BEFORE THE

CALIFORNIA ENERGY COMMISSION

NATURAL RESOURCES AGENCY

STAFF WORKSHOP ON THE 2011-2012 INVESTMENT PLAN FOR ALTERNATIVE AND RENEWABLE FUEL AND VEHICLE TECHNOLOGY PROGRAM

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P R O C E E D I N G S

MAY 26, 2011 9:05 A.M.

MR. WARD: Good morning. I'm Peter Ward. I'm the program manager for the Alternative and Renewable Fuel and Technology Program. And we're here today in Long Beach for the first of two remote workshops that we're going to be holding in this state on the program. We had an advisory committee meeting last week with the current committee draft of the investment plan. And so while we wait for everyone to -- to linger and come into the room, we'll go ahead and get started. I'm not sure if they are actually coming. So thank you all -- all for coming.

And I'd like to introduce Charles Smith, who is the -- the -- the project manager for the investment plan this year. And with any luck we can have him be the project manager for the investment plan next year. He's doing such an outstanding job.

I think if you have had a chance to look at this document it is -- I think it's excellent. It's got an awful lot more information. Each year that we've done this it's gotten better and better. So this year I think we're -- we're pretty well focused on a broad range of alternative fuels and vehicle technologies for development and important use in California.

So also with us is Pilar Magana, and she's going

to be handling the WebEx for us. And she might be even saying a few words later for us too. Who knows.

And basically I just wanted to welcome you here to the -- to the workshop.

And, yes, please, sir, come on in. There's -- there's room. And -- yeah.

So I'd like to -- I'd like to introduce Charles Smith. He is the -- the project manager for the investment plan this year. Charles?

MR. SMITH: Thank you, Peter. Good morning, everybody. We have a few people joining us on WebEx, as well, so welcome to you.

As Peter mentioned, this is our first of two remote public workshops that we are doing as part of the preparation of our annual investment plan.

Here's a brief meeting agenda, depending on -- we'll see if we move through it, perhaps quicker than anticipated. But I'm providing you a brief introduction and program overview for these first few couple slides. Peter will provide a program status update. That's just sort of a history of the program thus far. And then after that I'll be providing an overview of the contents of our committee draft investment plan for fiscal year 2011-2012. And then we have to adjourn by three o'clock -- sorry, after -- after my overview we'll have -- we've reserved a lot of time for

public comment on the investment plan. And then at three o'clock we have to adjourn because there is a meeting that needs to happen here at four o'clock.

So a brief recap of the program. This was established by Assembly Bill 118, also why it's called the AB 118 program sometimes, and it's administered by the Energy Commission. There's also a second component to AB 118 that's administered by the Air Resources Board called the Air Quality Improvement Program. It's well worth checking out if you haven't already.

The statutes of AB 118 were subsequently amended by AB 109. And the emphasis of this program is to develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies.

We have a number of policy objectives that have been established by the state that feed into our program. GHG reduction; obviously we have targets to reduce GHG emissions to 1990 levels by 2020, and 80 percent below 1990 levels by 2050. We have a petroleum reduction goal, alternative and renewable fuel use goals, and in-state biofuels production goals that also feed into the investment plan.

This program has a sunset date of January 1st, 2016, and an annual program budget of approximately $100

million. The types of activities that we pursue are the development, production, manufacturing, and deployment of alternative and renewable fuels, advanced vehicles, vehicle efficiency improvements for both on-road and non-road applications. We also take part in a number of non-hardware activities, such as emphasizing workforce training and job creation. We are interested in fostering education on these alternative fuels and technologies, promotion, and perhaps the development of technology centers. And we also prepare environmental market and technology assessments.

Briefly about the investment plan, we're required to develop and adopt an investment plan annually. The investment plan determines the priorities and opportunities for the program --

(Microphone feedback.)

MR. SMITH: Pardon the feedback. Pilar, is everyone muted?

MS. MAGANA: Yes.

MR. SMITH: Okay. The Energy Commission must create and consult with an advisory committee meeting as it develops its investment plan. As Peter mentioned, we had the second advisory committee meeting earlier this week. And we anticipate that that will most likely be the final advisory committee meeting for this investment plan cycle. I've also included at the bottom a quick link to the

investment plan's website. This is where you can go to get information on meetings that we've held previously. The most recent version of the investment plan is available there.

So here's a recap of our anticipated schedule for adopting this year's investment plan. On May 9th we posted the current version of the investment plan, which is the committee draft. We held our second advisory committee meeting on May 23rd. Today we have our public workshop in Long Beach. And June 1st, next week, we'll have a similar public workshop in San Francisco.

In mid-June we hope to take all of the comments that we have received from the second advisory committee meeting from these public workshops and from our docket, which is open for your comments, and pull those into our committee final version of the investment plan. On June 29th we have a commission business meeting, and we hope to have the commissioners vote on and adopt the investment plan on that date.

With that I'll turn the microphone over to Peter Ward for an update on our program.

MR. WARD: Good morning again. I've -- I've enjoyed working on this program for the last three years. And we're going to give you a little bit of a snapshot view of what's happened in the past three years, but then with

the focus on what's in the investment plan now, as well.

Here are the solicitations that we have run so far. And I'll probably not go through each and every one of these. These are available in the -- in the presentation printed out front. But you can see here -- except that it's covered up with the WebEx thing there -- $156 million was available in the first year for different solicitations and awards. And we have pretty much met all of those needs up to -- up to this point.

The -- this is the -- the public agency agreements that fills some of the remaining money, as well, workforce training, fuel standards and development for hydrogen and hydrogen retail fueling dispensers. Again, a plug-in Prius demonstration with the Department of General Services, light-duty electric vehicle deployment. We provided $2 million to the ARB's AQIP program for light-duty EVs.

We've provided $4 million in an interagency agreement to the Air Resources Board for medium- and heavy-duty truck electric vehicle deployment. We are working with UC Irvine and their STREET modeling to take what they have done in hydrogen in the Southern California area and apply their modeling techniques to all of California for all of the alternative fuels. As we go forward, and we are under contract with them now, they'll be developing and modifying that model which was an excellent model for the hydrogen

to -- across the state and all the alternative fuels. So this is going to be a helpful tool, I believe, for the establishment of infrastructure for alternative fuels. And it's going to be done in a well-informed and timely manner.

National Renewable Energy Laboratory, we're -- we're going to be striking an agreement, probably coming out of the current year funding for their support for the program and helping us identify trends and -- and needs for future investment plans, as well.

And the hydrogen fueling station at AC Transit in the Bay Area to cover some of their transit buses. They have 12 transit buses that were delivered this past year.

We've had 8 solicitations, 313 proposals were reviewed, and that requested -- for the money that we had that we had requested, $1.2 billion. To say that alternative fuel space is oversubscribed is an understatement, and I think we know why. Many of the reasons is the -- the high -- high gasoline prices. But you know, there's the environmental disaster we had in the Gulf. There's a lot of difficulties that we see going forward with petroleum. And so this program has a portfolio approach to using all of the alternative fuels to -- to reduce our petroleum and reduce our environmental impacts.

We're on track to meet the encumbrance and agreement developments -- development deadlines for all of

the agreements for the first two fiscal years of the program, which were combined into one investment plan.

The current solicitations we have now is one that is on the street currently, is moving fairly quickly, is the buy-down incentives program for natural gas and propane vehicles. It was released on the 13th of April, and it will continue until April of 2013 or when funds have been exhausted. The current amount for all of this solicitation is $14.54 million. And I believe that all the funds -- most funds will be exhausted by a month from now, so far in advance of the two years we had scheduled for the -- for the solicitation.

But there is a good possibility that we will be adding funds to this in the future. It’s proved to be a pretty flexible and a simple application process for people to -- for OEMs and their designated dealers and distributors to partake of incentives in our program.

It’s broken out as $2 million for propane school buses, and $2.3 million for light and medium natural gas, $2.35 million for light and medium propane, and $7.8 million for heavy-duty natural gas.

How it works is the original equipment manufacturers or their designated dealerships or distributors apply for the incentive reservations. They can apply for a certain number of those and a certain dollar

amount. Once approved they are taken to a commission business meeting for approval and encumbrance of those funds. They have 120 days to -- to sell the vehicles. Once they're sold, either by cash or a purchase order, they can claim the incentive back in a one -- in a one-page claim form to the Energy Commission and we will schedule payment from the Office of the State Controller for the incentives that they would be claiming.

The first three business meetings, the next one is -- the third one is May 31st, and at that point I think we will have encumbered about $10 million of the $14.54 million for this. So in three business meetings we've been able to advance this money quickly.

Here is the breakout of the incentive levels for the gaseous fuel vehicles. Light -- you can see that it ranges from $3,000 to $32,000 for the heavy-duty natural gas. And propane school buses are included there, as well.

The current solicitations, we have the PEV, that's the plug-in electric vehicle readiness. And that is a program opportunity notice for -- for the -- the planning and readiness functions that are necessary on a regional basis for EV rollout, to make sure that we meet the -- the needs as the vehicles that are rolling out, that we have places to charge all those.

How it works, our applicants must develop a multi-

stakeholder PEV coordinating council for their region, a minimum of four agencies. And they're first come-first served as long as applicants meet requirements. The maximum reward is up to $200,000 per region, and up to $1 million available, and may be supplemented based on demand.

Anticipating upcoming solicitations. These are scheduled I think from the -- for the summer and fall: medium- and heavy-duty demonstrations; electric drive and gaseous fuels, $15.9 million; hydrogen fueling, we have $10.2 million available; biofuel and renewable natural gas production and feasibility, $36 million; alternative fuel infrastructure, $29 million; innovative technologies and federal cost sharing and market and program support. That's $106.8 million for the allocation of this -- this -- or last fiscal year. And this is the -- the end.

This is -- this is your part, huh? Charles is going to take you through the input and comments we received thus far on this investment plan.

Just so you know our process, the first workshop was for the staff to present its draft of the investment plan. And as Charles corrected me, it was earlier this week -- it seems like last week, but it was earlier this week -- we had our advisory committee meeting, an that is for the committee draft. That's our Transportation Committee comprised of Vice Chair James Boyd and Carla

Peterman, our newest commissioner at the Energy Commission, and they presided over that -- that meeting. We've got several comments. We're -- our docket is open, but Charles will tell you much more about that right now.

MR. SMITH: Thank you, Peter.

So the primary purpose of this slide is just to give you a sense of all of the excellent input and comments that we have received during the development of this year's investment plan. At our first advisory committee meeting on March 7th we had 15 advisory committee members present, representing a mix of -- of alternative fuel vehicle providers, non-governmental organizations, fellow state agencies, a broad array of members.

We also had 25 organizations and individuals providing comments at that first advisory committee meeting. We have had more than 50 organizations and individuals submit comments to our investment plan's public docket thus far. If you haven't yet I strongly encourage you to do so, if possible, by June 3rd would be the ideal deadline for additional items to the docket that would allow us sufficient time to review and incorporate the comments as appropriate into the investment plan. We had additional advisory committee input and outside organization input at the second advisory committee meeting earlier this week.

A brief overview of the investment plan. This

investment plan, as the previous ones did, outlines the funding allocation for the particular year. We anticipate $100 million in revenue for the program this year. This is spread across 18 funding categories in 12 fuel types and other activities.

The methodology of the investment plan is also similar to previous investment plans. We look at the GHG reduction, petroleum reduction and market potential for various alternative fuels and vehicle technologies. We identify the barriers to greater adoption of these fuels and technologies. We look at what activities are already being undertaken by others, be they in the private industry, at the federal level, our sister state agencies. We look at where our funding can have the biggest impact. $100 million sounds like a lot and it is a lot. But compared to the amount of money that Californians spend each year on fuel, I believe it’s correct that $100 million is close to what Californians spend per day on fuel. So --

MR. WARD: It’s $150 million a day.

MR. SMITH: Is that right? Okay. So $100 million is a lot, but at the same time it’s kind of a drop in the bucket, as it were. So we have to look at where we can have the biggest impact.

We take into consideration short-, medium- and long-term opportunities to meet our program goals. And we

also consider non-fuel and vehicle needs, such as workforce training, standards development, market development, etcetera.

The investment plan is broken down by alternative fuel vehicle sections. The first section is plug-in electric vehicles. So in the immediate we see plug-in electric vehicles, the demand for these vehicles exceeding the available supply, which is certainly encouraging for what we would like to see. The state has established a plug-in electric vehicle collaborative to help coordinate the state's preparation for these vehicles across all fronts ranging from transmission and distribution support to ensuring early customer education to ensuring the early marketability of these vehicles.

The Air Resources Board provides incentives for light-duty plug-in electric vehicles through it's clean vehicle rebate program. And their most recent funding plan indicates that they -- they continue anticipating to fund that program for the next fiscal year.

On the subject of batteries, the federal government has invested about $2 billion into this activity, so we didn't feel that adding our own smaller allocations would necessarily have a tremendous affect in that regard.

So when we take all that aside we see that there are still two activities that are expected to be hurdles for

plug-in electric vehicles, unless we can address them early on. The first is a regional PEV readiness plan. This is for $1 million. Peter mentioned that we had already issued -- that we already have a current solicitation for regional PEV readiness. This would supplement that funding.

And we have also allocated $7 million for charging infrastructure of plug-in electric vehicles. In a previous iteration of this plan that $7 million was broken down into several subcategories, but we continue to receive new information on what kinds of infrastructure are the most critical. And so we decided that it would be better to keep it together as a single $7 million sum as we develop new and more information about whether what we need is support for residential charging or public charging or DC-fast charging. So if you have input on that we would certainly encourage that, as well.

For hydrogen, we each year have conducted a survey of automakers jointly with the Air Resources Board on the number of fuel cell vehicles that they plan to introduce in the coming years. Based on the survey data we see a steady increase in certain areas of the state, particularly around Los Angeles and Orange County. The automakers' commercialization plans center on 2015 as an anticipated widespread commercialization date. This -- by the 2015 to 2017 period they anticipate rolling out a little more than

50,000 vehicles. So our goal is to provide a sufficient springboard for those deployments.

This $8 million fueling infrastructure allocation will probably be paired with the $10.2 million that we have for fiscal year 2011 that was mentioned on one of the previous slides, and that solicitation should be coming out this summer of fall.

We've also reserved in our investment plan the possibility of taking some of this $8 million in funding and applying it towards a fuel cell transit project, akin to what we have planned for AC Transit in the Bay Area. This project would probably be somewhere in the South Coast region.

I see a quick question. I think we're going to maybe stick to very quick clarifying questions if you have one.

MR. GALLAHAR: (Off mike.) (Inaudible.)

(Colloquy Between Staff and Court Reporter)

MR. SMITH: Maybe we should -- yeah, you'll have to hang on. Thank you.

The next category discussed in the investment plan is natural gas. We've seen natural gas play a significant role in the medium- and heavy-duty vehicle sector. We'll discuss this more in the section of the investment plan that focuses on medium- and heavy-duty vehicles.

But it's just worth pointing out that we've gone from having approximately 2,000 medium- and heavy-duty vehicles in the year 2000 to having more than 12,500 medium- and heavy-duty vehicles in 2009. Obviously, that's a very direct petroleum reduction. And as -- as diesel prices increase, natural gas prices have increased a bit but have remained a little more steady. That's also an increasingly more cost effective option for certain fleets.

For the broader natural gas industry we see that natural gas reserves are relatively high, and as a result prices are lower than diesel. We see an increasing number of fleets, as I mentioned, turning to natural gas, both to reduce long-term costs but also to meet local air quality standards.

One thing that we find, however, is that infrastructure for these vehicles is limited. And we see a need to match the needs of fleets that are converting from diesel to natural -- to compressed natural gas and to LNG, to liquefied natural gas. We need to be able to match their transitions to alternative fuels with infrastructure investments.

Moving now to propane, we see an increasing number of ARB certified vehicles, light-duty vehicles. Our funding allocation will provide support for light-duty -- for the light-duty propane portion of the gaseous fuel incentive

that Peter mentioned earlier. This should provide enough funding to hopefully move us through June of 2012.

We've also put in an allocation for fueling infrastructure for propane vehicles of $500,000. This is to establish a network of roughly ten key stations along the I-5 corridor in Northern California. Propane is a good alternative fuel for rural areas, and we intend to take advantage of that in Northern California.

Moving to gasoline substitutes -- or to back up, the next few slides all deal with biofuels, which is a single larger section of the investment plan. New to this year's investment plan we've incorporated a lot of new information on feedstocks, particularly waste-based feedstocks. Table 20 in the investment plan has a table that outlines the approximate volume and feedstock potential of the waste-based feedstocks available in the state.

The first fuel type within the biofuels section is gasoline substitutes. The major focus of this section is on ethanol, which is certainly the most prominent gasoline drop-in fuel additive. But we have expanded it beyond just ethanol to note that we are encouraging other drop-in gasoline substitutes that are perhaps fungible with gasoline for our production incentives. We've allocated roughly $7.5 million towards advanced ethanol and gasoline substitutes production within the state. We expect these to be a major

factor in meeting many of our state alternative fuel use and GHG reduction goals, simply because of the volume of fuel that each of these projects can produce.

On the vehicle side, the vehicle cost, the incremental vehicle cost of a flex-fuel vehicle, that is a vehicle that is capable of also using E-85, an 85 percent blend of ethanol, is relatively minor. The larger issue for E-85 is the availability of E-85 dispensers and retail outlets. And for that purpose we had allocated $4 million in the investment plan.

The second fuel type discussed in the biofuel section are diesel substitutes. This includes both biodiesel and renewable diesel. Biodiesel is certainly the larger share of this at the moment. However, we note that there are some engine concerns with -- that automakers and engine makers have with biodiesel. It also requires a separate infrastructure from conventional diesel as it moves into -- as it moves into vehicles' fuel tanks.

Renewable diesel, on the other hand, is fungible with conventional diesel, meaning that we do not anticipate similar engine concerns, and the need for separate infrastructure is not as significant.

So for this category we've allocated $7.5 million for diesel substitutes production within California that will be open to both biodiesel and renewable diesel. We

will certainly be encouraging projects that utilize waste-based feedstocks, in part because these tend to be the projects with the lowest greenhouse gas emission numbers.

The third and final fuel type in the biofuels sections is biomethane. We have allocated $8 million for pre-landfill biomethane production. This is a very low carbon feedstock. We have seen a lot of interest in these types of projects, as exemplified by both the quantity and quality of the projects -- of the proposals that we received for -- in our first solicitation for biomethane projects.

Biomethane can be used, of course, as a substitute for natural gas in medium -- light-, medium- or heavy-duty natural gas vehicles. It can also be used in the production of electricity which can power electric vehicles. It can also be used as a feedstock for hydrogen VSD methane reformation. So there are a lot of avenues that biomethane could take in our transportation sector.

For medium- and heavy-duty vehicles this was separated for the first time in this investment plan. Previously it was discussed a little bit in each fuel type section. But we felt that the distinct and unique applications of medium- and heavy-duty vehicles warranted discussing them separately from individual fuel types.

These vehicles represent about 4 percent of the -- of California's vehicles, but they consume 16 percent of

California's fuel and produce approximately 16 percent of the GHG emissions from the transportation sector. So these are an excellent opportunity for early action in vehicle incentives. Towards that end we've allocated $11.5 million in deployment incentives for natural gas vehicles, and $3 million for what should say here deployment incentives for propane vehicles. These will likely be -- these funds will likely be used to supplement the gaseous fuel incentive that Peter mentioned earlier.

A lot of these alternative fuel options are approaching parity with diesel for certain vehicle applications. The goal is to encourage a three-year payback period, which we have heard from a lot of fleets as the sort of deciding criteria about whether they switch from diesel to an alternative fuel.

We've also allocated $7 million to develop and demonstrate advanced technology medium- and heavy-duty vehicles. These vehicles are starting to enter the market. The Air Resources Board's Hybrid Voucher Incentive Program provides up to $40,000 as a deployment credit for these vehicles. However, there's also a need to demonstrate the applicability of new technologies for specific medium- and heavy-duty vehicle niches. And so that is what our funding will go towards.

Innovative technologies, advanced fuels, and

federal cost sharing, there's a wide array of opportunities that are difficult to foresee, and they don't always fall into the categories that I've mentioned thus far. We like to reserve a little bit of funding each year to capture those opportunities as possible.

One new option that we have been considering is a small grants program. This might be similar to the Energy Innovation Small Grants that is run by our sister program in the Energy Commission, the Public Interest Energy Research Program. Under the Energy Innovation Small Grants Program, for example, a maximum of $95,000 is available for hardware projects, and $50,000 is the maximum available for modeling projects. So that's one opportunity that we will consider.

Manufacturing. This in previous years was grouped in with our electric vehicles section. But we realized that the manufacturing of other alternative fuel vehicle and vehicle components is just as valuable to their deployment in California, so we've expanded it beyond just electric vehicles.

California has an excellent -- we've attracted a lot of venture capital for our ideas. But now we need to get these ideas to be developed and manufactured in the state. And so for that purpose we're allocating $8 million toward manufacturing facilities and equipment.

Under workforce training and development we have

partnered with the Employment Development Division, the California Community College system, and the Employment Training Panel, and we are providing funding primarily for workforce training and development delivery, $6 million. And we based that on significant demand that we have seen for additional training opportunities. We've also allocated smaller sums of $250,000 for both workforce training and development outreach and for dedicated clean transportation and workforce needs studies.

The final category in our investment plan is market and program development. This is where we provide funding for activities that don't directly apply to the deployment of alternative fuels and vehicle technologies, but they are critical to the success of both our program and to the wider adoption of alternative fuels and vehicles.

The first allocation is for $1.5 million for sustainability studies. This has, in the past, largely gone toward the -- studying the opportunities and the potential negatives of biofuels that we identify for our -- for our other funding activities. We have allocated $4 million for technical assistance and analysis, and $3 million for measurement, verification, and evaluation of the individual projects of our program.

So that concludes my presentation on the contents of the investment plan. This final table here is just a

summary of the funding allocations.

And with that, the next item on our agenda would be public comment. Upstairs I -- if any of you noticed there is a small stack of blue cards. I don't know if anyone perhaps noticed and filled one out. But I know that we do have a couple of presentations that were requested. So I think the best way to proceed is if you have filled out one of those blue cards perhaps you could pass it to Pilar.

Otherwise, I know that we also received a request to provide a presentation from Monty Campbell, if he is here. I don't see him yet. He's indicated that he might be a little bit late in arriving.

Does anyone have any blue cards that they have filled out? I see a couple of people filling them out now. So perhaps we'll take a minute. If anyone has any clarifying questions about the investment plan, perhaps you could come up here and we can address those before going into other deeper public comments. Okay. I don't see any requests for clarifications.

Is there anyone who has a public comment? Please stand or -- yes, sir. Just speak into the microphone.

MR. GERSHEN: Sure. Just get some glasses. Hi. Thanks for the opportunity to speak. My name is Joe Gershen. I'm with Crimson Renewable Energy.

We have a 25 million gallon premier multi-

feedstock biodiesel plant in Bakersfield coming online next month, actually in about two or three weeks. Our focus is on low carbon waste feedstocks. We're currently providing about 25 to 30 California green jobs producing ultra-low carbon biodiesel fuel. We'll spend approximately $45 million to $50 million in the California economy, not including employment.

Personally, I've been in the biodiesel industry in California for about ten years now. Biodiesel is still, we think, the best low carbon fuel solution. And we're finally seeing some real traction in the industry, both in the state and in the -- in the country. It's a drop-in fuel and it's available and ready for prime time today.

Crimson has invested tens of millions of dollars and could use some support from the state. We have the financial wherewithal and economies of scale to give you a strong return on your investment. But please, what we really are asking is that you stick to what you said you were going to do originally, and let me explain that.

After two horrendous economic years the biodiesel industry is making a dramatic rebound. And those economic years really were for the whole country. But California lags behind the rest of the country because of infrastructure and regulatory uncertainty. Good -- we've been getting good federal support under RFS2 mandating about

800 million gallons a year of biodiesel this year, and about a billion and beyond in 2012 and beyond.

The fuel quality is currently very five. B-5 is included under the ASTM D975 diesel specification. B-5 and B-20 and even higher blends are -- have been okayed by many of the engine manufacturers. Obligated parties, such as refiners, are indicating a desire to blend in mandated states so they can double-dip, effectively getting credits for RSF2 and for state mandates. And that provides potentially a great opportunity in California to lower its carbon intensity.

Recycled B-5 or B-5 made from -- or 5 percent blend of biodiesel made from recycled feedstock, such as Crimson will be producing, provides a 4 percent carbon intensity reduction, which is equivalent to about 160 million per year market opportunity here in California. Recycled biodiesel at a 20 percent blend provides 15 to 18 percent CI reduction, which is equivalent to about 640 million gallon per year opportunity in California to lower its emissions.

There is some concern that’s been voiced about NOX emissions, but those can be mitigated by current SCR technology available on all diesel, new diesel engines, and many since 2007. There’s also NOX additives that reduce it at low-blend levels, NOX2 to neutral or lower than diesel

emissions standards.

As an example of carbon reduction potential, assuming electric of hydrogen fuel cell vehicles displace roughly 425 gallons of petroleum fuel per year and 2.5 metric tons of greenhouse gases, Crimson's 25 million gallon per year biodiesel plant will have the same annual petroleum displacement of about 60,000 EVs or hydrogen cars. At approximately 10,000 EV sales per year estimated, this is equivalent to 6 years of EV sales for every year of Crimson's production.

The CEC is sending some mixed messages. And specifically in the 2009 Integrated Energy Policy Report recommendations specific to biofuels, on page 244, and I quote,

> "To maintain energy security state and local agencies need to ensure that there is adequate infrastructure for the delivery of transportation fuels. The state should modernize and upgrade the existing infrastructure to accommodate alternative and renewable fuels and vehicle technologies as they are developed to address petroleum infrastructure needs, to preserve past investments, and to expand throughput capacity in the state."

You also went on to say,

> "The Energy Commission will collaborate with partner

agencies and stakeholders to develop policy changes to address regulatory hurdles and price uncertainty for alternative fuels, particularly biofuels in California."

And you went on to say, "California should support the development of alternative and renewable fuels that can provide immediate greenhouse gas emission reduction benefits and a bridge to the introduction of fuels that will result in deeper greenhouse gas emissions reductions in the future."

And in the 2009 IPR under the Transportation Energy Forecast and Analysis on page 120 and 121 you said, "Currently the biodiesel infrastructure is inadequate to accommodate widespread blending of biodiesel even at concentrations as low as B-5. However, with sufficient lead time, 12 to 24 months, modifications could be undertaken and -- and completed to enable an expansion of biodiesel use."

So the question I have is: Why are you not being consistent? And by that, I mean, you've pulled $4 million in funding for renewable and biodiesel and diesel substitutes from the -- the current budget. And I'm wondering, why are diesel substitutes the only alt fuels that the CEC is not providing infrastructure support for in

the investment plan?

There's a serious lack of infrastructure and that's holding back the market for diesel substitutes in California. Rail infrastructure, terminal storage infrastructure, rack blending infrastructure, and underground storage tanks repair and upgrades are all affected. Biodiesel and renewable diesel will both benefit from state funding support.

Crimson, for example, has three terminal projects teed up currently and could much effectively and competitively bring its fuel to market with a comparatively minor investment from the CEC. Our current terminal efforts are expensive and inefficient compared to petroleum infrastructure.

I've personally seen many public and private fleets discontinue biodiesel use due to a combination of the USD issues and pricing in this bad economy. Much of this could be resolved with the -- with the infrastructure investment you indicated you would do back in 2009. We can not do it all ourselves. Please reinstate the $4 million in infrastructure funding for diesel substitutes. Thank you.

MR. WARD: Thank you.

MR. SMITH: Anyone else?

MS. WILCOX: Blue cards this way? Hi. My name is Cindy Wilcox. I'm with Marine Bioenergy Inc. And I wanted

to thank the commission and the staff for bringing the workshop to Southern California and to Long Beach today.

I first wanted to acknowledge that microalgae, which is seaweed, is now noted in the draft plan on page 84, and that's a huge success. This is a potential biomass feedstock, a purpose grown crop. With our major coastline along California we have the perfect setting to become the home base of an extensive industry based on open-ocean farming of kelp. Kelp could be an abundant biomass feedstock.

Most renewable energy concepts can not scale to a sufficient level of output to meet the current and future need for carbon neutral fuels. Growing kelp in the open ocean is one of the very few renewable energy concepts that can meet that need. Kelp is an ideal feedstock. It does not compete with conventional agriculture for land allocation. It doesn't need fresh water. It doesn't need fertilizer. And better yet, our own California Giant Kelp is one of the fastest growing plants in the world at 30 centimeters a day with average photosynthetic efficiency of aquatic biomass at 6 to 8 percent, much higher than our traditional terrestrial biomass at 2 percent. Kelp has no lignin, very little cellulose, and can be readily processed into gas or liquid fuels.

Marine Bioenergy Inc. is working with a

consortium of major universities to run pilot programs and retire risks. This consortium includes California universities here in Southern California, UCLA, USC, and other. This consortium is -- is known as the Southern California Marine Institute and is located just a few miles from here on Terminal Island. They bring 25 years of experience in marine biology, along with research vessels, wet labs and, most importantly, graduate students.

So analysis indicates that open-ocean farming can be done economically, but the risks need to be retired. The oceans are large enough that kelp can potentially provide sufficient carbon-neutral biomass feedstock to provide 10 billion people, that’s billion with a b, with more than the average per capita total energy used by Americans today.

It is in California’s interest to fund this effort. With this new industry California can become self-sufficient in renewable energy. And as commercial quantities ramp up California can become a renewable energy exporter in the U.S., and perhaps for the rest of the world.

We request that the commission craft future solicitations so that open-ocean farming can be judged on fundamental issues of scalability, non-competition for fresh water and land, and cost. We think that kelp as a biomass feedstock will be important to the future portfolio in California. And thank you for this opportunity.

May I answer questions or is this an interactive opportunity?

MR. WARD: This is an interactive opportunity, absolutely. Thank you for your presentation. Very interesting, I have to say. I think this is one of the -- one of the aspects that we -- we would consider in the innovative technology section of our funding plan.

MS. WILCOX: Right.

MR. WARD: We have always evaluated, and either it’s in the feasibility or production, all of the different impacts. And so obviously water in California is key. And this doesn’t use fresh water, so that’s -- that’s a definite plus going in. So the attributes of this seem to be very pronounced. And I think it would -- it would compete very well in the innovative category when we -- when we do a solicitation.

MS. WILCOX: Okay. So California does release solicitations --

MR. WARD: Uh-huh.

MS. WILCOX: -- the Energy Commission, under the innovative budget?

MR. WARD: We will. We haven’t.

MS. WILCOX: Okay.

MR. WARD: I don’t think we have done that yet. We’ve --

MS. WILCOX: Okay.

MR. WARD: We've had a legal difficulty figuring out how to do a set of excellence, for example. But I think we're coming -- coming to a conclusion to see if we can come up with a solicitation for the innovative category. My personal feeling as a Native Californian is that we need to do this. California, really, we really do need to seed our own state for some of these good ideas and innovations. We have a long legacy of that. So --

MS. WILCOX: Exactly.

MR. WARD: -- I'm happy that you came, and thank you. It was very instructive.

MS. WILCOX: Right.

MR. WARD: And I think in the future we'll see a lot more of this, and I hope so.

MS. WILCOX: Well, I'm on the email list, so I'll be watching.

MR. WARD: Great.

MS. WILCOX: All right.

MR. SMITH: I have a follow-up question.

MS. WILCOX: Yes. Yeah.

MR. SMITH: There's a lot of discussion about kelp, of course, as a feedstock. But I didn't -- I don't see much information on transitioning from the feedstock side to the fuel processing side. Is there a particular

pathway that you envision or --

MS. WILCOX: The -- the U.S. Navy researched this extensively in the 1970s during the energy crisis. And their preliminary research showed that kelp converted very efficiently into, you know, basically biogas and could be scrubbed, and that that was very efficient.

But in the meantime we are in contact with people in Santa Barbara at GRT Inc. and University of Nevada at Reno, and they are looking at systems to go to liquid fuels. So depending on process --

MR. SMITH: Right.

MS. WILCOX: -- catalysts and so on --

MR. SMITH: Sure.

MS. WILCOX: -- various efficiencies, I would say those have not been as well researched.

MR. SMITH: Uh-huh.

MS. WILCOX: Mostly kelp was looked at in the ‘70s, the Mobil Oil conversion system, things like that. But -- but we need to update that, as you --

MR. SMITH: Right.

MS. WILCOX: -- as you point out, and that’s going to take money.

MR. SMITH: Okay.

MS. WILCOX: So there a couple of steps here. But it’s a really promising feedstock.

MR. SMITH: Okay.

MS. WILCOX: And so I appreciate that. And we're looking forward to submitting a proposal so that we can outline all the possibilities.

MR. SMITH: Yeah. I was just wondering, because we -- in addition to the innovative technology side we also do solicitations for straight biomethane production for advanced ethanol or gasoline substitutes and diesel substitutes production. So I --

MS. WILCOX: Right.

MR. SMITH: I just wasn't sure if your concept would fall into any of those or if that's not quite where you are right now.

MS. WILCOX: I think in order for us to respond to that we would respond to one of those through a fuel conversion group --

MR. SMITH: Right.

MS. WILCOX: -- in other words, at Santa Barbara --

MR. SMITH: Right.

MS. WILCOX: -- or -- so that they would be presenting a fuel; we'd be the feedstock.

MR. SMITH: Sure.

MS. WILCOX: And that -- and it would be -- it would be a partnership proposal, which we'd be thrilled to

do --

MR. SMITH: Okay.

MS. WILCOX: -- and would love to pull that together.

MR. SMITH: Okay. Yeah.

MS. WILCOX: So -- okay. Thank you very much.

MR. SMITH: Thank you.

MR. HARRIS: Good morning.

MR. WARD: Good morning.

MR. HARRIS: My name is Lee Harris, and I'm from New Leaf Biofuel. We are the only San Diego County based biofuels company. And essentially we take both feedstock, as well as waste vegetable oil collected from restaurants and hotels, and convert it into clean burning diesel.

This -- the cuts in funding are of significant concern to us. Because what we've seen is, you know, at the most recent ACT Expo we were the only biofuels representation there. Everyone else was CNG.

Now while we value CNG as a technology, we found that there are a number of smaller companies who can't make the conversion, even with the -- the incentives, to go directly to CNG. For example, a lot of construction and grading companies have onsite aboveground storage. But to replace all of their -- many of their vehicles can not be converted to CNG, so they need to run on clean burning

diesel. But because there's little support from public policy they're like, well, gees, how much change does that have to make, plus we've got to do all of the upgrades to meet the fire standards, and there's no funding that will help us, you know, do some of this.

So with that being a major part, the second part would be the next target for our fuel would be small fleets like laundry dry cleaners and linen companies. Those folks, on the other hand, would have to look at some major costs up front to replace their fleet to run on CNG. And while we in -- in some ways we compete with CNG, in other ways we can also be an interim step to companies who either do nothing and stay on traditional diesel with all of the negative impacts who aren't ready financially to move to CNG, we can be an interim step that has a lower cost than a drop-in solution.

So when the company was founded eight years ago we wanted to be able to do something in that region to make a difference, both economically -- we currently employee 28 people at our plant. But we've also found that through the Economic Development Agency that we have a much bigger footprint because we're producing and selling over two million gallons, you know, of fuel per year. So there's a significant impact there.

Our goals, we've been able to weather the economic

storm and survive. We've been able to wait until the tax credit was passed. And you know, we had almost over $500,000 tied up in that. So financially we feel like we've had to make investments to make this happen and we're getting little support from the government agencies, especially when the funding is being pulled back.

Our next step to support our -- our goals is to look at offsite storage, as well as blending, because no one else is doing it. And if we're going to get adoption and have an impact on the clean air in San Diego County and in Southern California as a whole that's the next step, is to build the infrastructure and give these people who are converting some confidence that they're going to get some long-term support.

So for that we would ask that the commission seriously consider maintaining current funding levels for biofuels. Thank you.

MR. WARD: If I could ask you a question, Lee.

MR. HARRIS: Yes, sir.

MR. WARD: The specific funding need that you have is in, you say infrastructure. Are you talking about the storage and blending facilities?

MR. HARRIS: Yes. Well, specifically the -- when people convert their issue is they either have to have underground storage, which the large companies, the Cokes,

the Pepsis and the whatnot do, or they have to have aboveground storage that complies with fire code and other civil code standards. So the end user doesn't have any additional support to say transition and we can help, you know, you financially weather that storm --

MR. WARD: Uh-huh.

MR. HARRIS: -- or here are the various plants where you can do your own offsite fueling by going to say a propel fueling station or other car lots that are available. There's very little of that in comparison to CNG opportunities.

MR. WARD: Uh-huh. Are you speaking of B-5, B-20?

MR. HARRIS: Yes, B-5, B-20.

MR. WARD: Okay. And then B-20, of course, has that waiver right now with -- with the Water Resources Control Board for about another year, is that right, until --

MR. HARRIS: Well, that's the problem, though; right? Because what's happening, what we're finding when we meet with these clients if they're saying, well, yeah, but for how long, and then what happens after that? And so there just is less confidence.

And it may -- part of it may simply be a PR issue. Because there's so much money and press going towards CNG people are just seeing this as kind of a suspect. Okay. So

we get it now, we make this commitment, and then next year what happens? And then -- you know, so it's hard for us to make a plan to strategically go after these companies aggressively when we don't know what the ultimate outcome is going to be.

MR. WARD: Uh-huh. I was going to maybe ask the same question. What is happening? Do you know if the industry is seeking third parties for verification on the underground storage tanks for B-20?

MR. HARRIS: No, I don't.

MR. WARD: Okay. And it's my understanding that the biodiesel industry was taking that up. In the three years that the California Water Resources Control Board has given a waiver for storage of B-20 underground, and at the end of three years they have to have achieved this third-party certification, like UL certification --

MR. HARRIS: Right.

MR. WARD: -- of storage tanks with biodiesel in the -- in the various configurations. So I think that's kind of the key for the residential infrastructure as I understand it. And I'm hopeful that the three years has -- has been well used so that these certifications can be forthcoming for B-20.

I know the other gentleman mentioned that there are some manufacturers certified in B-20, and I'd certainly

like to have you provide the -- that information to us in a docket item if you could. That would be great because we do -- I know B-5 is pretty ubiquitous, but B-20, some manufacturers are really not there yet. Some are. But I really -- it would be helpful.

MR. GERSHEN: (Off mike.) (Inaudible.)

MR. WARD: Okay. If you -- I know our reporter can't hear that, unfortunately. Sorry to ask you a question and provoke a response that is off the record.

MR. GERSHEN: I'm sorry. Cummins, which is one of the largest diesel engine manufacturers in the world, has approved B-20 in pretty much all of their engine families, so --

MR. WARD: Uh-huh.

MR. GALLAHAR: -- that's one example. There are many others. I can send you guys a link or a list if that would be helpful.

MR. WARD: That would be terrific if you could. Are there any medium- or light-duty manufacturers that you are aware of --

MR. GERSHEN: Yes.

MR. WARD: -- or uprising in B-20, as well?

MR. GERSHEN: Yeah, they're plenty. Yes. And I'll send you that information.

MR. WARD: That will be most helpful.

MR. SMITH: Real quick, sir, before you leave, could you just state your name and affiliation for the record?

MR. GERSHEN: Sure. Joe Gershen with Crimson Renewable Energy.

MR. SMITH: Thank you. Thanks.

MR. WARD: Thanks again.

MR. HARRIS: Very good. Thank you so much.

MR. WARD: Thank you.

MR. HARRIS: Thank you.

MR. WARD: Thanks for coming today.

MR. SMITH: The next two speaking cards I have are Gilbert Gallahar -- Gallahar, excuse me. And then Monty Campbell.

MR. GALLAHAR: Staff --

MR. SMITH: Good morning.

MR. GALLAHAR: -- good morning. Thank you for coming.

Peter, it looks like you're going to live here in the better part of town, huh?

This is concerning propane and --

MR. SMITH: Sir, could you introduce yourself quickly?

MR. GALLAHAR: Oh, my apologies.

MR. SMITH: It's okay.

MR. GALLAHAR: Gilbert Gallahar, UTR Plus.

MR. SMITH: Thank you.

MR. GALLAHAR: We manufacture or re-power diesel trucks to operate on propane, heavy-duty. The commission had given some funds to heavy-duty vehicles, and I think it went something like 32,000 for natural gas and zero for propane. And we're asking that -- can you sort of level the playing field there?

We are fighting an uphill battle that I think that propane will become a viable option in the heavy-duty truck operations. And we need that portion to break that dependence on -- on diesel. And I think that once -- once the propane gets going it won't need any extra funds from -- from the commission in that it would be able to fight the marketplace just from its own economics. But right in the beginning that was -- many clients just said, hey, look, you know, if we go LNG or CNG we get 32, or we go with you and even the commission doesn't think that you're viable.

So please, if you could look at that.

MR. WARD: I think we will be happy to look at that. If you could provide us a docket item of what -- of your business and this particular play for heavy-duty --

MR. GALLAHAR: Yes.

MR. WARD: -- I'd be delighted to see that, to be honest with you. Because I think maybe others in the

audience know that I'm a supporter -- I really like to support all of the fuels, and propane is one that I've supported for many years, as well --

MR. GALLAHAR: Yes.

MR. WARD: -- with the portfolio, so it is very important. And given our energy situation with -- with petroleum, and I think we're in an exporting situation with propane --

MR. GALLAHAR: That's correct.

MR. WARD: -- I think it has an excellent future. And I'd love to see what the potential is for, you know, for the vehicles, especially in the heavy-duty sector. We certainly didn't exclude it on -- on purpose or intentful. It wasn't anything intentful. I just personally didn't know that there was a very large -- very large market segment for heavy-duty propane currently. But if you could provide us information in the docket that would be -- I'm -- I'm sure we'd be happy to look at that.

MR. GALLAHAR: Thank you. It -- there is a difficult in the sense of, well, show us, is anybody else using it or is anybody else doing it, the large truck manufacturers, you know, using these -- these engines? And the answer is, no. And the rationale is can there be a reason? Maybe I doesn't work.

And you know, it's that battle that the smaller

companies --

MR. WARD: Uh-huh.

MR. GALLAHAR: -- you know, are trying to -- to overcome. And once -- once we get past that -- that little hill I certainly believe that propane will be able to stand on its own. And it's -- it's needed, that even -- even if we don't get the funds what does not look good for us is propane heavy-duty not -- not compliant. And to the general market, they view that as, you know, the commission saying there is no such thing, it can't be done. Keep propane for the barbeques, etcetera.

But thank you very much. Thank you for that.

MR. WARD: Let me just say, I hope we don't imply that it's not compliant with any air quality or any --

MR. GALLAHAR: Yes.

MR. WARD: -- any other regulations. I certainly -- I certainly believe it is. But --

MR. GALLAHAR: Yes.

MR. WARD: -- I would like to see in your information, you know, the market development potential for that, and certainly will take it under our -- into consideration. Because we understand that there is -- propane is -- is a good energy solution.

MR. GALLAHAR: Yes.

MR. WARD: And we -- we do feel that it lowers

greenhouse gases and lowers petroleum consumption about 100 percent. So I think it's, you know, it's definitely on the slate for us, but in this application we haven't seen a bunch of information about it. There may be some R and D or pre-commercial demonstration opportunity for this, as well.

MR. GALLAHAR: Thank you very much. The -- our -- right now it's -- it's left to us, you know, smaller companies to pick up that -- that show. And -- and again, for small companies that's very expensive.

The issues that -- that we're finding is that once the client uses the truck they want to keep it for themselves as they've found a little pot of gold that puts them ahead of their competitors, which for us is, you know, killing.

MR. WARD: Uh-huh.

MR. GALLAHAR: But what sort of information can we get to you?

MR. WARD: Well, I'm -- I'd would just like to know more about your business and more about how specific incentives that we may be able to provide would help, where they would best be applied. And you know, from propane, it's usually -- usually isn't in that infrastructure, but it is, whether there's the development of the engine, whether it's the differential cost on the -- on the certified engine and vehicle, I'd certainly like to -- like to hear from you

on that, what specific applications where this funding would be helpful.

MR. GALLAHAR: Thank you. Just as an example, we ran into the -- South Coast had a sizeable grant that it was giving out. And we had many customers looking. And the dealerships would come by and say, hey, propane is not -- is not a viable heavy-duty fuel.

So -- and what maybe was an innocuous presentation, hey, there’s no -- no one bringing in a heavy-duty engine for these heavy-duty vehicles. Therefore, you know, why give funding to it. But in the marketplace it was taken as, hey, there is -- this is not a viable fuel. And so all of our clients then went back to diesel --

MR. WARD: Uh-huh.

MR. GALLAHAR: -- even though we had a higher cut in pollution and in costs.

MR. WARD: I’m -- I’m absolutely foursquare behind you in displacing diesel whenever we can, and -- and maybe we can help.

MR. GALLAHAR: That would be great.

MR. WARD: If we can educate them, maybe we can help educate others. I know that there’s a potential for propane to be renewably derived, potentially in the future as DME or --

MR. GALLAHAR: Yeah.

MR. WARD: -- or some other renewable type, propane. And I certainly think that there are some heavy-duty truck manufacturers -- I think Volvo is one of them -- that's interested in that application, as well. So --

MR. GALLAHAR: Thank you.

MR. WARD: -- I think there could be -- could be some good opportunity. I'd love to hear back from you.

MR. GALLAHAR: Will do. Thank you very much.

MR. WARD: Thank you.

MR. SMITH: Next up we have Monty Campbell, who I believe provided a presentation. Good morning.

MR. CAMPBELL: Good morning.

MR. WARD: Good morning.

MR. CAMPBELL: Bring this down. Okay.

My name is Monty Campbell. I have a new company called Global Carbon Solutions. And I understand this meeting is to discuss the allocation of resources among the many categories from the $100 million allotted from Assembly Bill 118.

My first issue is that I've been trying for several years to get funds. And I've been road blocked for different excuses or whatever, and it doesn't seem like it's a fair system. The first time I was told that -- I asked for the maximum amount, and that I had never had a grant before.

I said, “Well, reduce the maximum amount if you like, but I thought that was on the table.”

And then it was like a Catch 22. You haven’t had -- haven’t had a grant, you’re not going to get a grant.

So the second time I applied I was told that the funds were there, all I needed was a partner. I required -- the proposal included a police department, a police fleet. Two days later I had a police fleet volunteer to test vehicles. I got back to the -- to the individual in charge and he said there were no funds.

So then I asked, “Where did the funds go?”

He gave me to his subordinate to please show me what happened in two days. And then he refused to return my emails. I get the feeling that it’s not a fair system.

MR. WARD: If I could ask a question. For which --

MR. CAMPBELL: I’m sorry?

MR. WARD: If I could ask you a question, for which question did you apply?

MR. CAMPBELL: I’m sorry?

MR. WARD: For which program did you apply?

MR. CAMPBELL: It was technology. The second time it was for the advanced technology. I think there was $8 million in the -- in the fund at that time.

MR. WARD: For this -- for this -- in this program?

MR. CAMPBELL: I'm sorry?

MR. WARD: In this program, the Alternative and Renewable Fuel and Technology Program?

MR. CAMPBELL: It was, yeah, the technology program. I believe it was --

MR. SMITH: If I can clarify. I think I know the answer.

MR. CAMPBELL: Innovative technologies.

MR. SMITH: Exactly.

MR. CAMPBELL: I don't expect you to address that because I don't have the names with me.

But I would like to discuss the allocations among the many categories. Okay. If I can proceed with the slide.

MR. WARD: Just -- and I'm -- and let's -- we'll go through your presentation. I just wanted to be clear what program that you were saying wasn't being fair to you and --

MR. CAMPBELL: I can't understand you.

MR. WARD: -- I just wanted to be sure that I understood which program you applied to and which program you were saying --

MR. CAMPBELL: The technologies.

MR. WARD: -- was not being fair to you, because I wasn't aware of this in this program.

MR. CAMPBELL: Yeah.

MR. WARD: That's -- I just wanted --

MR. CAMPBELL: Innovative technologies. Okay.

So -- so now I'd like to present my little slide show which would demonstrate my position on how the allocation of resources from 118 do not appear to be appropriate. Okay.

We see that this is pretty much common knowledge. We've seen the price of fuel go up. We've seen inflation in our currency. We are looking at some quite heavy-duty carbon taxes coming up, Assembly Bill 32 for California, and I believe there's at least 6 more federally. The -- the presumption is to increase the price, you'll reduce the demand.

It seems that there's some people in our government that want to see the prices higher. This is U.S. Energy Secretary Steven Chu. So there are some options, of course. We can downsize, but you can't always use downsized vehicles.

I'd like to say that electric cars are not a viable option. If you look at the economics the cars are extremely expensive. If you're -- in my situation, I'm talking about police vehicles again, for police fleet applications you'd have to have a $79,000 charger for each car.

There is not enough electricity on the grid. California has had brownouts for, what, decades, since before the Enron debacle. You've seen the atomic energy systems' generators go offline. If all the electricity was generated by uranium reactors we'd be out of uranium within three years. This is -- it's not suitable. There's a whole battery of emissions' requirements coming up that are going to attack the -- the coal-fired power plants, and so we're going to see a lot of them go offline.

So my point is there never has been enough electricity, even for our present use. Now if you try to replace the petroleum energy with electricity energy there isn't any energy there to spare. We're actually going to be losing power plants in the new future. We're not going to be adding power plants. So the whole idea of adding electric cars to replace petroleum doesn't make any sense. Therefore I challenge the $8 million in the category for electric cars.

E-85 actually increases the use of petroleum. It takes 1,400 gallons of water to make a gallon of ethanol. It takes more than a gallon of diesel to make a gallon of ethanol. It takes natural gas to distill it multiple times to become pure enough that it can be added to gasoline. It has to be hauled by a tanker, so it takes more energy than it contains to haul it to California. It's driven the price

of corn up 375 percent. It reduces mileage by 27 percent. It reduces horsepower. And when you burn it in an engine it produces aldehydes, which cause cancer.

Therefore I challenge your E-85 budget. It is not sustainable. There's over 400,000 E-85 capable cars in California. There -- at one time there were only 13 fuel pumps. It costs $140,000 to put an E-85 dispenser. Nobody wants it. It's merely a scam. The EPA offers 75 miles per gallon to the OEMs if they can put a flex-fuel sticker on the car and roll it off the showroom floor. They get a 75 mile per gallon credit for the CAFE average. It doesn't do anything for us ordinary citizens.

Let's look at compressed natural gas. Now T-Boone Pickens has magically turned compressed natural gas into something it's not. Again, in a police fleet -- this gives you an idea of what's going on -- it costs $34,000 per car to convert to compressed natural gas. Part of that expense is that they have three DOT approved compressed natural gas high-pressure bottles that go in the trunk. Again, for police fleet operation it takes a $3 million quick-fill dispenser. Maybe the garbage department has got a quick-fill dispenser, maybe not. Okay.

The gain -- the range on the vehicle is reduced 47 percent. So they're going to be refilling twice as often. The performance is reduced. You lose 17 percent of your

power. There's 400 pounds added because of the tanks. You have to modify the suspension. The engine reliability is affected because the natural gas burns hotter. It has a higher carbon rate or a higher hydrogen ratio, so it burns exhaust valves. It actually omits more nitrous oxides than gasoline because it's got a higher combustion temperature. And if you've got the gasoline emission system it's not up to what's required for natural gas.

And then in the case of the police fleet, if they try to sell the car after it's through with service nobody wants a natural gas car because there's no fueling available for the average person. They're not convenient. And so it costs $34,000 to convert the car back to gasoline which they're not going to do. So they're losing money on the sale value of the cars.

Also, historically, around 1975 when I went to engineering school in Columbia, Missouri we had a natural gas shortage. And they went around turning off the dormitories because they didn't have enough natural gas.

The -- the whole idea that we've got abundant natural gas is a T-Boone Pickens' fantasy. The idea that they can fracture shale structures and produce light -- produce natural gas is basically a fiction. When you fracture the structures it releases the hydrocarbons into the water table, and that's not going to be a very happy

situation. Typically the wells are getting smaller. The big wells have been depleted. It costs about $3 million per well to put in a well, and the wells are smaller and shorter lived.

We've seen prices increase 10 to 20 times within one year historically. Therefore, I challenge the idea that we should put $8 million of public funds into natural gas to help T-Boone Pickens.

MR. SMITH: Mr. Campbell, I know that you have a lot of information here. But I think --

MR. CAMPBELL: I'm sorry?

MR. SMITH: I know you have a lot of information and content in your slides, but we're starting to run a little bit long on your presentation. I'd just encourage you -- I think that you had --

MR. CAMPBELL: Are you saying to speed up, or what are you telling me?

MR. SMITH: Well, speed up.

MR. CAMPBELL: Okay.

MR. SMITH: And I think you had your own -- your own technology to discuss, so I wanted to encourage you to get to that more quickly, because I know you wanted this opportunity to do so.

MR. CAMPBELL: Okay. Well, I also challenge your hydrogen budget because hydrogen is made with electricity.

If we don’t have electricity for cars we don’t have electricity for hydrogen.

If we look back at the real problem, the real problem is that half of the fuel is blown out of the tailpipe of internal combustion engine cars. That’s why you have all the pollution devices, catalytic converters and all these devices that are supposed to treat it.

I don’t know if I should discuss my technology much, but my technology has been going on for 30 years. And I’ve been privately funded because I have been unable to get public funds. The public funds, as I mentioned, are going into bottomless pits that have no promise whatsoever. I found a way to take this pollution and turn it back into fuel as you drive, so you don’t need a $3 million dispenser or a $140,000 dispenser. I use ordinary petroleum so you don’t need to make ethanol and take food away from starving countries. A lot of countries by U.S. corn. And when the price goes up they blame Mexican and Egyptian riots on the price of corn.

So basically I would like to say that if you allocated money into promising technology you would get a reward. If you put the money from the public sector into known bad alternatives you get known bad results, and this has been going on for several years.

My technology has been approved for street use,

for highway use, so it doesn't need a two-year certification. That's another hang-up. It goes on and on. It costs hundreds of thousands of dollars to -- to approve anything new. And you're always two years behind because you're not an OEM. The OEMs approve their cars two years before they're sold. So this gives an advantage to have an exemption so it can be used immediately. You don't have to replace your fleet.

And we've demonstrated a drastic emissions reduction. Under AQMD Rule 1191, police fleets are exempt from the ultra-low emission fleet requirements. They're basically low emissions. And as you can see, we've -- in an old retired CHP car we've been able to drastically cut the emissions from the old car. I dare say it qualifies for an ultra-low emission vehicle as it sits.

So I'm -- this is to demonstrate the technology that we could have if the -- if the public money was given to new projects, to having them being given the time of day.

So if anybody would like to contact me I would love to talk to them. Thank you.

MR. WARD: Thank you for your presentation today, Monty.

MR. CAMPBELL: I'm sorry?

MR. WARD: Thank you for your presentation today.

MR. CAMPBELL: Thank you for the opportunity.

MR. SMITH: Thank you. Oh, I hope I pronounce this right. David Busher with Compro Systems.

MR. WARD: Dave -- David, I don't know how come you're last here to speak. You were here, one of the first people to be here, so I don't know how that works out. Sorry.

MR. BUSHER: I parked closer.

MR. WARD: Thanks for hanging in.

MR. BUSHER: Again, appreciate the opportunity.

The one question I had was on hydrogen. Is that solely for fuel cells or can that be for internal combustion engines that run heavy-duty?

MR. SMITH: The allocation is for fueling infrastructure. I don't know a lot about the mechanics of it.

MR. WARD: I think we -- we are pointing toward the development of the fuel cell, the hydrogen fuel cells. But if we put an infrastructure it doesn't preclude, and we'd certainly like to have the volume from internal combustion hydrogen vehicles used at the station, as well.

MR. BUSHER: Okay.

MR. WARD: We're all about trying to improve the -- the throughputs and volumes at the stations that we'll be establishing. So I don't think if you had an internal combustion hydrogen vehicle or set of them I think

you could take -- it would certainly be allowed to fuel at the stations we would establish with -- with public funds.

MR. BUSHER: All right. And as a comment, the -- we have eight trucks running down at the port about two miles from here that are heavy-duty hauling containers that are running on 100 percent propane, similar to Gil's UTRs. So -- and then we're going for certification on replacements for the ISL and the ISX engines from Cummins. So we'll have heavy-duty running on CNG, LPG, and hydrogen very soon.

MR. WARD: You -- you're part of our portfolio right here.

MR. BUSHER: You got it. Thank you.

MR. WARD: Thanks very much.

MR. SMITH: Did we have any additional comments? We've -- we've run out of submitted blue cards. There are more in the lobby. But -- yes?

MR. WARD: Good morning.

MR. PERKINS: Good morning. I'm Christopher Perkins. I'm chairman of Unimodal Systems. We're a developer of personal rapid transit technology.

I wanted to get an idea of what kind of schedule the innovation category is on in terms of developing a plan for how it intends to move forward.

I bring that up in the context of the reauthorization of the federal transportation bill which is

currently working its way through the process. And I think that there's a real opportunity here as there's a federal match component to the innovation category that could potentially institutionalize the types of directions that the CEC is looking to go with in innovation. And I think there's an interest, for example, in developing personal rapid transit demonstration at the federal level now, that we could --perhaps if the right hand knew what the left was doing here there's I think real opportunities here to make some forward progress in this particular technology category.

So really it's a question. What -- what do you see the schedule as being and how do you see this playing out?

MR. WARD: Well, I think that the solicitations, and here, I'll say it again, we have about five unfilled positions in the office that administers this program right now. We have no possibility of getting the exemption requests approved to fill those. So here's a couple of other things that -- I know it doesn't address your -- directly address your question.

But Silk here, who I call him, very smooth that he is, he is the investment plan project manager. And as soon as this one is adopted we start the next day on one that will be due in six months from now.

MR. BUSHER: Uh-huh.

MR. WARD: So that's July 1st, that's auspicious, we'll start out next one, and that's due by probably December 15th. So an even faster schedule for that.

Long story short, I'm just saying is that -- that we're trying to put together solicitations as fast as we possibly can. I think the -- the latest program opportunity notice for vehicle incentives is kind of the direction I think we want to go, is to make it very simple, make it straightforward for those items that do not require a lot of evaluation.

MR. PERKINS: Uh-huh.

MR. WARD: Perhaps I could ask you, what do you think would be the best timing for this, considering as you're watching the, you know, herding the ducks in congress, etcetera?

MR. PERKINS: Well, what -- the message I got, actually directly from Chairman Mica, is if you have a program that you want to get into the bill we need to move forward quickly because that -- they're looking to try to get something together by summer for a vote in congress in the fall.

MR. WARD: Uh-huh.

MR. PERKINS: That seems to be what their schedule is working towards.

Actually, there's I think three components to this. With the innovation category that the CEC I think has wisely incorporated into this 2011-2012 budget, there's an opportunity here not only to go after a federal match, but there's an opportunity, for example, in Fresno County which passed Measure C in 2006, I believe, where they allocated $36 million for the development of personal rapid transit. They have now just completed their study period as to how they intend to move forward with spending a variety of allocations that they've put into Measure C, and they've concluded that they wish to move forward with a demonstration project for personal rapid transit. So we have a program there where they're ready to move forward, I think with some leadership.

We see an opportunity here I think with the CEC's innovation category to have a California program here that could potentially lead the nation and attract federal funding on an ongoing and -- and, as I say, I think institutional basis if we could get these priorities into the transportation bill. And I might add that Chairman Mica does agree with these priorities of the benefits of personal rapid transit, that is it can be a zero emission 100 percent solar powered public transportation system.

So I guess the -- the -- in a word, as soon as possible, but recognizing the limitations and -- and the

heroic effort that I know that your program has made to try to stay on top of this rapidly changing field and being able to respond to these changes as they develop, I mean, it's -- it's much appreciated. So this is more -- not a hurry-up message as just we remain patient and really look forwards to working with you to make these opportunities happen.

MR. WARD: If you could provide us information about your -- what your vision is for --

MR. BUSHER: Yes, sir.

MR. WARD: -- the demonstration --

MR. BUSHER: Yes, sir.

MR. WARD: -- the amount of funding --

MR. BUSHER: Sure.

MR. WARD: -- what potential partners you have. And I you can --

MR. BUSHER: Yes, sir.

MR. WARD: -- provide that to our docket --

MR. BUSHER: Uh-huh.

MR. WARD: -- as soon as you possibly can, because I could actually envision in this category we would do a solicitation for what are the best innovative projects and -- and hopefully streamline that process to make sure that we're not out of sync with any federal budget cycles or any -- any approval in congress. So this might be done that way, and I'd encourage you to -- to write a succinct letter

to that -- in that regard with those details, potential partners, potential opportunities with the federal government. And of course, this is innovative, but go ahead and describe the innovation, too, which would be helpful --

MR. BUSHER: Sure.

MR. WARD: -- and what the ramifications are for the State of California.

MR. BUSHER: Uh-huh.

MR. WARD: Terrific.

MR. SMITH: Quick little clarifying question. On the federal scene is the -- is the transportation bill looking to add language about this kind of project specific to a certain location or as like a national competitive solicitation type of process?

MR. BUSHER: Well, that -- that has yet to be determined.

MR. SMITH: Oh.

MR. BUSHER: I mean, we're in the early stages. As I said, I spoke with Chairman Mica. He introduced me to his counsel to talk about the kind of language that needs to go in it. Currently we have two representatives.

Our company, in fact, today is back at the FTA speaking with the head of the Office of Mobility, Walter Kulyk, about how this could be incorporated. He has indicated his interested in developing a PRT program. And I

think that the -- the opportunity for Fresno, for the California Energy Commission, and for the state in general here is that if we can bring these -- these together at this critical moment there's a real opportunity that California could be in a position to be in the national leadership role in the development of this technology and finally get in the race with Asia and the European Union which have developed this technology to the tune of about $300 million of investment.

So I think the urgency is finally being recognized, and I see that my -- at the state level with the CEC program, and also with Fresno County, has already been identified. It's a question of -- of matching those priorities in a way that makes sense for all the programs involved.

MR. WARD: And that would be -- you're -- you're targeting some money in the FTA, is it?

MR. BUSHER: Yeah. Well, I think that given the -- yeah, that we would -- we would write language specific to developing a program that has the characteristics of what we would be stating would be here in Fresno, you know, a demonstration system that would be in Fresno County, for example.

MR. WARD: Uh-huh. But the -- the earmarking from the federal government -- earmarking, wrong word.

MR. BUSHER: Yes. But --

MR. WARD: But targeting of funds that they may have available in their budget would be through the FTA budget particularly?

MR. BUSHER: It would be. We're looking to the FTA. Now just to give you a little quick background on this, we submitted a proposal under the TIGER program which was administered by FTA, and then the TIGER program which was administered directly out of the Office of the Secretary in DOT under Lahood. So we're actually talking to both -- both sides of DOT on this, at the higher level and also specifically to FTA about how this could be worked in, how -- how it will ultimately be adjusted or put into the bill remains to be seen.

But again, we are looking to make sure that everybody knows what's going on and that there's some sort of agreement potentially as to the efficacy and advantages of this program. So --

MR. WARD: If you can align the information for us and maybe we can consider being a strategic partner here.

MR. BUSHER: Very good. Thank you very much.

MR. WARD: Thank you.

MR. SMITH: Are there other speakers?

MR. WARD: Anybody online, Pilar?

MR. SMITH: Oh, yes. Pilar, can you check if there's anyone online? No, it doesn't look like it. Okay.

Any -- final call for comments, as it were. Okay.

So the next step, as I mentioned, we'll be hosting a second remote public workshop very similar to this one in San Francisco. That will be at the California Public Utility Commission's auditorium June 1st starting at 9:00 a.m. again.

After that we will be combing through the comments that we receive at this workshop, the San Francisco workshop, new comments to our docket, and the second advisory committee meeting that we had this past Monday, and taking those comments, as appropriate, into the committee final version of the investment plan, which should be posted towards the middle of next month in anticipation of possible adoption of the final committee version at a June 29th commission business meeting. And then, as Peter says, we'll get to work June 30th on the next investment plan.

So with no final comments, I'd like to thank everyone who came out here today, and also thank everyone who showed up on the WebEx. And finally, a huge thank you to the people at the Long Beach City Hall who have offered us this room on numerous occasions, and it is always a pleasure to be here.

MR. WARD: And, you know, the Mayor here, Bob

Foster, is a former Energy Commission employee and a friend. And I really appreciate him opening this -- this venue for up for us. We always enjoy coming here.

Thank you all again for coming today, and I look forward to talking to you over the next period of months.

MR. SMITH: Okay. This meeting is adjourned.

(Workshop Adjourned at 10:42 a.m.)

REPORTER'S CERTIFICATE

I, Martha L. Nelson, attest that the foregoing proceedings were recorded digitally and were transcribed to the best of my ability.

I further certify that I am not a relative or employee of any attorney of the parties, nor financially interested in the action.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated this 6th day of June, 2011.

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