



AGENDA

February 23, 2016

PUBLIC UTILITIES COMMISSION MEETING

7:00 p.m.

City Council Chambers
311 Vernon Street
Roseville, California

- 1. Roll Call**
- 2. Pledge of Allegiance**
- 3. Approval of the January 26, 2016 Minutes**
 - 3.1. January 26, 2016 Minutes
- 4. Oral Communications/Public Comment**
- 5. New Business**
 - 5.1. Environmental Utilities Monthly Update
Report by Business Services Administrator Carol Margetich summarizing monthly status of Environmental Utilities issues, for information.
 - 5.2. Water Update
Presentation by Assistant Environmental Utilities Director Kelye McKinney and Water Utility Manager Jim Mulligan on the Water Update, for information.
 - 5.3. Roseville Electric Utility Monthly Update
Report by Electric Utility Director Michelle Bertolino summarizing monthly status of Electric issues, for information.
 - 5.4. Roseville Electric Utility Electric Vehicle System Impact
Presentation by Electric Engineering Manager Mark Wilhelm, Power Engineer Vince Bottoni and Retail Services Supervisor Martin Bailey on Electric Vehicle System Impact, for information.
 - 5.5. Roseville Electric Utility Strategic Initiatives Progress Report
Presentation by Electric Regulatory Compliance Administrator Shawn Matchim on the status of Roseville Electric Utility's Strategic Initiatives, for information.
- 6. Reports – Commission/Staff**
- 7. Proposed Future Agenda Items**
- 8. Adjournment**

Title: January 26, 2016 Minutes

Meeting Date: 2/23/2016
Item #: 3.1.

ATTACHMENTS:

Description

January 26, 2016 draft minutes



MINUTES
Public Utilities Commission

January 26, 2016
7:00 p.m.

Council Chambers
311 Vernon Street
Roseville, CA 95678

1. Roll Call

PUC Commissioners Present: Bandon Granger
Gretchen Hildebrand
John Speight
John Vertido
Jim Viele

PUC Commissioners Absent: James McHan

Staff Present: Michelle Bertolino, Electric Utility Director
Rachel Tooker, Utility Exploration Center Supervisor
Devin Whittington, Refuse Utility Manager
Derek Ogden, Development Services Senior Planner
Bobby Alvarez, EU Water Efficiency Administrator
Todd Jordan, EU Senior Engineer
Kelye McKinney, EU Assistant Director
Ken Glotzbach, EU Wastewater Utility Manager
Jim Mulligan, EU Water Utility Manager
Carol Margetich, EU Business Services Administrator
Todd White, Electric Rates & Financial Administrator
Jay Panzica, Chief Financial Officer
Joe Mandell, Senior Deputy Attorney
Karen Sainsbury, Recording Secretary

2. Pledge of Allegiance

3. Minutes of November 24, 2015

The minutes of November 24, 2015 were approved as submitted.

4. Oral Comments/Public Comment

None.

5. New Business

- a. Roseville Electric Utility Monthly Report
Report by Electric Utility Director Michelle Bertolino summarizing monthly status of Electric issues, for information.

Director Bertolino reported staff is planning a roles and responsibilities workshop for Commissioners now that all vacancies have been filled. Agenda suggestions are welcome and should be sent to Michelle Bertolino or Rich Plecker.

- b. Roseville Utility Exploration Center Overview
Report by Utility Exploration Center Interpretive Services Supervisor Rachel Tooker on the Roseville Utility Exploration Center Overview, for information.
- c. Environmental Utilities Monthly Update
Report by Solid Waste Utility Manager Devin Whittington summarizing monthly status of Environmental Utilities issues, for information.
- d. Water Efficiency Landscape Ordinance
Presentation by Development Services Senior Planner Derek Ogden and Environmental Utilities Water Efficiency Administrator Bobby Alvarez on the Water Efficiency Landscape Ordinance, for recommendation.

Commissioner Hildebrand suggested staff provide additional clarification at future presentations on when building permits are required.

There was no public comment.

MOTION: Commissioner Hildebrand made the motion, which was seconded by Commissioner Speight to recommend the City Council adopt the proposed Ordinance creating Chapter 14.18 of the Roseville Municipal Code, relating to water efficient landscaping.

The vote was unanimous.

- e. Environmental Utilities Recycled Water Program Update
Presentation by Senior Engineer Todd Jordan on the Recycled Water Program, for information.
- f. Environmental Utilities Solid Waste Overview
Presentation by Refuse Utility Manager Devin Whittington on the Solid Waste Overview, for information.

6. Reports – Commission/Staff

None.

7. Proposed Future Agenda Items

Commissioner Vertido suggested staff take into consideration the November Public Utilities Commission meeting is two days prior to Thanksgiving when planning agenda items as a lack of quorum is possible.

8. Adjournment

Commissioner Speight moved for adjournment of the January 26, 2016 Public Utilities Commission meeting. Commissioner Vertido seconded the motion. The motion passed unanimously at 8:39 p.m.

Bandon Granger
Chairperson

Karen Sainsbury
Recording Secretary



PUBLIC UTILITIES COMMISSION

Title: Roseville Electric Utility Electric Vehicle System Impact

Meeting Date: 2/23/2016
Item #: 4.4.

ATTACHMENTS:

Description

Roseville Electric Utility Electric Vehicle System Impact



Opportunity & Challenge: Transportation Electrification

Mark Wilhelm, Electric Engineering Manager
Vince Bottoni, Power Engineer
Marty Bailey, Retail Services Supervisor

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ALL Transportation



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Itinerary

- Key points from across the industry
- Preliminary projection of power system impacts
- Utility and customer trends



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Transportation

- The last major industrial sector to be electrified
- Has gone through similar transformations in the not-too-distant past

"I think, actually, all modes of transport will become fully electric with the ironic exception of rockets."
– Elon Musk, 2013



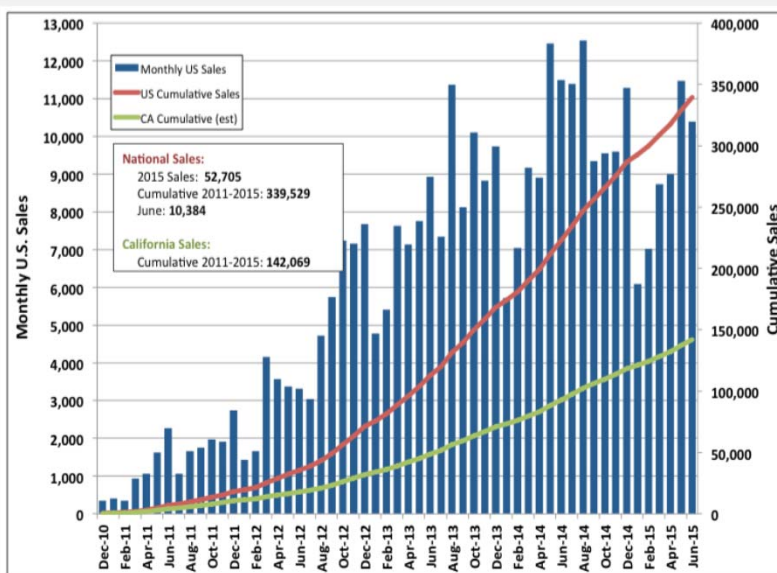
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Driving Forces

- Increasing cost of complying with efficiency and emission requirements
- Consumer desire to be green
- Various government incentives
- Overall economics (busses)
- PEV battery costs falling – 30 to 40% in the next decade
- IOU's see infrastructure investment as a way to increase revenue



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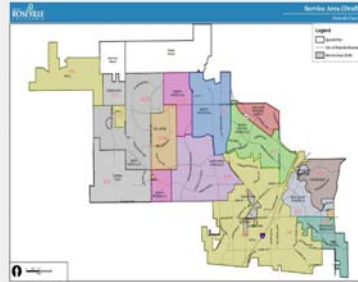
Note: Approximation assumes CA sales are 45% of national sales.
Reference: www.hybridcars.com

7/6/2015

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Who Buys Electric Cars?

- Better educated
- Higher income
- Younger
- People who live in California
- *Owners of residential solar (1/3)*



How many of our customers fit this profile?

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Punch Line

Opportunity: energy sales, system support

Challenge: system impacts, incenting beneficial charging behavior (AMI?)



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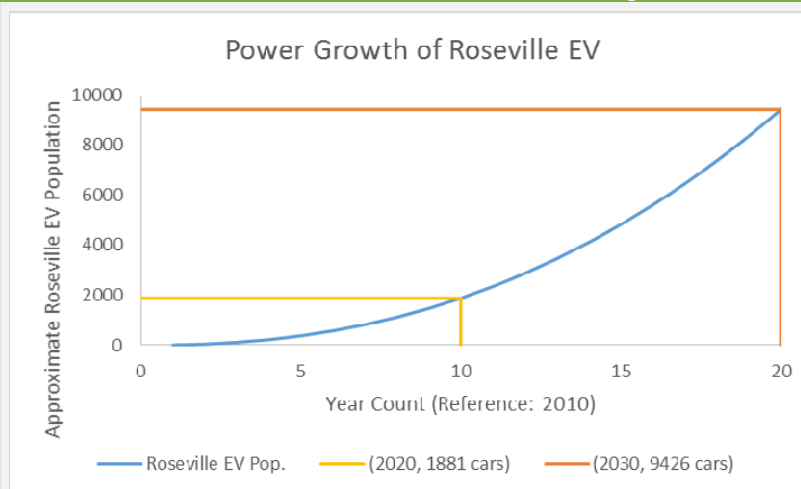


Roseville Electric Vehicles

Projected Adoption and Technical Overview

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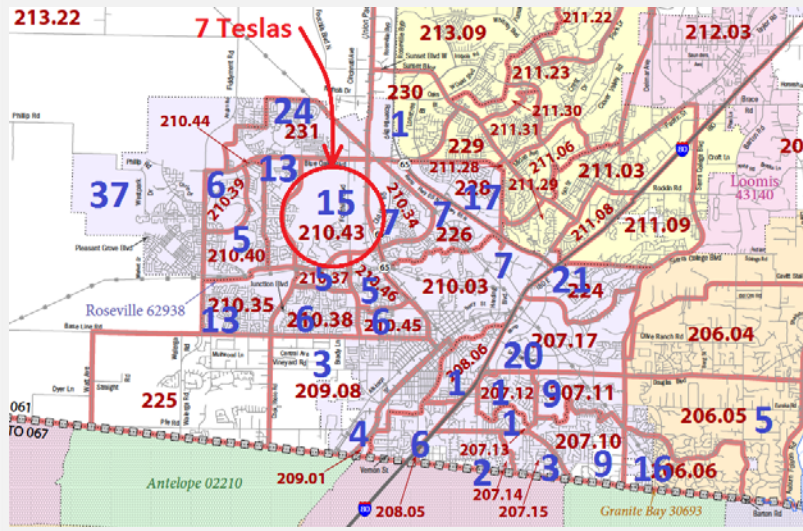
EV Growth Projection



*Assuming no new groundbreaking technologies and stable oil prices

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EV By Census Tract



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EV Charging Levels

Level 1: 120 Volt Wall Outlet Charging

- Equivalent to plugging in a hair dryer
- ~2 or more hours of charging for average commute to work

Level 2: 240 Volt Connection

- Equivalent to 2 clothes dryers
- Enables half hour charging for average commute
- Upgraded Tesla vehicles require the most capacity

Level 3 (DC - Fast Charging): Dedicated System Supply

- Equivalent to 40 homes
- Provides a “gas station equivalent” charging time

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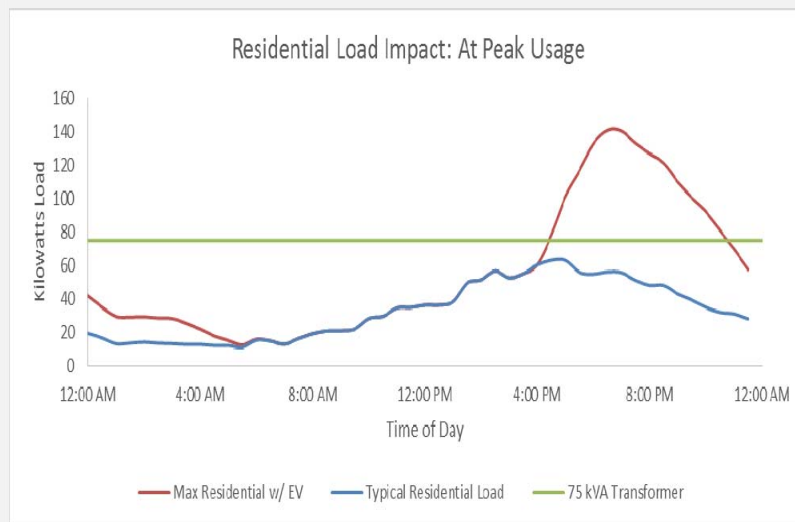
Residential Charging

- Where EV's are clustered, **we will need to assess distribution transformer upgrades**
- The need for transformer replacements in high adoption scenarios can be mitigated with charge management programs (via AMI)
- Voltage variation due to increased EV load will not take us out of acceptable tolerance
- Issue of significance involves high density areas (clusters) that have high capacity chargers (upgraded Teslas)



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Transformer Loading



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Plug-In Electric Vehicles (PEV) Utility and Customer View and Trends

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Market View: PEV Trends & Growth

Lets take a market view.

- Can PEV growth be modeled using other “emerging tech” products as an example?
- Answer: Yes – lets use growth in solar energy as the example

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PEV vs. Solar Energy

Product Similarities:

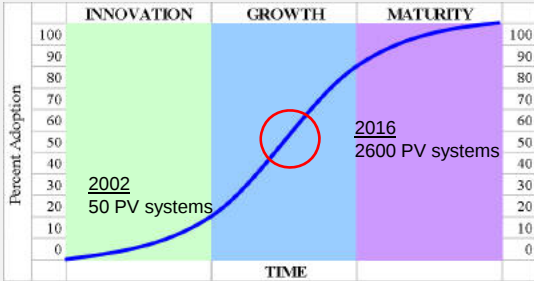
- New emerging technologies.
 - Provide essential customer services
 - Customer - lack of understanding
 - Customer as an early adaptor
- High cost of entry for the consumer
- Solutions provided by market

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PV Example: Innovation Growth Can Happen Fast

- Technology grow rapid after acceptance
- Happens due to “events”/innovations



Phase	Year	Number of PV Systems
Innovation	2002	50
Growth	2016	2600

Growth not yet Matured

Expect 15-20% of customers to have PV by 2030

Growth is “event” driven

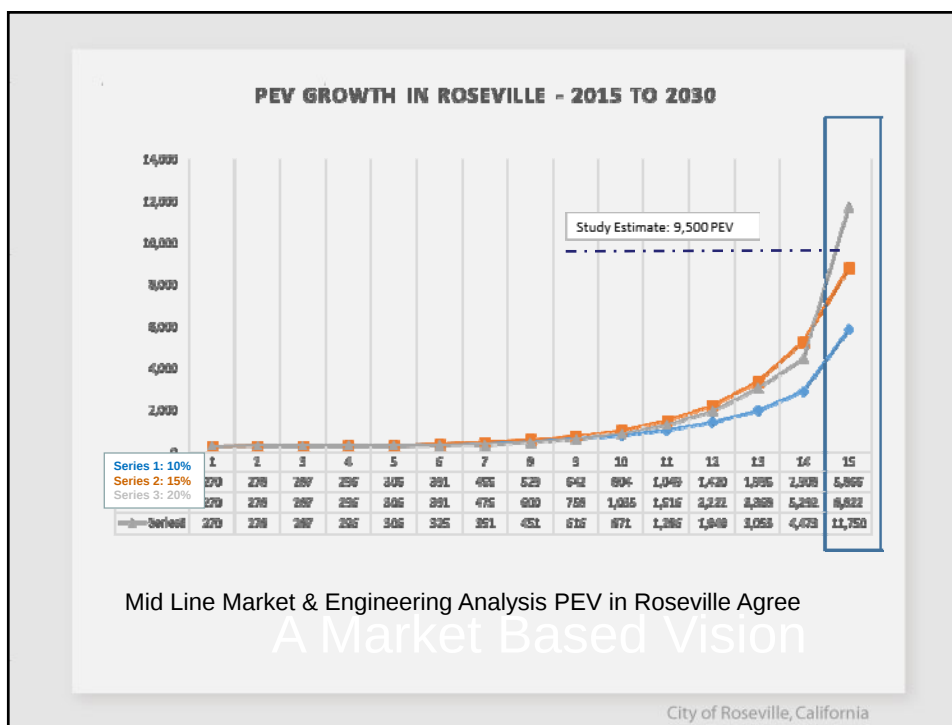
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PEV vs. Solar Energy

Scenarios - % of Customers w PEV

- 10%: mid level growth
- 15%: mid-high level growth
- 20%: very high level growth

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What Is RE Doing?

- Rates
 - Rate for RE owned charging stations
- Pilot Testing
 - Charging stations since 2005
 - PEV pool cars – as early as 2001 and again in 2016
- Researching grid impacts
- Developing utility business plan

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