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Ready, Set, Charge!

A Proposal to Make Communities Plug-in Ready

Enid Joffe
President
Clean Fuel Connection, Inc.

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Problem Statement

- Plug in Vehicles are expected to be available in significant numbers starting in late 2010— *a year from now!*
- Time consuming local approval process for PEV Infrastructure Installation could create bottlenecks that hurt the market introduction.
- Electrical upgrades may be costly
- Need “ubiquitous” or at least highly visible public and workplace infrastructure to reduce range anxiety
- Multiple regional efforts underway, underfunded and unconnected

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What Needs to be Done in the Next 12 Months to Get PEV Infrastructure in Place?

- Develop pre-approval PEV pre-approved process for potential buyers to avoid permitting bottleneck
- Promote rapid local approval process (similar to NYC self-certification and LA post-installation permitting)
- Develop infrastructure procedures from showroom to home, workplace and public locations
- Revisit, revise and re-implement “EV Ready” efforts of 1990’s for police, fire, and building officials
- National and regional public awareness campaign

THE SOLUTION

READY, SET, CHARGE!

Ready, Set, Charge!
Phase 1—Jump Start

- Pre-qualify potential Plug-in Vehicle buyers
  - Fund home charging pre-inspections
  - Assist with cost of pre-wiring to junction box—ready for EVSE to be installed
  - Certify that customer is Plug-In Ready (i.e., like pre-qualifying for a car loan before shopping for a car)
- National public awareness campaign with high recognition (like “Got Milk”)

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Ready, Set, Charge!
Phase 2—Implement Best Practices

- A multi-regional effort that taps into and expands existing regional and local efforts
- Work with early markets to create best practices on permitting, new construction requirements, free parking and development incentives
- Quantify PEV Greenhouse Gas reduction benefits
- Statewide initiatives on training for first responders and local building officials (builds on curriculum created by CEC and State Fire Marshal in 1990s)
- Create a menu of options and best practices that can be promoted statewide
- Provide funding for existing regional coalitions
- Support with state and national marketing campaigns

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Advantages

- Identifies early handraisers
- Allows utilities to forecast potential system impacts (ie., clusters of drivers on a circuit)
- Eliminates infrastructure installation bottleneck
- Allows plug-in introduction to proceed smoothly
- Near term solution while cities/utilities move toward more streamlined infrastructure approval processes

Challenges of Pre-Qualification

- Not all pre-qualified customers will become buyers
- Potential “gaming” ie., getting subsidized electrical work without getting vehicle
- Ensuring new circuit is used for Plug-in vehicle not the new hot tub

IMPLEMENTATION

Stakeholders

- OEMs
- Dealers
- Utilities
- Local, regional and state governments (including Building Officials and Public Safety Officials)
- Employers
- Customers
- Electrical Contractors
- The Plug-in Industry and Advocates
- Need all working together to become EV ready!

OEMs

- Work together as a group on EV readiness
  - Speak with one voice to utilities and cities
- Set criteria for communities to follow ie.,
  - Streamlined permitting
  - 220v wiring in new construction
  - Public infrastructure
- Coordinate pre-qualification process for waiting list customers (can privacy be assured?)
- Consider selling vehicle with 110v and then encouraging after-sale installation of 220v EVSE
- Money back guarantee if customer buys car and cannot install EVSE due to electrical constraints or local building codes

Dealers

- Encourage pre-inspection by customer through Ready, Set, Charge Program
- Encourage pre-wiring and installation i.e. pre-install junction box
- Have infrastructure ombudsman or advocates at
  - Dealership
  - National call center
- Infrastructure desk/outreach in showroom— could be OEM rep or EVSE manufacturer rep—also national
- Consider selling vehicle with 110v and then encouraging after-sale installation of 220v EVSE
- Plan multiple follow-ups—who follows up with whom—re pre-installation
- Money back guarantee if customer buys car and cannot install EVSE due to electrical constraints or local building codes

Utilities

- Reward off-peak charging, but don't punish any PEV drivers who plug in
- Establish off-peak rate structure and make it easy to apply
- Dual meter adapter in interim or other PEV rate mechanism (free installation of dual meter adapter)
- Have smart grid transition plan—don't slow down plug-in market introduction
- Make accommodation for on peak public charging or fast charging (ie., mandatory load reduction)
- Participate in and fund Ready, Set, Charge Readiness campaign

Customers

- Get Plug-in Readiness pre inspection and prewiring to junction box (gov't funding or rebates)
- Learn about PEVs (PHEVs, BEVs and HEVs)
- Provide feedback about EVSE and other charging concerns
- Feedback on public and workplace infrastructure desires and locations

Employers

- Survey employees for PEV and BEV interest
- Make part of GHG reduction programs
- Make part of TDM compliance (as link to public transit or car sharing)
- Install workplace infrastructure
- Facilitate billing for electricity use
- Provide incentives to PEV drivers ie., parking spaces
- Demonstrate PEVs in own fleet

Local and Regional Jurisdictions

- Adopt self-permitting or streamlined permitting of some type
- Adopt existing LEED PEV requirement
- Install public charging
- New construction requirement for 220v PEV charging
- Make part of Transportation Demand Management
- Provide development bonus for charging
- High visibility streetside charging
- Free parking; facilitate payment options in gov't owned/operated parking garages
- Support Plug-in Readiness effort at statewide and national organizations of municipal governments (ie., League of Cities, National Conference of Mayors)

State Government Agencies

- Fund creation of Plug-in Readiness Initiatives
- Fund specific activities required for Plug-in Readiness
- Fund review of First Responder curriculum
- Establish training workshops with Local Building Officials and First Responders
- Coordinate with State Fire Marshal
- Develop messages for local Fire Marshal and Building Official chapters
- Identify regional Plug-In Ready groups
- Develop Menu of Options for Local Governments

Electrical Contractors

- Develop best practices for installation
- Develop volume pricing
- Help persuade local jurisdictions to allow self-certification

Plug-In Industry

- Create coalition (new or part of existing organization)
- Contribute funding
- Create Ready, Set,Charge! Media campaign

Sample Funding Proposal—CA Only

- 10,000 pre-inspections statewide @ $300 each ($250 for electrician and $50 administration per inspection
- $500 voucher for pre-wiring work required to be prepared for EV charging installation—up to 10,000 residents
- Statewide media campaign (involving utilities OEMs and others)
- Funding for 10 plug-in readiness regional/national coalitions @$100,000 each (ie., Plug-in America)

Sample Budget for Funding Sources

- Orchestration and Coordination $1 million
- Pre-inspections $ 3 Million
- Plug-in Readiness vouchers $ 5 Million
- Media Campaign $ 2 Million
- Regional coalitions $ 1 Million
- Total $12 Million

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Potential Funding Partners—California Example

- Automakers
- Investor Owned Utilities
- Municipal Utilities
- Customers
- California Energy Commission
- Regional Air Districts
- California Public Utilities Commission

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Sample Timeline

• Find "Angel" start-up funding	• Jan. 2010
• Created funded coalition of OEMs, utilities and Plug-in Readiness groups (new or affiliated with existing advocacy group)	• Mar. 2010
• Identify good models for charging pre-qualifying, permit streamlining, employer and workplace charging	• Apr. 2010
• Develop models of OEM/utility/charging installation processes	• May 2010
• Create menu of options for local jurisdictions	• June 2010
• Begin pre-inspections for infrastructure installation	• June 2010
• Begin media campaign	• July 2010
• Showcase early adopters of self-certified permitting and other best practices	• Sept. 2010
• Rollout	• Nov. 2010
• Re-evaluate and refine	• Jan. 2011

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Next Steps

- Find "Angel" to finance start-up of Ready, Set Charge!
- Create national coalition of OEMs, utilities and local PEV Readiness groups
  - OEMs, utilities and governments fund pre-inspection campaign
- Determine sources of funding and funding commitments
- Analyze information from the 1990's re cost and time to understand bottlenecks
- Develop best practices for local jurisdictions
- Permitting—ask local jurisdictions to adopt
  - Self certification
  - Blanket permit
  - Post construction permitting (with dual meter adapter)
- Utilities
  - Adopt off-peak charging rates
  - Mitigate impact of on-peak charging without penalizing customer
  - Participate in pre-inspection campaign
- Create Ready, Set, Charge Plug-in Readiness Campaign

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