Meeting Agenda

• Welcome/Snacks/Sign-In (5:30 to 5:40)
• Introductions (5:40 to 5:50)
• Overview of ZEVs (5:50 to 6:00)
• Overview of RCEA (6:00 to 6:15)
• Overview of Enthusiast Group (6:15 to 6:30)
• Set ground-rules (6:30 to 6:40)
• Feedback (6:40 to 6:50)
• Close and photos (6:50 to 7:00)
Zero Emissions Vehicle (ZEV) Enthusiast Group

Kick-off meeting
May 8, 2018
Introductions

Name

What you do

Why you’re here
Overview of ZEVs
Define ZEVs

Hydrogen Fuel Cell Electric Vehicles
Define ZEVs

Pure Battery Electric Vehicles
Define ZEVs

Plug-in Hybrid Electric Vehicles
Benefits
50% of states gas emissions
80% of smog forming pollutants
Economic Benefits

• Operational
  – Fuel savings
  – Maintenance savings
  – Utility incentives
  – HOV access
Economic Benefits

• Capital costs
  – Federal tax credit ($7500)
  – State Incentives (up to $5000)
  – Utility and CCA incentives
Cost per Mile

- Gas vehicle:

10,000 mile/year @ 20 mpg = 500 gallons of gas

@ $3.00/gallon = $1,500/year
Cost per Mile

• Electric vehicle:

10,000 mile/year @ 4kWh per mile = 2,500 kWhs

@ 48 cent session fee + 18 cents/kWh = $470 / year (68% savings)
Maintenance

- No oil, transmission fluids, etc.

Gas Car
~2,000 moving parts

Electric Car
~20 moving parts
State Policies
2013 ZEV Action Goals

By 2015
- The State's major metropolitan areas will be able to accommodate ZEVs through infrastructure plans and streamlined permitting

By 2020
- The State's ZEV infrastructure will be able to support up to 1 million vehicles
- ZEVs will be accessible to mainstream consumers

By 2025
- Over 1.5 million ZEVs will be on California roadways and their market share will be expanding
- Californians will have easy access to ZEV infrastructure
STRUCTURE OF THE 2016 ZEV ACTION PLAN

Actions called for in this 2016 ZEV Action Plan are grouped into sections according to six broad objectives, each of which contains two sub-sections: “Light-Duty,” which focuses on light-duty passenger vehicles, and “Medium- and Heavy-Duty,” which includes actions for medium-duty, heavy-duty and freight applications.

Six broad goals for state government to advance ZEVs include:

1. Achieve mainstream consumer awareness of ZEV options and benefits
2. Make ZEVs an affordable and attractive option for drivers
3. Ensure convenient charging and fueling infrastructure for greatly expanded use of ZEVs
4. Maximize economic and job opportunities from ZEV technologies
5. Bolster ZEV market growth outside of California
6. Lead by example integrating ZEVs into state government
5 million ZEVs by 2030
“Develop and implement **sustainable energy initiatives** that reduce energy demand, increase energy efficiency, and **advance the use** of clean, efficient and **renewable resources** available in the region for the benefit of the Member agencies and their constituents.”
Advanced Fuels and Transportation Dept. Goals

• To support the use of ZEVs in the North Coast and Upstate region
• Plan, manage, and implement the infrastructure necessary to support ZEVs
• Provide information, education, and incentives to encourage the adoption of alternative fuel vehicles by local residents, businesses, and public agencies
Past Transportation Projects

North Coast Plug-in Electric Vehicle Readiness Plan

July 2014
Past Transportation Projects

NORTH COAST PLUG-IN ELECTRIC VEHICLE CHARGING NETWORK

Figure 1: Map of the Nine EVCS Sites
Past Transportation Projects

NORTHWEST CALIFORNIA
ALTERNATIVE FUELS
READINESS PLAN

Fuel Cell

STATE OF CALIFORNIA
ENERGY COMMISSION
Current Transportation Projects

North Coast and Upstate FCEV Readiness Plan

ARV-14-055

Regional Hydrogen Infrastructure Plan

October 19, 2017
Current Transportation Projects

NORTH COAST ZEV READINESS PLAN IMPLEMENTATION: PHASE 2
Current Transportation Projects

<table>
<thead>
<tr>
<th>#</th>
<th>City</th>
<th>Address</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eureka</td>
<td>718 3rd Street</td>
<td>In the GHD parking lot</td>
</tr>
<tr>
<td>2</td>
<td>Eureka</td>
<td>4 C Street</td>
<td>Fisherman’s Terminal parking lot</td>
</tr>
<tr>
<td>3</td>
<td>Arcata</td>
<td>8th and F Street</td>
<td>In the back of the parking lot</td>
</tr>
<tr>
<td>4</td>
<td>Blue Lake</td>
<td>777 Casino Way</td>
<td>In front of the Tribal Office</td>
</tr>
<tr>
<td>5</td>
<td>Blue Lake</td>
<td>111 Greenwood</td>
<td>Parking lot of City Hall</td>
</tr>
<tr>
<td>6</td>
<td>Trinidad</td>
<td>380 Janis Court</td>
<td>Parking on Patrick’s Point Drive</td>
</tr>
<tr>
<td>7</td>
<td>Arcata</td>
<td>1385 8th Street</td>
<td>In front of the Greenway Building</td>
</tr>
<tr>
<td>8</td>
<td>Eureka</td>
<td>707 L Street</td>
<td>Around the back of the building</td>
</tr>
<tr>
<td>9</td>
<td>Fortuna</td>
<td>638 11th Street</td>
<td>Parking on 11th behind pet shop</td>
</tr>
<tr>
<td>10</td>
<td>Rio Dell</td>
<td>203 Wildwood Ave.</td>
<td>Parking lot by Pizza Factory</td>
</tr>
<tr>
<td>11</td>
<td>Willow Creek</td>
<td>38949 California 299</td>
<td>Bigfoot museum parking lot</td>
</tr>
<tr>
<td>12</td>
<td>Ferndale</td>
<td>4th Street Parking lot.</td>
<td>Near middle of lot</td>
</tr>
<tr>
<td>13</td>
<td>Eureka</td>
<td>2700 Dolbeer Street</td>
<td>St. Joseph’s hospital near back</td>
</tr>
<tr>
<td>14</td>
<td>McKinleyville</td>
<td>1514 City Center Road</td>
<td>Near totem pole</td>
</tr>
</tbody>
</table>
Current Transportation Projects

SITE LOCATIONS

SMITH RIVER
350 North Indian Road, CA

CRESCEcnt CITY
655 US-101, CA

KLAMATH
171 Klamath Blvd, CA

ARCATA
TBD, CA

LOLETA
11 Bear Paws Way, CA

GARBERVILLE
705 US-101, CA

LEGGETT
69501 US-101, CA

LAYTONVILLE
45020 US-101, CA

UKIAH
711 E Perkins St, CA

CLOVERDALE
1139 S Cloverdale Blvd, CA

HEALDSBURG
TBD, CA

DC FAST CHARGE
Current Transportation Projects
North Coast ZEV Readiness Plan
Implementation
Phase II: Services We Provide

Thank you for your interest in the North Coast ZEV Readiness Plan. This detailed plan outlines our implementation strategy in Phase II, focusing on the services we provide to support the transition to zero-emission vehicles (ZEVs). Our approach is layered, aiming to address different segments of the community, from Multi-Family Homes to Public In Metro Areas, ensuring a comprehensive solution.

The diagram visualizes our strategy, with each level representing a different service area, from Single Family Homes to Fleets. This structured approach is designed to meet the varying needs of our stakeholders, ensuring a smooth transition towards a more sustainable future.

Thank you for considering our services. For more information, please refer to our detailed report or contact our customer service for assistance.

Kind regards,
[Your Name]
Expos, test drives, tabling
Welcome

Welcome to the seventh issue of the North Coast Plug-in Electric Vehicle (PEV) Project newsletter series!

This is a continuation of the newsletter series of the North Coast PEV Project that began in 2012. For further information about this and other exciting energy efficiency and renewable energy projects, visit www.RedwoodEnergy.org, or contact us at info@redwoodenergy.org.
Testimonials
Earned Media
ATTENTION
Important Updates from the RCEA Transportation Department

- RCEA is issuing a Request for Information to solicit responses from entities in or around the North State California Region regarding interest in fuel cell electric vehicle planning, hydrogen production, hydrogen fuel-cell vehicle adoption, and hosting/leasing/owning hydrogen fueling infrastructure. Responses will be accepted on an on-going basis at least through April 30, 2018.
- View our February 2018 Clean Transportation Newsletter

Website
<table>
<thead>
<tr>
<th>Fleet Analyses</th>
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</thead>
<tbody>
<tr>
<td><strong>ICE vehicle</strong></td>
</tr>
<tr>
<td>2017 Dodge Charger</td>
</tr>
<tr>
<td>2017 Dodge Charger</td>
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<tr>
<td>2017 Dodge Charger</td>
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<tr>
<td>2017 Dodge Charger</td>
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<td>2017 Dodge Charger</td>
</tr>
<tr>
<td>2017 Dodge Charger</td>
</tr>
<tr>
<td>2017 Dodge Charger</td>
</tr>
<tr>
<td>2017 Ford Fusion Hybrid</td>
</tr>
<tr>
<td>2017 Ford Fusion Hybrid</td>
</tr>
</tbody>
</table>
City-wide Circulation, Parking Supply and Management

Goal M-5
A circulation and parking system that serves the diverse needs of the City. (Modified)

M-5.1 City-wide Parking Management. Conduct analysis to better understand the City’s non-residential parking needs on a broad scale and then develop a City-wide Parking Management Plan. (New)

M-6.1 Parking Management Program. Continue to work with Core Area business and property owners to develop a parking management program, such as a parking permit program, to balance the long and short-term parking needs of residents, employees, business patrons, and tourists. (Existing 3.H.3)

M-6.2 Enhance Safety. Continue to enhance and maintain parking lot safety as necessary through improved lighting in lots and accessways and increased visibility of parking areas through removing/pruning high shrubs and overgrown landscaping, relocating dumpsters, and removing other obstacles to visibility and surveillance of lots. (Modified 3.H.5)

M-6.3 Parking Lot Location. Discourage placement of parking lots along major commercial, high pedestrian-use street frontages, and corners in the interest of maintaining continuous building frontages along the primary commercial streets in the Core Area. (Modified 3.H.6)

M-6.4 Alternative Fuel Vehicle Parking. Support parking for Electric Vehicles (EVs), carpools, and hybrids, including the development of local charging stations in both public and private parking lots and large commercial parking lots. (New)

M-6.5 Self-driving vehicle strategies. Begin planning for integration of self-driving vehicles into the City’s planning strategies, including reduction of parking lot and space requirements, impacts on public transportation, revenue reductions from parking fines and fees. (New)
Scholarships for Sustainable Fleet Training Programs

NAFA
Sustainable Fleet Accreditation Program
In collaboration with CALSTART
Coordinate with Upstate Region
Facilitate Access to Maps and FAQs
Site Host Consultations

<table>
<thead>
<tr>
<th>Total Number of EVCS at the Facility</th>
<th>Van Accessible: 144 inches wide</th>
<th>Standard Accessible: 108 inches wide</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5 to 25</td>
<td>1</td>
<td>1</td>
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*Table 1, EVCS Thresholds*
Update
EVCS
Guide
# Design Group Buy Program

<table>
<thead>
<tr>
<th>Eligible EVs</th>
<th>EVs Incentivized</th>
<th>Avg Starting Price</th>
<th>Avg Dealer Discount</th>
<th>Avg Manufacturer Discount</th>
<th>Avg SCP Discount</th>
<th>Avg Final Sale Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chevrolet Bolt</td>
<td>186</td>
<td>$41,455</td>
<td>$3,018</td>
<td>$3,016</td>
<td>$2,032</td>
<td>$33,389</td>
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<tr>
<td>Volkswagen e-Golf</td>
<td>75</td>
<td>$33,263</td>
<td>$3,706</td>
<td>$4,440</td>
<td>$2,020</td>
<td>$23,097</td>
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<tr>
<td>Chevrolet Volt</td>
<td>66</td>
<td>$37,579</td>
<td>$3,008</td>
<td>$2,709</td>
<td>$2,182</td>
<td>$29,680</td>
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<tr>
<td>Kia Optima EV</td>
<td>64</td>
<td>$38,197</td>
<td>$2,310</td>
<td>$10,305</td>
<td>$2,328</td>
<td>$23,254</td>
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<tr>
<td>Nissan LEAF</td>
<td>62</td>
<td>$35,746</td>
<td>$5,142</td>
<td>$11,217</td>
<td>$2,145</td>
<td>$17,242</td>
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<tr>
<td>Kia Soul EV</td>
<td>47</td>
<td>$35,898</td>
<td>$1,802</td>
<td>$16,937</td>
<td>$2,255</td>
<td>$14,903</td>
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<tr>
<td>Ford Focus EV</td>
<td>16</td>
<td>$31,045</td>
<td>$1,432</td>
<td>$9,838</td>
<td>$2,094</td>
<td>$17,681</td>
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<tr>
<td>BMW i3 REx</td>
<td>13</td>
<td>$53,183</td>
<td>$2,000</td>
<td>$8,077</td>
<td>$2,000</td>
<td>$41,107</td>
</tr>
<tr>
<td>BMW i3</td>
<td>9</td>
<td>$52,162</td>
<td>$2,078</td>
<td>$8,611</td>
<td>$2,000</td>
<td>$39,472</td>
</tr>
<tr>
<td>Mercedes Benz B250e</td>
<td>9</td>
<td>$45,099</td>
<td>$8,444</td>
<td>$6,222</td>
<td>$2,167</td>
<td>$28,266</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>547</strong></td>
<td><strong>$38,569</strong></td>
<td><strong>$3,168</strong></td>
<td><strong>$6,617</strong></td>
<td><strong>$2,118</strong></td>
<td><strong>$26,666</strong></td>
</tr>
</tbody>
</table>
Respond to Interest in Alternative Fuel Vehicles
Other Services

• Educate public and fleet owners about ZEVs and infrastructure
• Host seminars
• Provide presentations
• Provide assistance to local government agencies
• Facilitate group of ZEV enthusiasts
Current Status
Figure 1: Using vehicle registration data for Humboldt County, PEV adoption was projected as far out as 2026. The time periods over which we expect to achieve benchmark penetration levels are depicted near the horizontal axis.
Questions
ZEV Enthusiast Group
Our Purpose
Group Activities

• Expo events
• Ride and drive events
• Seminars
• Feedback
Group Activities

Invitation to Sustainable Speaker Series in October

Ford Focus EV
Group Activities 2

Supporting

• Group buy program
• Public fleet adoption
• Public EV charging

Nissan Leaf EV
Group Activities 2

- Advocating for EV friendly policies and projects
- Encouraging local car dealers to carry ZEVs
Next Steps and Action Items

• Interest in 4th of July expo event
• Discuss general availability for upcoming meetings
• Agree on action items and gather input for agenda of next meeting
Feedback

• Do the primary activities seem suitable to you?
• Do you think any of the secondary activities should be shifted to the primary activity list?
• What would you like to focus on during future meetings?
Extra Slides
Gas vs. EV - Cost per Mile

A Gas Vehicle traveling
10,000 miles / year @ 20 mpg = 500 gallons of gas
@ $2.50 / gal = $1,250 / yr.

An Electric Vehicle traveling
10,000 miles / year @ 4 KWh / Mile = 2,500 KWhs

ConEd Electricity @ $.25/kWh = $625 / yr (50% savings)

Community Solar @ $.15/kWh = $375 / yr (70% savings)

$ Savings (& GHG reductions)
Lower Maintenance: NO Oil, Transmission Fluids...

Gas Cars:
~2,000 moving parts
Transmission, driveshaft, clutch, valves, differentials, pistons, gears, crankshafts...

Electric Vehicles:
~20 moving parts
8 Year, 100,000 miles battery warranty