ENERGY INDEPENDENCE NOW

Commissioner James D. Boyd
Commissioner Karen Douglas
Michael Smith
Peter Ward
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Comments on the AB118 Investment Plan (Docket No. 08-ALT-1)

Dear Commissioners and CEC Staff,

As a follow-up to meetings with you and your staff, and participation in the advisory committee for AB118, Energy Independence Now (EIN) would like to offer input into the development of the Investment Plan for AB118. While we recognize that there is no formal timeframe for submissions at this stage, we hope these comments can be of use to CEC staff as you develop the second draft of the Investment Plan.

General Comment

Our general comments on the structure of the investment plan are aligned with several other organizations, and have been described in a joint letter to your group by several members of the AB118 advisory committee. In summary, we believe the Investment Plan needs to provide great detail on the objectives, priorities and criteria which will be used to design and measure the performance of the AB118 "investment portfolio".

We are encouraged by some of the work done to date in providing further specificity to the investment plan, and look forward to your proposal on the actual allocation of funds.

In that regard, we offer comments on the criteria for that allocation, covering the following topics:

1. Transportation strategies rather than technology "buckets"
2. Choosing transportation strategies
3. Assessing regulatory barriers
4. Cross-sector accounting and resource diversion
5. Supporting small, disruptive business
6. Retrofits

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1) **Transportation Strategies rather than Technology "Buckets"**

As has been widely discussed in the AB118 proceedings, we understand that a primary aim of the investment plan is to make specific fund allocations for "technology buckets."

In establishing these allocations, we urge staff to consider analyzing technologies in the context of specific transportation strategies, rather than as discreet technologies.

For example, we believe there is considerable agreement that the development of waste-based fuels is a strategy that meets several State priorities and but which has still failed to develop to a significant scale. The AB118 investment plan could propose that this be one of several core strategies, and require that projects that fall into that category be evaluated in relation to how they advance that particular strategy.

As was highlighted in the TIAX report presented to the advisory committee in July, many technologies may have a role to play in our future transportation system, but each technology path is at a different stage of development and therefore requires different support, be it R&D, pilot projects, deployment or other incentives.

By placing technologies within the context of a particular transportation strategy, these additional criteria can be incorporated. It also allows staff to identify the specific barriers (be they financial, regulatory or other), that are priorities to address, and develop the project solicitations accordingly.

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2) Choosing transportation strategies

In the three AB1007 example scenarios, the CEC projected what might happen if a given technology took a winning lead above the others, basing its analysis on some real world barriers (fuel cell cost reduction, battery technology breakthrough, cellulosic advancement). This is a compelling vision of a competitive marketplace.

By contrast, the current AB118 scenario that adds up the many "storylines" to paint a picture of what 2050 will look like if all technologies progress alongside each other does not seem as realistic, given that infrastructure costs require significant penetration to be worthwhile.

While we recognize it may be difficult to make everyone happy, we would encourage CEC to put a stake in the ground, announce some transportation strategies and make targeted investments that support those, rather than risk spreading the small AB118 funding too thinly across too many technologies.

As a starting point, we would propose the following core transportation strategies, each with a sub-strategy and an indication on whether emphasis is on fuel, infrastructure or vehicles. While this is not comprehensive, you will note that most technologies and fuels are included, but they are included in the context of a specific strategy and sector application, rather than as discreet items

Core Strategy	*Sub-component*	**Fuel Production**	**Fuel Infrastructure**	**Vehicles**
1. Develop waste-based fuels	Create MSW and waste biomass fuels	• Pilot plants for biogas & biofuel • Waste industry regs & standards		
	Develop non-food competing crops & algae	• LCA research & development of low GHG ethanol		
2. Transition Light Duty toward electric drive	From hybrids to Plug-in hybrids and BEV		• Smart meters • Charging stations	• Advanced Batteries • FFHEVs
	HEV to PHFCV		• H2 stations	• Cost effective fuel cell
3. Transition Heavy Duty to hybrids on renewable diesel & natural gas	Hybridization of HD		• Truck stop elec. • Cold-ironing	• Diesel hybrids • NGV Hybrids
	Ren. Diesel for Long Haul trucks	• NextGen Renewable Diesel, B20 standards & warranties for RD		
	Natural Gas for fleets		• NG stations, with eye to future H2 • Reg. barriers	• NGV retrofits

3) **Assessing Regulatory Barriers**

We support CEC's intent to integrate other "overlay" criteria beyond the technology diversification in evaluating the investment plan. One of these that we urge you to consider is a category of funding which focused on removing regulatory barriers, a need that cuts across and impacts many fuel pathway development.

This would acknowledge that even when a technology is ready and the financials are attractive without any state co-funding, there are often many existing regulations which prevent companies from investing. Some examples include:

- Waste fuels. The regulatory barriers to the development of fuels from the municipal solid waste have been documented elsewhere (see the Biomass Action Plan), but need to be considered in the context of AB118 goals. Many complications exist, including the statutory definitions of conversion technology and the existing definition for transformation, which together makes it extremely difficult to site and permit projects using these advanced conversion technologies.

- Hydrogen. EIN's experience with the Hydrogen Highways program has highlighted many barriers, including fire codes and equipment certification by standards bodies which have been tailored to petroleum distribution. The regulations can make it exceedingly difficulty to permit the handling and storage of compressed or liquid gases, and together form a serious barrier for a company attempting to invest.

- Electric drive. The regulatory framework for the electric utility sector is not aligned with the goal of promoting electric drive transportation. Utilities are generally penalized for increasing sales of electricity, and this will be further reinforced under AB32. There are also no provisions for utilities to account for the value of plug-in vehicles for their grid stabilization, backup or support services. If plug-in hybrids and battery electric vehicles are to flourish, these regulatory barriers must be addressed and reversed so that utilities are incentivized to develop their transportation business.

- Ethanol. The experience with the stage II vapor recovery requirements, and how this impeded the expansion of E85 infrastructure, is another example of why regulatory barriers must be addressed pro-actively, to avoid supporting a technology pathway for which a critical element such as distribution cannot occur.

These are just a small sample of barriers that we are aware of. We urge CEC to be pro-active in this regard, and solicit a cross-agency survey of regulatory barriers, gathering information not only from federal, state, county and city government bodies, but also from companies that are in the permitting process for alternative fuel-related investments.

This would be an extremely helpful inventory for all agencies to work from, and would provide a basis for the CEC to lead and guide these agencies in harmonizing their policies and regulations with the new climate change and transportation imperatives.

4) **Cross-sector accounting and resource diversion**

Many of the alternative fuel technology pathways include a new level of overlap with other sectors, including the waste management industry, agricultural sector, electricity and natural gas utilities and others.

CEC should ensure that proposals that include an interface with other sectors are able to account for their positive (and negative impacts) on these sectors. One obvious example is fuel made from waste products. The life-cycle assessment (LCA) of such fuels should include not only the greenhouse gas emissions associated with the production and use of that fuel, but the avoided emissions from its diversion. This type of accounting, similar to accounting of "co-products" under the LCA proposed for the LCFS, will better reflect a transportation sector that is increasingly integrated into other local activities, rather than fuelled from oil in the ground.

If any cost-effectiveness analysis is required, the CEC should also allow economic data from the related sector to be used so that the broader economic savings attributable to a fuel pathway are included. The example of a vehicle to grid program, where vehicles may provide economic value to the grid itself, unrelated to their transport benefit, is one such example. For waste-based fuels, accounting for the savings in avoid land-fill development is another.

5) **Supporting small, disruptive business**

In designing the Investment Plan, we encourage CEC to structure it such that funds are available to small, California-based emerging companies. These companies benefit proportionally more from small fund injections than do large established firms. We also believe that it is these types of companies that are most likely to propose revolutionary technologies to the market, given that they have no vested interests in incremental change or preserving any existing sunk costs. These start-up ventures can provide a positive, game-changing and disruptive force to the transportation sector in the same way that the start-ups of Silicon Valley have repeatedly demonstrated for the high-tech sector.

We urge CEC to keep this segment of the market in mind where possible in designing the Investment Plan and the solicitation, to ensure that the process or metrics do not favor large, incumbent firms.

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6) <u>Retrofits</u>

While there has been little discussion of retrofit programs in any of the modeling for AB1007 or AB118, we believe it should be an option that remains on the table. If there are candidate technologies that can be allow improvements to GHG performance of existing vehicles, be it through efficiency, fuel switching, drivetrain modifications or other, we believe they need to be considered. A built in validation and verification program is necessary, and we believe some precedents on this are available for air pollution reduction (e.g. Carl Moyer program).

Such technologies can help avoid the need for physical resources to build a new vehicle, can result in much more rapid vehicle penetration than relying on new car sales alone, and may also offer opportunities for programs specifically targeting high emission vehicle.

We hope that the above comments and suggestions are helpful to you and your staff as you continues to develop the AB118 Investment Plan, and we look forward to further engagement with your team.

Sincerely,

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