

## DOCKETED

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# Funding Strategies for Electric Vehicle Infrastructure

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**June 6, 2016**

Zero-Emission Vehicle and Infrastructure Office  
Fuels and Transportation Division  
California Energy Commission

# CALGreen Measures at Multifamily Dwelling Units

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Zero Emission Vehicles and Infrastructure Office

Fuels and Transportation Division

California Energy Commission

June 6, 2016



# Energy Commission Grant Agreement ARV-14-060

## City of Oakland's Plug-In Electric Vehicle (PEV) Readiness Plan.

The purpose of this \$170,324 grant is to support PEV regional readiness and implementation activities.



# Energy Commission Agreement ARV-14-060 Goals

Support the adoption of the CALGreen Voluntary Measures.

Provide education and training on the measures.

Implement best practices.



# City of Oakland PEV Readiness Objective

Streamline process to permit and inspect PEV infrastructure projects.

Provide informational materials to developers.



# CALGreen Background

California Code of Regulations, Title 24, Part 11, the California Green Building Standards Code, commonly known as “CALGreen”, was a first-in-the-nation state-adopted green building code.

CALGreen contains mandatory and voluntary codes authorized by the Department of Housing and Community Development (HCD) and approved by the California Building Standards Commission.



# CALGreen Section 4.106.4.2: Mandatory Measures for New Multifamily Dwellings

- Applies to buildings with 17 or more multifamily dwelling units (MFDU).
- 3% of parking spaces (EV Space).
- Capacity and designs for PEV charging installation.
- Install any underground conduit that would be needed.
- Electric Vehicle Charging Station (EVCS) is identified in the construction plans.





# CALGreen Voluntary Measures by HCD

New MFDU projects with more than 17 units shall provide for EV Spaces in the following prescribed manner:

Increase from 3% to 5% of required number of EV Spaces.



# City of Oakland PEV Readiness

The cities of Oakland and Fremont and the City and County of San Francisco will consider beyond voluntary codes.

New MFDU construction: voluntarily double the minimum code for parking spaces to 6% with 10 or more parking spaces.



# City of Oakland PEV Readiness

Energy Solutions selected by the City of Oakland.

Ed Pike, Senior Engineer and Jeff Steuben, Project Manager.

Energy Solutions developing a model to demonstrate the cost-effectiveness of local codes in promoting EVCS.



# City of Oakland PEV Readiness Energy Solutions Model Inputs

Basic scenario includes:

- Surface vs. enclosed parking structure,
- electrical service, and
- the number of EV spaces.



# City of Oakland PEV Readiness Model

## Comparison of costs:

- Retrofitting vs. installation of new construction.
- Complete circuit
- Make ready.
- Based on a circuit to support 208/240-volt 40 amp charging.



# CALGreen Benefits Going Beyond Voluntary Measures

Increases the number of EV Spaces at MFDU and promote PEV sales by residents.

Significant infrastructure cost savings (~50-80%) during new construction vs. retrofits.

Local jurisdictions can voluntarily upgrade their MFDU codes for consistency.





Thank you for your attention.

Questions?

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