

**DOCKET**

**09-ALT-1**

DATE

RECD. 9/23/2009



## THE NEW GM

**Dave Barthmuss**  
**General Motors Company**



**GM**

# GM ENERGY STRATEGY

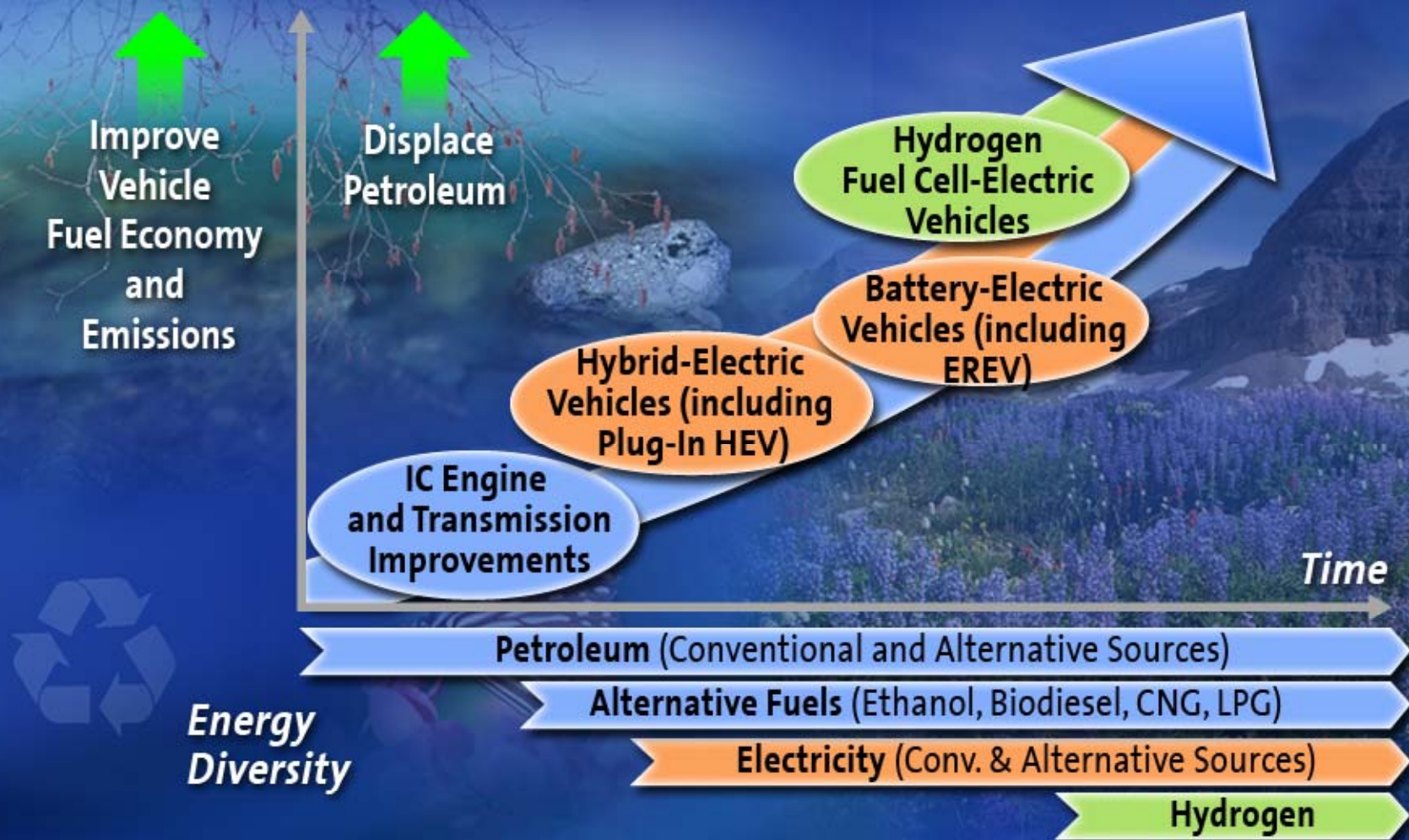
DISPLACE PETROLEUM THROUGH ENERGY EFFICIENCY AND DIVERSITY



GM



# ADVANCED PROPULSION TECHNOLOGY STRATEGY



# Chevrolet Volt Extended-Range Electric Vehicle



Up to **40** miles **BATTERY** Electric Drive + **HUNDREDS** of miles **EXTENDED RANGE** Driving (Gasoline or E85)



# GM/EPRI Utility Collaboration

Includes more than 50 Utilities, and many of the industry's thought-leaders in electric transportation and grid interaction





# Four Things We Need to Get Right

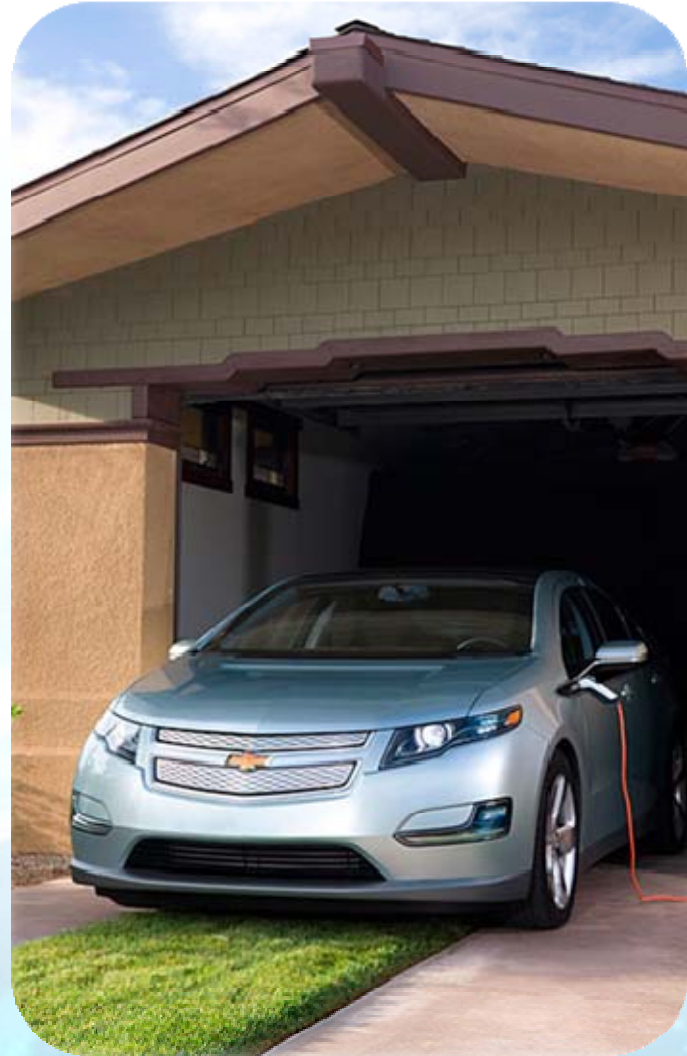
- The Vehicle
- Battery Charging
- Consumer Education
- Customer Experience



# Plug-in Ready Communities

## Required Stakeholders

- Dedicated project leader
- State, city, county
- Clean Cities Orgs/AQMD
- DOT
- Utilities (municipal and regional)
- Regulators/public utility commissions
- Permitting and code officials
- Local employers
- Local universities

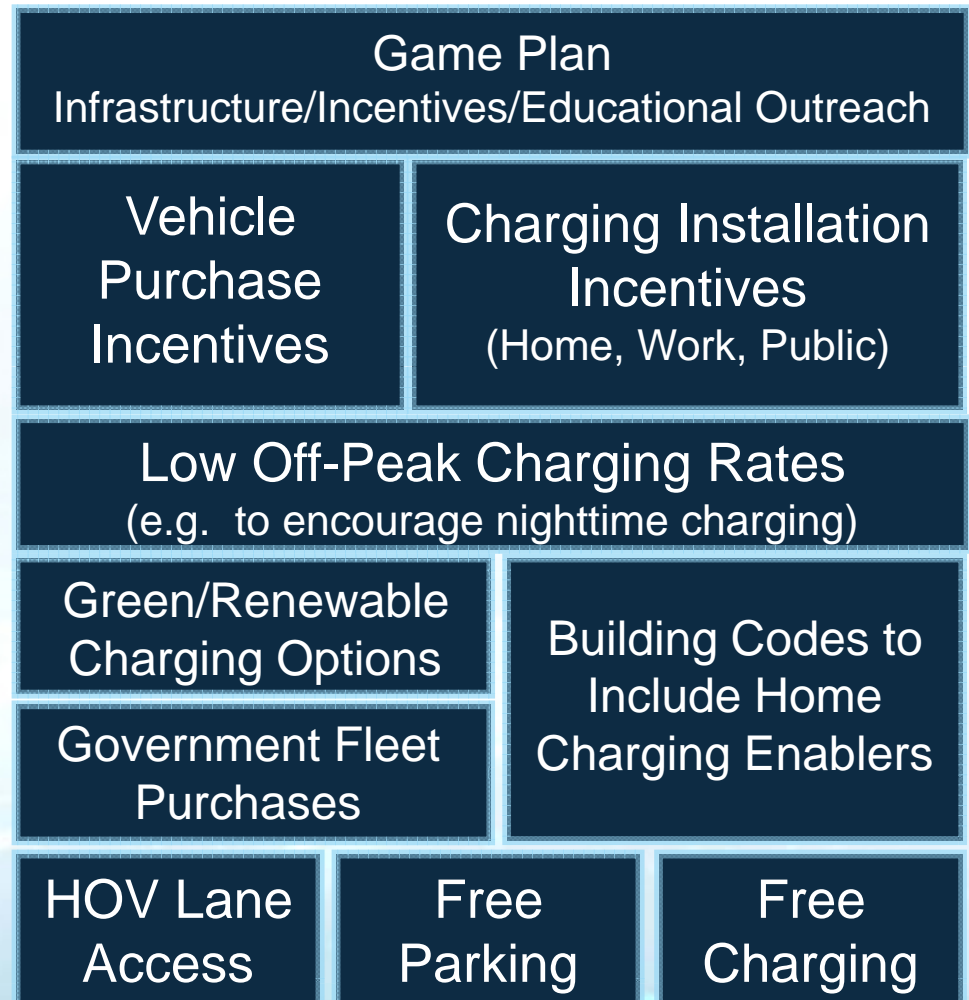


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## Desired Enablers





# Is California Plug-in-Ready?

## Among the Stakeholders:

Mayors of SF, San Jose, Oakland, and Los Angeles  
Utilities (SCE, PG&E, SMUD, SDG&E, LaDWP) and EPRI  
Bay Area and South Coast AQMD  
Clean Cities  
Silicon Valley Leadership Group // Bay Area Council // Google.org

## Pending Vehicle and Infrastructure Incentives:

AB 118 - \$5 million (2010-11) @ \$3000/veh = 1,667 vehicles  
-- Nissan Leaf = 1,000 vehicles in San Diego ...  
-- Volt plans are ambitious

## Infrastructure Efforts:

3 public charging spots installed at City Hall in SF  
~~Clean Cities stimulus proposal awards for EV charging~~  
Significant stimulus award for EV infrastructure in San Diego  
-- other awards modest (SF, LA)  
Eased permitting initiatives proposed in SF  
Over 2000 existing charge spots in CA could be easily refurbished

## HOV Lane Access:

SB 535 – Legislation introduced

Who's engaged  
and what are  
they doing?

Can we increase  
and count on  
these incentives?

What will be in  
place by Nov  
2010?



# A Full Portfolio of Solutions ...

Will be Required to Meet CO2 Targets and Satisfy a Broad Range of Consumers



# Backup Slides





# Strategy to Achieve a Plug-in Ready City



Required Stakeholders:	Required Enablers:
<ul style="list-style-type: none"> <li>• Dedicated Project Leader</li> </ul>	Establish a public charging infrastructure plan; Establish a local/state incentives plan; Establish a marketing and educational outreach plan
<ul style="list-style-type: none"> <li>• State Government</li> </ul>	Provide state tax credit for vehicles (>\$2,500/16kWh vehicle) and charging equipment and installation at home/multi-family home/workplace/public (up to \$3,000/home; \$30,000/other site with 10 charge ports) Eliminate state sales tax on vehicle purchase; Commit/fund government fleet purchases (200 vehicles) <div>Note: Point-of-sale consumer incentives more effective than end-of-year tax credits</div>
<ul style="list-style-type: none"> <li>• City/County Government</li> <li>• Clean Cities Orgs / AQMD</li> </ul>	Provide incentives for vehicle purchasers (see above - work with state) and charging equipment and installation (see above - work with state) Install public charging spots in key locations (30 distributed locations; meeting SAE J1772 level 2 (240V) and J2836 standards); refurbish existing charge sites; Establish free parking; Commit/fund government fleet purchases (25 high-profile vehicles)
<ul style="list-style-type: none"> <li>• DOT</li> </ul>	Provide HOV lane access for plug-in vehicles; Eliminate vehicle registration and license fees
<ul style="list-style-type: none"> <li>• Permitting and Code Officials</li> </ul>	Prepare for eased/fast/self-permitting of home/public charging installation; Ensure new home/building codes/major renovations provide for vehicle 240V charging
<ul style="list-style-type: none"> <li>• Utilities (municipal &amp; regional)</li> <li>• Regulators/Public Utility Commissions</li> </ul>	Provide rebate for vehicle purchasers (add'l \$2,500/16kWh vehicle); Provide and incentivize home/building charging installation electrical service (i.e. provide no/low cost installation financed thru monthly utility bill); Provide free charging or compelling low-cost EV rates (3-4 cents/kWh); Provide "green" electricity options; Commit/fund commercial fleet purchases (25 high-profile vehicles)
<ul style="list-style-type: none"> <li>• Large Local Employers (as Early Adopters)</li> </ul>	Employers (3 major corporations) provide work-place charging (25 park/charge spots) and employee vehicle purchase incentives (add'l \$2,500/vehicle); Commit/fund corporate fleet purchases (25 vehicles)
<ul style="list-style-type: none"> <li>• Local Universities</li> </ul>	Provide campus charging and free parking (10 distributed charging locations); Commit/fund university fleet purchases (5 high-profile vehicles)