

California Energy Commission  
Dockets Office, MS-4  
Re: Docket No. 09-ALT-1  
1516 Ninth Street  
Sacramento, CA 95814-5512

<b>DOCKET</b> 09-ALT-1
DATE _____
RECD. JUL 12 2010

RE: docket number "09-ALT-1" "2010-2011 Investment Plan."

Dear Sirs,

After expressing my disappointment in your present investment plan, Ms. Rhetta deMesa suggested that I present my comments and concerns to this body, for consideration of the upcoming 2010-2011 Investment Plan for AB118.

Why am I disappointed?

This plan, as does last year's plan, focuses on known bad ideas, throwing yet more tax payer money at known bad ideas, yet again. Why are these bad ideas? Glad you asked:

- 1) \$24.5M for Electric Drive: We are spending tax payer money on replacing petroleum with electricity, electricity that we do not have, from an infrastructure that is not in place, that can not be put in place for at least 20 years. To use electricity that we may never have, we have to develop automobile storage batteries that are even more toxic, hazardous, explosive, corrosive, more difficult to design, more expensive to make, and ever more impossible to dispose of. Electric cars were some of the first cars, and modern electric cars nearly bankrupted GM, costing over \$1M each, failing every real world requirement. Even the best minds couldn't make electric practical. GM spent billions and failed, now, CEC will spend millions and succeed, someday?

Let's look at the energy numbers: A coal fired power plant is 80% efficient, the power grid is over 90% efficient, the charge efficiency of a battery is about 30%, and the discharge efficiency is about 30%, so the energy efficiency of an electric car is no better than 8.1%, versus 20% for a gasoline vehicle. So, even if we had the electrical energy and infrastructure, electric cars are not energy efficient compared to conventional cars.

Let's look at the electric car itself. The Tesla car, a favorite of CEC (it received funding) sells for over \$100,000. It is near bankruptcy, yet was able to scrape together funding (thank you CEC) to fund a IPO.

"Tesla itself, of course, is famously a money pit -- the company has incurred some \$290 million in losses since its founding in 2003. Its total revenue -- again, *since 2003* -- stands at less than \$150 million. That includes the \$13.8 million that the company has made by selling carbon tax credits."<sup>1</sup>

"It (Tesla) has struggled to make a profit, with losses widening to \$29.5 million during the most recent quarter."<sup>2</sup>

"Tesla says that it needs to sell 20,000 Model S autos a year to make this thing work. But the Model S and Tesla -- a start-up that has yet to book a profitable quarter, and that has sold about a thousand cars *ever*."<sup>3</sup>

If electric cars catch on, the world wide supply of lithium, for the batteries, will limit production, while driving up battery costs.

- 2) \$14M for Hydrogen: Again, hydrogen requires electricity we don't have, from a non-existent infrastructure, to replace petroleum that we do have. Is that non-existent electricity used efficiently, more efficiently that the internal combustion engine it replaces? In a word, NO.

Conversion of AC to DC is 95% efficient, electrolysis from water is 75% efficient, compression into smaller fuel tanks is wasted energy at 90%, transport to dispenser is also wasted at 80%, fuel cell is 50% efficient and the vehicle is 90% efficient, making a hydrogen fuel cell infrastructure only 21% energy efficient for compressed hydrogen and only 17% efficiency for liquid hydrogen, not counting the monumental expense to install hydrogen fueling stations at convenient locations, the reduced range of a hydrogen vehicle requires more fueling stations closer together, besides the huge cost of hydrogen vehicles.

- 3) \$18.5M for E85 expansion: E85 is completely unsustainable, and we know this for a fact, long ago. To make one gallon of E85 it takes 1) 1,400 gallons of fresh water, 2) more than one gallon of diesel (cultivate, plow, plant, distribute fertilizer, herbicide, & pesticide, harvest, & process, 3) natural gas to distill, & 4) more energy than the E85 contains to haul it to California from the MidWest. There are over 400,000 E85 vehicles in California, but only 13 dispensers (thank goodness), so new dispensers cost about \$140,000 each. E85 produces aldehydes when burned. So, E85 produces a great deal more pollution to make, creates a different type of pollution when burned, consumes more ~~than~~ fuel than the fossil fuel it replaces, decreases vehicle range and mpg. We know E85 is a mistake. Why \$18.5M for nothing?

<sup>1</sup> Autos Weekly: Ford's Global Ups and Downs, Motley Fool 6/25/10

<sup>2</sup> Everybody Wants Tesla Except Me, Motley Fool 6/28/10

<sup>3</sup> Tesla: A \$1.33 Billion Pile of ... What?, Motley Fool, 6/29/10

- 4) \$10M for CNG: It costs \$34,000 to convert each light vehicle from gasoline to CNG. The conversion places fuel tanks in the trunk, adds 400#, requires heavier vehicle springs, reduces mpg, reduces range by 47%, and requires fuel dispensers that cost about \$3.4M each, to fully refill tanks. There are few public dispensers.
- 5) \$3M for propane conversion: Similar to CNG, above.
- 6) \$3M for Innovative technologies and advanced fuels:

Your list for this category reads like a re-write of the first 5 categories, above:

- Improve the efficiency of petroleum- and nonpetroleum-fuel engines to increase fuel savings and GHG emission improvements above the current levels (20-30 percent) in electric hybrid and hydraulic hybrid vehicles.
  - Improve the design of key vehicle components including high pressure fuel tank designs, compressors, electronic controllers, motors, fuel cells, batteries, and other components to increase vehicle performance and efficiency.
  - Improve the design of key alternative fuel infrastructure components including above and below ground fuel storage, dispensers, and safety systems.
  - Improve vehicles operations through improved controls and on-board diagnostics.
  - Integrate smart grid electricity systems with electric vehicle recharging.
  - Develop performance tests, instrumentation, drive cycle protocols, accelerated durability testing, and other technology applications to lower cost and shorten time required to comply with engine, fuel, and vehicle certifications.
  - Develop alternative materials and production processes for advanced vehicle battery manufacturing and stimulate business practices that encourage the use of vehicle battery and other storage technology in secondary markets and recycle/re-use opportunities.
  - Develop high-productivity biomass feedstocks, such as algae and perennial grasses, can offer significant GHG benefits and be used to produce "renewable crude oils" or gasoline and diesel fuel substitutes.
  - Develop fuels directly from sun-light, such as those being pursued by DOE's "Fuels from Sunlight" Innovation Hub.
  - Lightweight materials that have application across multiple vehicles platforms.
- 7) \$11M for technical assistance and environmental/market/technology analysis: Again, the CEC is spending tax payer money selling its bad news, unsustainable "technology."

That's a total of \$108M, for what? Known bad ideas. Building an unsustainable, unwanted, useless infrastructure.

It might be too much to ask, but I would like to see some new ideas, funded. Not ignored.

The CEC is wasting time and money on known bad ideas.

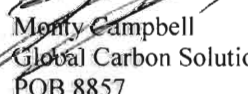
The concept that if the CEC doesn't know about a new technology, it should be ignored, and a known bad technology should be funded is typical bureaucracy mentality.

My suggestion:

I have a City police department interested in cleaning up a fleet of vehicles that have been exempted from emissions rules since 2001. The City, like most Cities, has a budget shortfall, so CEC financial help would be of great benefit to all of California, if not the nation. I have a new, alternative, alternative fuel hybrid conversion that needs no new infrastructure of any kind. No \$34,000 conversion. It extends range of the vehicles and increases performance.

What do I have to do to get a little help around here?

Sincerely,

  
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