



## Submission by Feel Good Cars

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### California Alternative Fuels Market Assessment, 2006

Feel Good Cars welcomes this opportunity to comment on the findings and conclusions of this report with particular reference to Section 4 regarding electricity as a transportation fuel.

As a manufacturer of electric vehicles and a new entrant in the California vehicle market, we find some of the observations made in the draft report to be outdated and the subsequent conclusions drawn to be overly pessimistic. We would like to address specific statements in the draft report which we find to be inaccurate or misleading:

#### Overly Pessimistic Future Prospects

*p. 4-1 "The prospects for electricity as a fuel to offer significant displacement of petroleum transportation fuels are not bright."*

Feel Good Cars is a North American based automobile manufacturer which is funded entirely by private and institutional investors who believe in the business prospects of the company. It is currently selling a viable low-speed product for a smaller but well-defined and growing market. The ZENN is just one of a few zero emission electric vehicles available now or scheduled to be introduced to market within a two to three year time frame. These are early entrants in what promises to be a pivotal moment in the history of urban transportation on this continent. Feel Good Cars intends to continue with the introduction of technology and design improvements which will:

- increase the variety of vehicles offered
- dramatically improve performance capabilities
- steadily enlarge the market for zero emission electric vehicles

*p 4-1 "BEV technology even today is too expensive and too constraining with respect to vehicle range to allow commercial success in the marketplace."*

This statement ignores the fact that the existing electric technology is the foundation of a thriving and popular electric vehicle segment in Europe. There were more than 25,000 electric vehicles operating in Europe at the end of 2004. This represents growth of almost 300% over eight years. The technology has been neither too expensive nor constraining to allow commercial viability.



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What differs however, are the cultural values and political will to enable alternative transportation solutions to flourish. Notably, the authors of this draft report indicated that "demand for BEVs exceeded supply" and that vehicle conversions "are in high and increasing demand". Clearly, Californians recognize the value of electric vehicle technology and are motivated to include it in the mix of available transportation options.

True "commercial success" of BEVs will be a function of three elements:

1. Supportive government incentives to help stimulate the consumer and fleet markets
2. Manufacturers truly committed to BEV mass production, and
3. Advanced battery technology that allows for BEVs to be competitively priced with internal combustion vehicles.

CARB must remain committed and proactive to point #1. Feel Good Cars IS committed to points 2 & 3.

### Over-stated Sense of Uncertainty

p 4-1 *"The needed developments in improving battery technologies are too long range and uncertain to alter this conclusion."*

Feel Good Cars is the licensee of new energy storage technology. Although the company is not yet ready to announce specific developments in this area, we are confident that the prospects are not so long range or uncertain that the possibility should not be considered in this report. In our opinion, it would be prudent to consider the prospect of electricity constituting a significant and growing share of the transportation 'fuel' market in California within the policy time frame of this report.

### Over-stated Emphasis on ICE Manufacturers' Viewpoint

In recounting the history of the ZEV program, the report again refers to the 2003 review process citing the "industry position" that:

p 4-4 *"battery EVs are still too expensive and have insufficient range".... "The major manufacturers have cited high manufacturing costs, limited*



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*performance of storage batteries (limited life and range), and limited market as reasons for discontinuing their EV programs."*

These statements reflect the opinion only of the multinational automotive industry. These companies operate on a low-cost, mass production model that is unable to introduce incremental change through niche markets. They also have an abiding interest in preserving the status quo. Innovative vehicle manufacturers such as Feel Good Cars do not recognize any of these factors - production cost, battery technology or supposed lack of market interest - as limiting factors. In fact, through our own business we can demonstrate that production cost is a manageable factor; new, affordable battery technology solutions are imminent and the market demand is extremely healthy for ZEV, and specifically battery electric vehicles.

### **Understated Market Participants, Overstated Role of ZEV Credits**

The report implies that ZEV credits were primarily responsible for sales of NEVs and claims that sales "spiked" in 2001 to 2003 when maximum credits were available and goes on to say that *"many were reclaimed by the manufacturer"*.

p 4-5 *"Due to ZEV credits being available for NEVs in a variety of applications and environments, manufacturers have produced and sold many of these vehicles."*

This market assessment completely overlooks the progressive evolution of NEVs from open golf-cart type vehicles into those that incorporate many of the comfort and safety features of conventional automobiles. This refinement has given them even greater utility and market appeal. Our vehicle the ZENN, for instance, was awarded a gold medal for Best Urban Vehicle this year in the international Michelin Bibendum Challenge.

Table 4-1 (EV Use in California) purports to show that there are 5 "OEM NEV models offered in 2006" from only one manufacturer (GEM). This is apparently the basis for claiming that, *"The on-road electric vehicle population is currently declining due to absence of new products."* (p 4-8).

In fact, this information from CARB's Driveclean.com website is seriously outdated. The DOE Alternative Fuels Data Center lists 5 NEV OEM manufacturers (other than ZENN) offering a total of 16 models of NEV in 2006. It is our contention that, rather than disappearing, NEVs are in fact proliferating.



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Another important point to make is that it appears that the original ZEV credit program, as related to NEVs, had some serious flaws. It would seem in retrospect that a number of major OEMs simply flooded the California market with under priced (and in some circumstances FREE) NEVs simply as a tactic to acquire ZEV credits at a low cost. It is time to properly reexamine the ZEV program as it relates to NEVs to ensure that the program truly creates incentives for both manufacturers and consumers.

The environmental benefit of NEVs has been proven in multiple research studies and MUST NOT be ignored by CARB.

### Dubious Cost Evaluations

After clearly indicating the approximate retail price of a NEV, the report makes the somewhat cryptic comment that *"the [NEV] costs are not easily comparable with conventional vehicles because they operate on a different operating paradigm."* (p 4-7). On the contrary, Feel Good Cars has no difficulty demonstrating that the ZENN electric vehicle is substantially less expensive to own and operate compared to a gasoline-fueled vehicle.

The report makes a qualified claim that *"plug-in hybrids could be less expensive than conventional gasoline vehicles":..*

- on a lifetime basis
- IF produced in traditional automotive-scale volumes

But the authors make no assessment of the likelihood of mass production anytime soon. In addition, other knowledgeable observers disagree with this assessment. For instance, according to a report released in September by the American Council for an Energy-Efficient America (ACEEE), plug-ins do burn less gasoline than regular vehicles but concluded the high cost of their bigger battery packs will probably neutralize even significant savings at the pump. For the plug-in, the payback period [of a pricing premium] is longer [than conventional hybrids]. The ACEEE report estimated 6.4 years for a vehicle that can travel 40 miles exclusively on stored electricity - even under a more optimistic assumption that battery prices fall sharply.

### The 'Low Speed' Transportation Culture

Finally, the report concludes that a technology is needed that does not constrain *"vehicle range to something the public will not tolerate."* In fact, the transportation continuum encompasses a wide spectrum of 'low speed' options beginning with



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walking and ranging up to power-assisted bicycles, electric scooters and NEVs. The 'public' has embraced all of these modes as viable options for specific purposes.

A large and, as yet unrecognized, opportunity exists to modify urban environments (or the rules governing them) to make them more accessible and welcoming to all low-speed transportation options, including NEVs. In some cases, this can be accomplished simply by enlarging the scope of roads on which a NEV can legally travel. Some cities have consistently accommodated a large bicycle population as a part of the transportation mix and the NEV could function in a similar manner. Communities near commuter transit stations and car-sharing enterprises are additional opportunities to expand the use of NEVs. Some planners and developers are beginning to design compact urban NEV communities that combine the principles of Smart Growth or New Urbanism with alternative transportation.

In addition, the range of NEVs could be extended in existing communities by installing conventional electrical outlets at common urban destinations, and improving/revitalizing existing charge station facilities. These locations could include transit station parking lots, public buildings, downtown parking meters or possibly even utility poles.

This report could only conclude that *"grid-supplied electricity... is not forecast to reduce significant petroleum transportation fuel use"* by ignoring the opportunities that abound to change and improve current transportation practices for the better. Feel Good Cars encourages further thoughtful consideration of the real possibilities.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ian Clifford".

Ian Clifford

Chief Executive Officer