

THE FUTURE OF ALTERNATIVE FUELS

Presented by

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My message is simple. We have lost our way with alternative fuels and desperately need some leadership. Ten years ago, we as a country squandered billions of dollars on ill-advised synthetic fuel investments. Today, we have gone to the other extreme, toward excessive cautiousness. But it's much worse than that. Because, what little we are doing, is, in my opinion, mostly wrong. We are mostly pursuing the wrong options and doing so in a narrow, shortsighted manner.

Let me say I have been closely monitoring energy policy and private investment in alternative fuels since the late 1970s. I have spent most of my research career evaluating the merits of the different options, and analysing strategies for introducing the more promising options. I try to be objective and to understand the interests and concerns of the different parties: those of industry, government regulators, and the environmental community.

When asked my opinion on what should be done with alt fuels -- and even when not asked -- I have counseled "caution." I urge caution because the future is uncertain, and our knowledge incomplete. Caution, because recent history is a story of costly mistakes: this country's costly adventure with synthetic fuels, New Zealand's catastrophe with synthetic gasoline, and the premature commitment by Brazil to ethanol, and by NZ to CNG. The result in each case was major economic losses with little or no benefit.

So I am highly sensitive to the folly of premature commitments to alt fuels.

But look at what we are doing in the US:

-We are spending close to a billion dollars per year subsidizing the least attractive alternative fuel available: corn-based ethanol

-We are mandating oxygenated fuel blends that provide little or no environmental benefit (or benefits of any other type), and that incur a significant additional cost;

-And industry and govt policymakers are focussing on an option -- FFVs -- that provide essentially no benefit of any sort -- and

they are doing it on the basis of some vague -- wrongheaded, I believe -- notion that FFVs are an important first step in moving toward an alternative fuel future, whatever that is. GM and Ford have made commendable progress in developing FFV technology, but it's not nearly enough.

In summary, cautiousness and conservativeness are admirable, but what we have here is foolhardiness.

No single person or organization is to blame. We are adrift in a sea of chaos. The problem is a result of political compromise, coalition-building that is not in the public interest, and a decentralized political system that lacks leadership.

In the spirit of brevity, I have three conclusions and three recommendations.

#1) FFVs, as I suggested above, will provide virtually no AQ, energy security, or CO2 benefits, mostly for technical reasons, but also because virtually no one is likely to buy methanol to put in their FFVs, once they've purchased the FFV.

2) Meoh, CNG and especially EVs provide multiple benefits, not just AQ benefits. It is bad analysis and bad policy to try to develop narrow evaluation measures such as calculations of the "cost-effectiveness of methanol as an ozone control strategy" -- which is now one of the most fashionable forms of analysis by "with-it" analysts. The problem in this case is that methanol also reduces airborne toxics and improves energy security somewhat, which are ignored in such a calculation. More to the point, however, are the much larger multiple benefits provided by CNG and EVs. Methanol or CNG or even EVs might be difficult to justify solely on an ozone basis, but when the multiple benefits are considered, the case for their introduction becomes much more compelling.

3) Consumer preferences are not fixed and unchanging. With a few incentives, but more importantly, with appropriate social messages from industry and govt, I am convinced, based on a series of consumer surveys we have been conducting at UC Davis, that a large proportion of consumers would be willing to purchase a short-range vehicle, such as an EV. People want to do the right thing; they want to preserve the quality of the environment and to a lesser extent want to buy domestic fuels; they are even willing to make some sacrifices -- but not if they feel they are being taken advantage of -- not if they think the higher fuel or vehicle prices they pay are just going to line the pockets of politicians, or add to the obscene profits of big business. Survey after survey indicates this desire to do the right thing. The challenge for all of us is to create a regulatory and tax structure that pushes consumers in the right direction, in a way that is understandable, logical, and seems fair.

Based on these three conclusions, I have three recommendations:

1) We need to greatly increase gov't R&D for the options that can really make a difference: electric, fuel cell, and hydrogen vehicles running on fuels made from non-carbon resources: in particular, solar-hydrogen, biomass, and perhaps nuclear.

2) The automotive industry should be more forward looking and immediately refocus its efforts on dedicated CNG, dedicated meth, and EVs (and away from FFVs). In other words, it should exhibit leadership in moving beyond FFVs. I applaud GM's tentative steps toward marketing an EV.

3) The current regulatory structure needs to be modified. It is unsuited to the coming transition to alt fuels. It relies on mandates, prescriptive rules, and uniform emission standards. It does not integrate energy and environmental goals, is highly rigid, does not provide incentives for improving and innovating, and is not sensitive to regional differences. It needs to become fuel-neutral, flexible in responding to new information, and it needs to reward those options that provide AQ and greenhouse benefits, and perhaps energy security benefits as well.

I believe the best approach is one based on incentives -- using either fees, taxes, and rebates; or using marketable credits whereby a company can trade credits if it beats the standard. California has just created a marketable credit system to accompany the new set of stringent emission stds it adopted last Fall. That system has some shortcomings, but it represents a shift in the right direction -- in terms of regulatory structure. It is a shift away from mandates and the use of uniform stds. And that's good news. We need a similar willingness in Washington and Detroit to innovate; to move beyond the rigid patchwork regulatory system that Congress and EPA are clinging to, and that is in no one's interest.