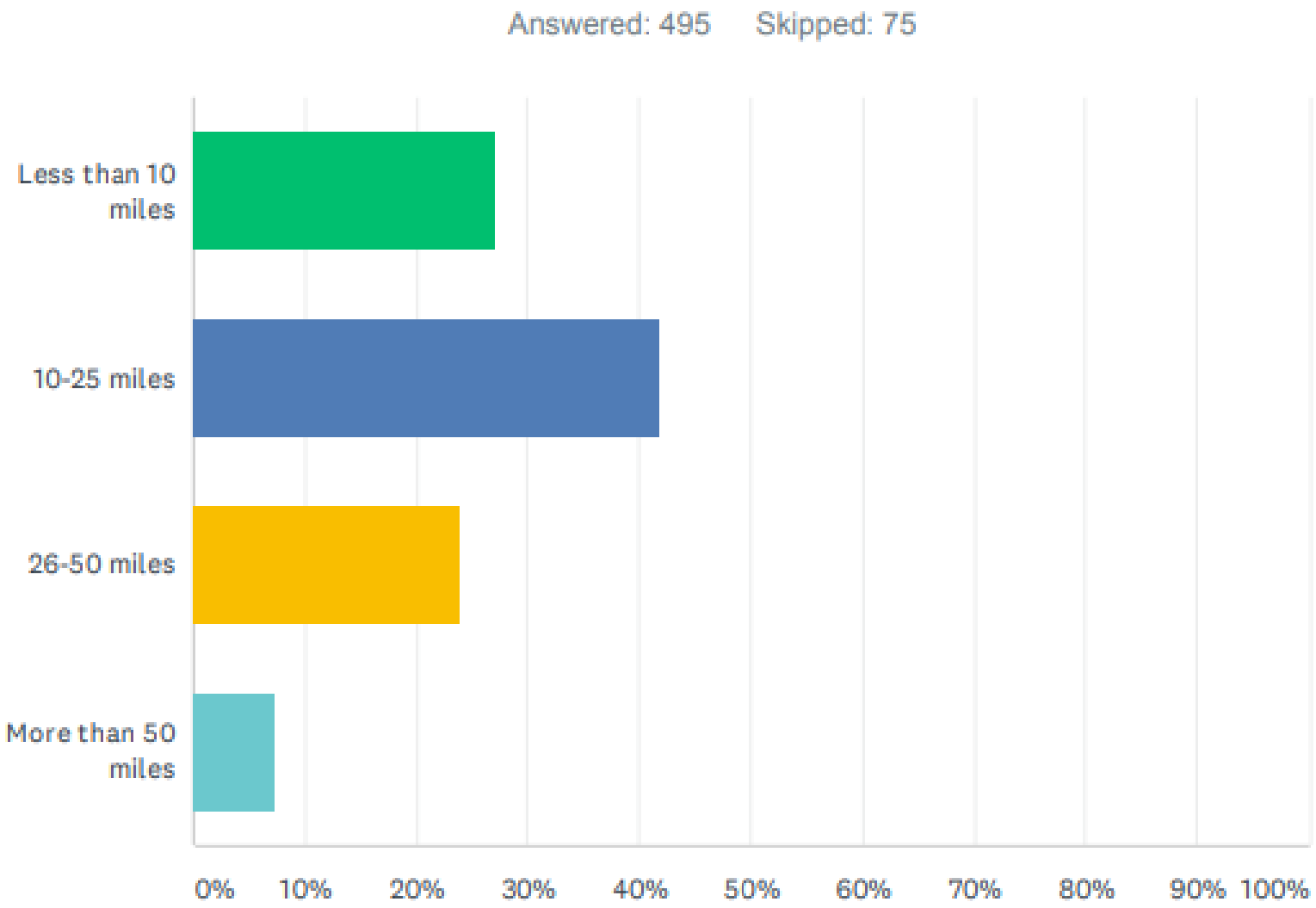
- Internal combustion engines as sole power source being phased out
- In 2016, just under 1 million plug-in electric vehicles sold (1% of global auto sales)
- Estimated 30% of all vehicle sales will be all-electric or hybrid-electric by 2025

Source: J.P. Morgan

Medium/Heavy Vehicles

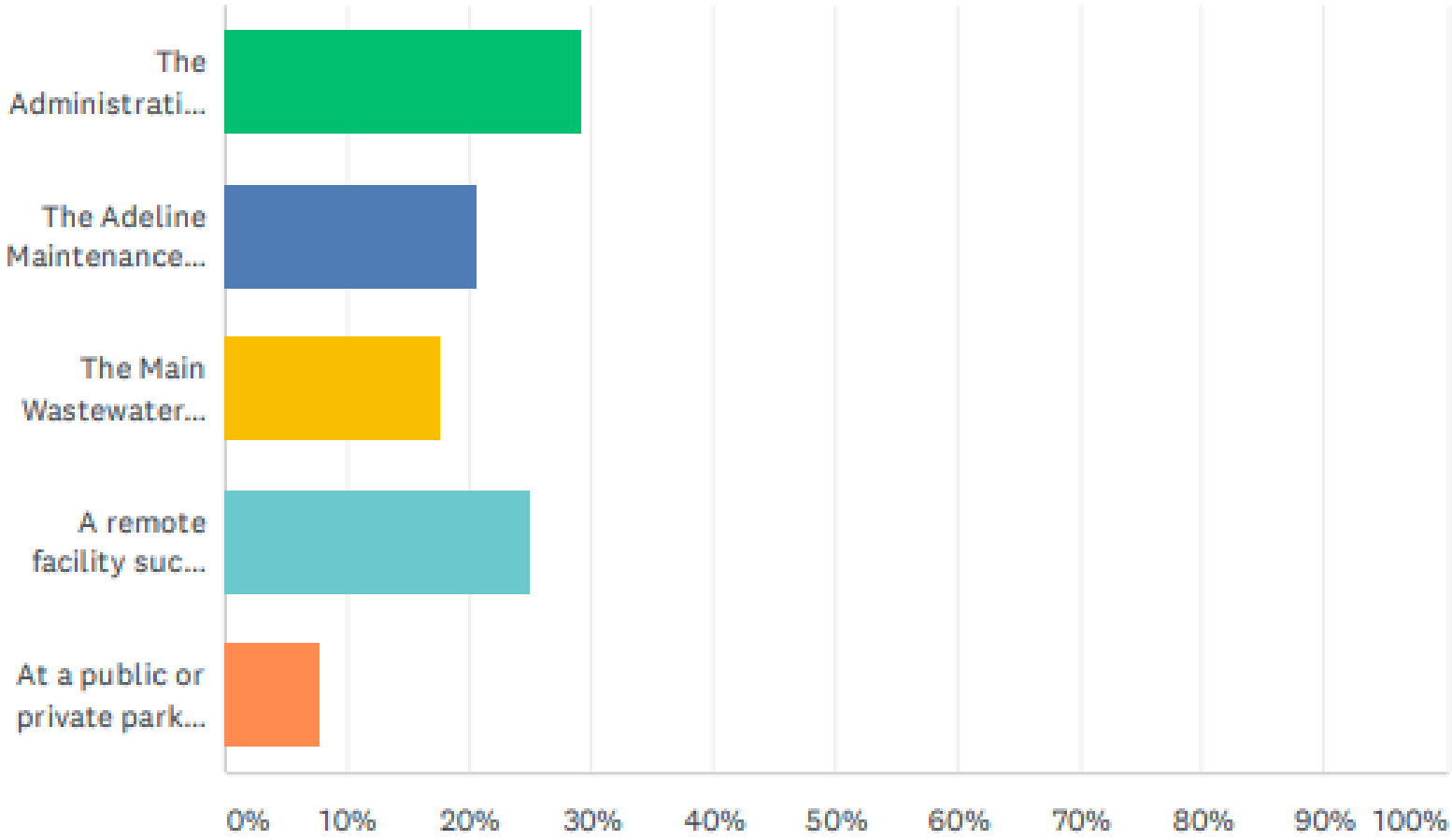
- Limited applications to date
  - Freight transportation and delivery
  - Mass transit
  - Waste hauling
- Utility and construction
  - Hybrid-electric

Survey – One Way Commute

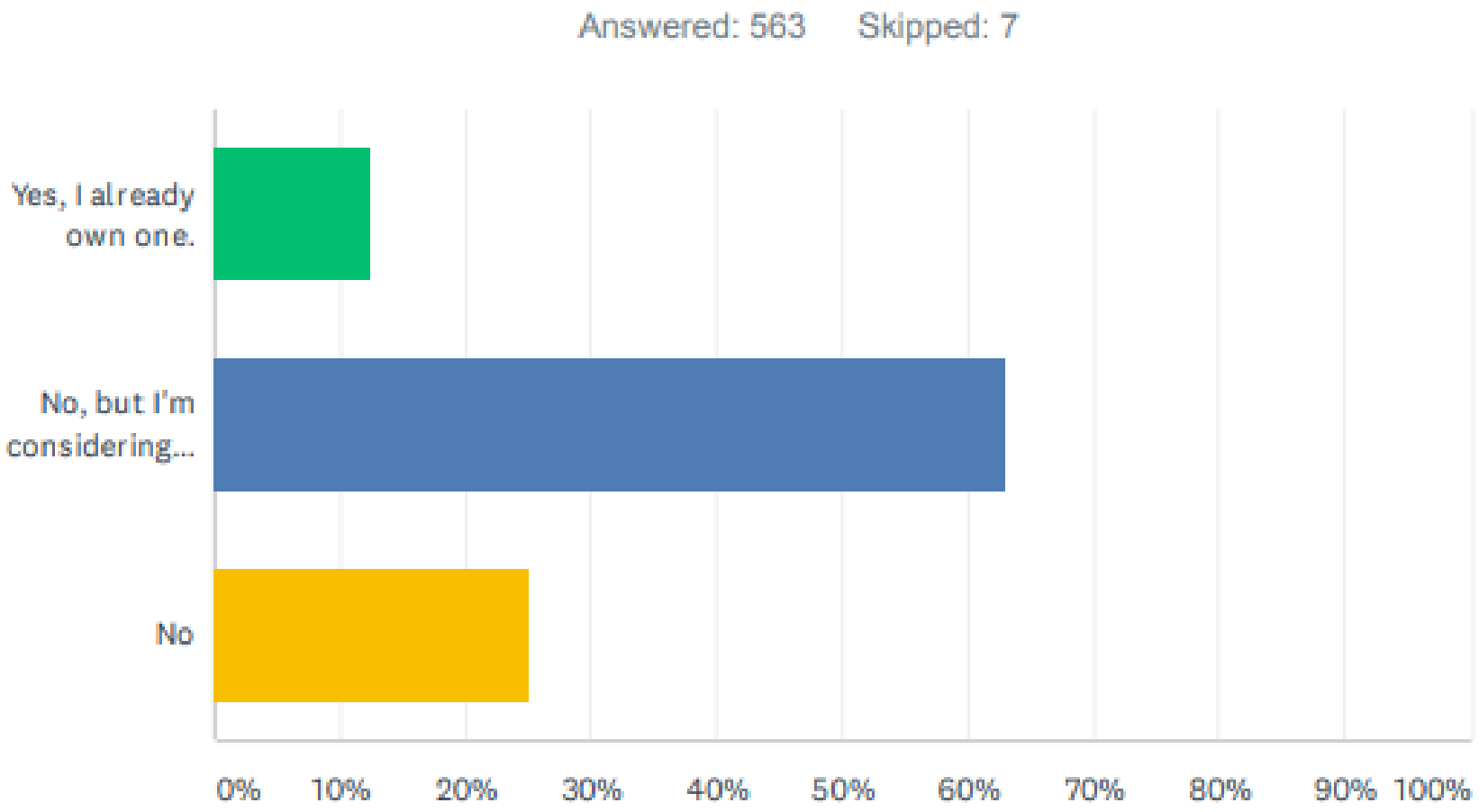


Survey – Parking Location

Answered: 499 Skipped: 71

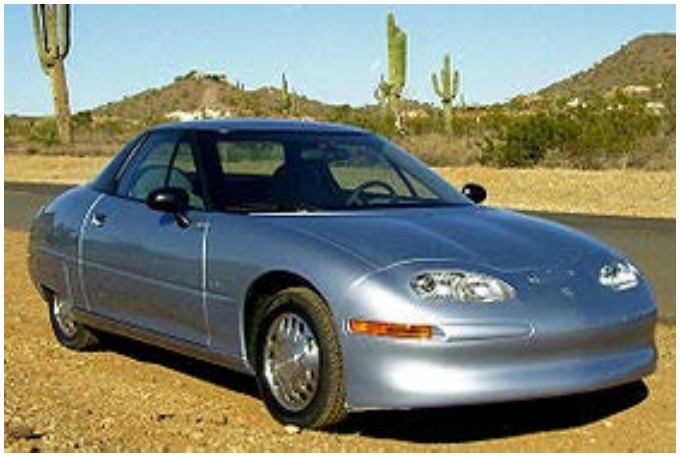


Survey – Plug-In or EV Interest



Electric Vehicle Range History

- General Motors EV1
  - 1996 to 1999
  - Range 55/105 miles
- Nissan Leaf
  - 2011 Introduction
  - Range 73 miles
  - 2020 Model
  - Range 149/226 miles



Electric Vehicle – Range & Price

Vehicle	Range (miles)	Price
Volkswagen e-Golf	125	$21,595
BMW i3	153	$34,150
Hyundai Ionic	170	$22,745
Audi e-tron	204	$66,500
Hyundai Kona	258	$26,690
Chevrolet Bolt	259	$33,820
Tesla 3 Long Range AWD	322	$46,190

Source: plugstar.com

Charging Stations

Level	Power (KW)	Charging Time From Empty
1	1	124 mi ≈ 20 hrs
2	3 to 20 (typically 6)	124 mi ≈ 5 hrs
3 (DC Fast Charge)	Typically 30, Occasionally 20	100 mi ≈ 30 min

Next Steps

- Investigate/procure technologies to reduce fleet's GHG emissions
- Upgrade existing light-duty vehicles to better hybrids or EVs
- Pursue low interest loans from credit union
- Modify procedures
  - Preferential parking for EVs
  - Emergency charging

Questions