

COMMITTEE WORKSHOP
BEFORE THE
CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)
)
Proposed Adoption of Regulations for) Docket No.
the Administration of the Alternative) 08-OIR-1
and Renewable Fuel and Vehicle)
Technology Program)
_____)

CALIFORNIA ENERGY COMMISSION
HEARING ROOM A
1516 NINTH STREET
SACRAMENTO, CALIFORNIA

TUESDAY, SEPTEMBER 9, 2008

9:10 A.M.

ORIGINAL

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DOCKET 08-OIR-1	
DATE	SEP 09 2008
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COMMISSIONERS PRESENT

James D. Boyd, Presiding Member

Karen Douglas, Associate Member

ADVISORS PRESENT

Susan Brown

Diana Schwyzer

STAFF and CONTRACTORS PRESENT

Aleecia Macias

Jared Babula

Mike Smith

Jim McKinney

ALSO PRESENT

Tom Koehler
Pacific Ethanol

Gina Gray (via teleconference)
Western States Petroleum Association

Justin Rathke
Capstone Turbine Corporation

Andrew Panson
California Air Resources Board

Sonia Yeh
University of California Davis

Kurt Schuparra
California Strategies and Advocacy, LLC

Noelle Cremers (via teleconference)
California Farm Bureau

ALSO PRESENT

Jeff Stephens
Propel

Danielle Fugere
Friends of the Earth

Stephen R. Kaffka
University of California Davis

Bob Jagunich
Biofuels, Logistics and Terminals

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P R O C E E D I N G S

9:10 a.m.

1
2
3 PRESIDING MEMBER BOYD: Good morning,
4 everybody. Welcome to our workshop, Committee
5 workshop. The notice pretty clearly indicates the
6 purpose, and we're all getting used to each other.
7 And I think we see and know this as another in the
8 continuing series of meetings and workshops on the
9 subject of the regulations regarding AB-118.

10 I welcome you all, I thank you all for
11 being here. The purpose, as I indicated, is
12 pretty well spelled out in the notice. I don't
13 want to take a lot of time, other than to just
14 reiterate the why and what we hope to accomplish
15 today.

16 The staff is going to present for
17 discussion, again, the draft regulation language
18 relating to sustainability goals. And going to
19 review revised regulation language for a series of
20 definitions and other attributes of -- hope to be
21 attributes of this program. So, we'll get a
22 presentation on that today.

23 And then have what I hope to be a very
24 candid and informal, but formal in the fact that
25 this is a workshop, and a workshop discussion, of

1 views and issues on that subject.

2 Thank you, Marlana, struggling without
3 my glasses to see what I'm supposed to be saying,
4 and I forgot them. In any event, made it far
5 enough through the agenda to know that it's time
6 for me to ask my fellow Committee Member,
7 Commissioner Douglas, if she'd like to say any
8 words before we turn the program over to Aleecia.

9 ASSOCIATE MEMBER DOUGLAS: I'm fine.

10 PRESIDING MEMBER BOYD: Very good.

11 Aleecia, it's all yours.

12 MS. MACIAS: Good morning. My name is
13 Aleecia Macias; I'm one of the supervisors in the
14 emerging fuels and technologies office.

15 And just before we begin, a few
16 housekeeping items. For those of you who aren't
17 familiar with this building, the restrooms are
18 outside in the lobby. There's also a snack bar on
19 the second floor under the white awning.

20 And lastly, in the event of an emergency
21 and the building is evacuated, please follow our
22 employees out to the appropriate exit. We'll
23 reconvene at Roosevelt Park located diagonally
24 across the street from this building. Proceed
25 calmly and quickly and we'll make sure you get out

1 there safely.

2 We're going to begin this morning with a
3 presentation on the revisions we've made to the
4 regulatory language based on comments we received
5 from the August 11th workshop.

6 Okay, just a reminder. The program goal
7 of AB-118. The alternative and renewable fuel and
8 vehicle technology program is going to develop and
9 deploy innovative technologies and transform
10 California's fuel and vehicle types to help attain
11 the state's climate change policies.

12 As we presented on August 11th, our
13 rulemaking process is going to be -- well, we're
14 developing and adopting regulations to clarify
15 ambiguities in the statute, creating certainty in
16 administering the program. And it consists of two
17 phases, the informal and formal process.

18 We are currently in the informal process
19 where we're developing regulatory concepts and
20 draft regulations for public review. And then we
21 will shortly begin our formal process where we
22 submit our proposed regulations to the Office of
23 Administrative Law.

24 This is the remainder of our rulemaking
25 timeline. Today is bolded, September 9th, where

1 we're having a public workshop to review draft
2 sustainability regulations. And we're also going
3 over changes that we've made since the August 11th
4 workshop based on comments received.

5 September 19th written comments are due
6 on the draft regulations. On the timeline it says
7 sustainability, but we will be accepting comments
8 on the full regulations package. And then on
9 October 7th we're going to be submitting our
10 package to the Office of Administrative Law.

11 If you go along to the end of the
12 timeline, April 2nd is the date that we're aiming
13 for for the regulations to take effect.

14 The regulatory areas with proposed
15 language changes from the August 11th workshop
16 consist of advanced vehicle technology, funding
17 restrictions, advisory committee and investment
18 plan. And Jim McKinney will later be presenting
19 the sustainability regulations.

20 So the original language for advanced
21 vehicle technology was projects that produce or
22 manufacture advanced vehicles and vehicle
23 components in California for the life of the
24 project shall be eligible for funding under the
25 program.

1 Such projects include, but are not
2 limited to, technologies that provide any of the
3 following: improved fuel efficiency, lower
4 greenhouse gas emissions, alternative fuel usage,
5 fuel cell technology, plug-in hybrid technology,
6 electrified components, energy storage, vehicle
7 retrofit and battery recycling.

8 Comments we received from August 11th
9 include that we should reference the section in
10 statute that lists technologies rather than
11 restating the list of technologies to which the
12 guideline applies.

13 Include language in the advanced vehicle
14 technology section that references the investment
15 plan. And projects eligible for funding should
16 extend beyond California if there are significant
17 environmental benefits for California.

18 So the revised language, based on these
19 comments, is projects that produce or manufacture
20 vehicles and components as described in Health and
21 Safety Code section 44272(c) shall be eligible for
22 funding.

23 The funding restrictions original
24 language was a project that is mandated by any
25 state or federal law, rule or regulation, or by an

1 air district rule or regulation, memorandum of
2 agreement, understanding with a regulatory agency,
3 settlement agreement, mitigation requirement or
4 other legal mandate shall not be eligible for
5 funding.

6 Neither shall a project be eligible for
7 funding if it is necessary to achieve compliance
8 with an applicable state or federal law, rule or
9 regulation, or with an air district rule or
10 regulation, memorandum of agreement, understanding
11 with a regulatory agency, settlement agreement
12 mitigation requirement or other legal mandate.

13 To the extent a project exceeds what is
14 required to comply with an applicable state or a
15 federal law, rule or regulation -- and I'm just
16 going to say dot, dot, dot for the rest of that --
17 it may receive funding for that part of the
18 project for the applicant -- that the applicant
19 demonstrates it is not mandated or integral to
20 meeting a mandate. For purposes of this section a
21 mandate refers to any requirement enforceable by a
22 state or federal agency, or by an air district for
23 the purpose of reducing the emission of one or
24 more criteria pollutants, toxic air contaminants
25 or any greenhouse gas.

1 The comments we received were: Make a
2 distinction between entity and project. Simplify
3 listing of legal documents to language below. And
4 projects eligible for funding should extend beyond
5 California if there are significant environmental
6 benefits for California.

7 So the revised language, we have cut it
8 back quite a bit. It's a project shall not be
9 eligible for funding if it is mandated by any
10 local, regional, state or federal law, rule or
11 regulation or order, or is otherwise required by
12 legally enforceable document.

13 To the extent a project exceeds what is
14 required for compliance with a legally enforceable
15 requirement, it may receive funding for that part
16 of the project that the applicant demonstrates is
17 not mandated to meet the requirement.

18 For purposes of this section a legally
19 enforceable requirement refers to any requirement
20 enforceable by a local, regional, state or federal
21 agency for the purpose of reducing the emission of
22 one or more criteria pollutants, toxic air
23 contaminants or any greenhouse gas.

24 And we received another comment after
25 the latest proposed language was posted, so we

1 have changed the word -- let's see, where it says
2 if it is mandated by any local, regional, state or
3 federal law, to if it is used for compliance with
4 any local, regional, state or federal law, rule or
5 regulation.

6 So, the comment was revise wording some
7 regulations require performance standards so that
8 a specific project may not be mandated, but still
9 may be used to comply with a regulation and
10 consequently should not be eligible for funding.

11 For the advisory committee section no
12 material changes were made to the language. Just
13 minor wordsmithing.

14 And finally, the investment plan. The
15 original language reads: All funding decision made
16 by the Commission shall be consistent with the
17 investment plan which shall be updated as needed
18 annually.

19 The investment plan shall not identify
20 specific projects or technologies for funding, but
21 shall serve to give public notice as to the types
22 of projects that would be eligible to receive
23 funding under the program and to specify the
24 categories of funding allocations.

25 A comment we received was: Investment

1 plan should identify certain baskets of
2 technologies to avoid confusion and give clear
3 direction to the advisory committee.

4 The revised language is: All funding
5 decisions made by the Commission shall be
6 consistent with the investment plan, which shall
7 be updated as needed annually. The investment
8 plan shall serve to give public notice as to the
9 types of projects that would be eligible to
10 receive funding under the program and to specify
11 the categories of funding allocations.

12 Are there any public comments, remarks,
13 questions?

14 MR. SPEAKER: Could you go back to slide
15 3 change, -- you add the word compliance --

16 MS. MACIAS: This one here?

17 MR. SPEAKER: Yeah.

18 MS. MACIAS: Um-hum. Can you come up to
19 the mike so that we can -- or do you have a
20 specific question? Oh, okay.

21 PRESIDING MEMBER BOYD: I forgot to
22 caution you all if you want to make a comment that
23 ends up on the record, please come to the
24 microphone.

25 MR. KOEHLER: Thank you, Jim. Tom

1 Koehler, Pacific Ethanol. Actually I've got a
2 couple questions. And it has to do with the
3 notion that projects eligible for funding should
4 extend beyond California, or significant
5 environmental benefits for California.

6 I'm just curious to know where that came
7 from and what the thought is behind that.

8 MS. MACIAS: Are you referring to the
9 comment that we received?

10 MR. KOEHLER: Yes. And then I believe
11 you stuck it in your -- am I correct?

12 MS. MACIAS: This is the final language
13 for that section. Okay, you're referring to --
14 okay, this is the final language for the advanced
15 vehicle technologies that was --

16 MR. KOEHLER: I guess could you give me
17 an example of why a California taxpayer would want
18 to fund something outside of California.

19 MS. MACIAS: I don't think that the
20 current language is -- it's saying that we will
21 fund projects outside of California. But it is
22 also including vehicles and components that help
23 meet the program goals.

24 So, we're not saying that we're
25 excluding projects outside of California, and

1 we're not saying one way or another that we're
2 going to fund.

3 MR. KOEHLER: It just opens the door to
4 do that. Okay.

5 MR. SMITH: Neil, if I may --

6 MR. KOEHLER: Tom.

7 MR. SMITH: I'm sorry, Tom. If I may
8 extend.

9 MR. KOEHLER: Yeah.

10 MR. SMITH: In other programs at the
11 Commission it's not uncommon for us to participate
12 in projects that are located outside of the state.
13 We have an obligation to demonstrate why those
14 projects are important to California.

15 But if there is a compelling reason why
16 the Energy Commission should participate in a
17 project that could bring economic or environmental
18 benefits to California, what this language does is
19 it gives the Energy Commission that discretion to
20 consider those projects and perhaps act on them.

21 MR. KOEHLER: Right. Okay. That makes
22 sense. I was just curious to know what the
23 thought was there.

24 And then I would like some -- I guess I
25 was looking for some clarification on the whole

1 mandate issue and the thinking, how it relates to
2 the federal RFS. And interplay between the
3 federal RFS and this program.

4 And so I don't know if anybody here
5 wants to take that on, whether you do or --

6 MS. MACIAS: I'll pass it to you, Mike.

7 (Laughter.)

8 PRESIDING MEMBER BOYD: Up for
9 delegation.

10 MR. SMITH: That's great. Central to
11 the notion here of compliance is identifying those
12 entities that are obligated to comply. So to the
13 extent that the federal RFS identifies entities
14 that must comply with the RFS, those would be the
15 entities that we would look at carefully if
16 considering a project in which they may or may not
17 be involved, and for which the activity for which
18 they're applying for funding is to meet the RFS.

19 MR. KOEHLER: So, under the RF --

20 MR. SMITH: Or that would contribute to
21 helping them meet the RFS.

22 MR. KOEHLER: Right. So, under the RFS
23 the entities that are required are the refiners.
24 They're the ones that are the obligated party.

25 MR. SMITH: Yeah, I believe so.

1 MR. KOEHLER: And so I guess I'd like to
2 -- so the RFS has these very grandiose goals of
3 getting to very low carbon fuels, noncorn fuels.
4 And so my question is -- but nobody quite knows
5 when and how we're going to get there. So my
6 question is is this program going to help us get
7 there, or is it going to say no, there's an RFS
8 out there, so we're not going to participate in
9 either speeding up or helping that program.

10 MR. SMITH: Well, I think there's other
11 ways of helping our country, in this case the
12 State of California, to expand the use of
13 alternative fuels. But we're not -- the law's
14 pretty explicit in its prohibition toward
15 providing funding for activities or projects that
16 are otherwise required by state, federal or local
17 rules or regulations or laws.

18 Funding, providing funding to Chevron,
19 for example, or a refiner to help meet the RFS to
20 buy credits that they are unable to produce --
21 produce and blend the fuel, themselves, is
22 certainly something we would not do.

23 That's not the only avenue available to
24 the Energy Commission or other state agencies to
25 help this state and the other states --

1 MR. KOEHLER: Right.

2 MR. SMITH: -- expand the use of
3 alternative fuels.

4 MR. KOEHLER: Okay, so let me use
5 another example that's not self-serving.

6 (Laughter.)

7 MR. KOEHLER: Let's just say Bluefire's
8 project down in wherever they're doing it. And so
9 it's a individual company that's not -- it's not
10 on the hook for the RFS, but is selling into that
11 market. And doing some very great advanced pilot
12 work.

13 So would a project like that be eligible
14 for 118 funding under this language?

15 MR. SMITH: To the extent that Bluefire,
16 and I'm not aware that they are, but to the extent
17 that Bluefire is not obligated to comply with any
18 state, federal, local rule or mandate regarding
19 alternative renewable fuels, there would be
20 avenues that the Energy Commission could consider
21 to provide funding to them to support their
22 operations.

23 MR. KOEHLER: Under this language?

24 MR. SMITH: Yes.

25 MR. KOEHLER: Okay. All right. Just

1 wanted to make sure.

2 PRESIDING MEMBER BOYD: For the
3 audience's benefit, Bluefire is a cellulosic
4 ethanol facility. It's one of the USDOE
5 biorefinery grantees who, by the way, turned down
6 a CEC grant, not wanting to be encumbered by the
7 State of California's rules and regulations.

8 In any event, it's a good example to use
9 for this dialogue, but I wanted everybody to
10 understand what it is.

11 MR. KOEHLER: Yeah.

12 PRESIDING MEMBER BOYD: It's being
13 constructed to use greenwaste at a landfill in
14 southern California.

15 MR. KOEHLER: So to the extent that --
16 and I just use that as an example -- so there's
17 lots of companies out there that are not refiners
18 that are doing the R&D on this advanced biofuel
19 work, which will be selling into the market that
20 is being created by the RFS.

21 So I think it's important that we don't,
22 you know, we want to keep those options open. It
23 sounds like they are. Okay.

24 MR. SMITH: Yes, that's correct.

25 MR. KOEHLER: Okay, thank you.

1 MS. MACIAS: We have a question on
2 WebEx. Go ahead, Gina.

3 MS. GRAY: Yes, thank you. Can you hear
4 me?

5 MS. MACIAS: Yes.

6 MS. GRAY: Thank you. Good morning,
7 Commissioners and Staff. I think this morning I
8 still have a couple of clarifications and maybe a
9 couple of questions. And I'll follow on from
10 Tom's theme here, which was in the section dealing
11 with funding restrictions.

12 PRESIDING MEMBER BOYD: Gina, excuse me
13 for interrupting you, but a lot of people don't
14 know who Gina is, --

15 MS. GRAY: Oh, I apologize, --

16 PRESIDING MEMBER BOYD: -- so if --

17 MS. GRAY: Gina Gray with Western States
18 Petroleum Association.

19 PRESIDING MEMBER BOYD: Thank you.

20 MS. GRAY: The funding restriction
21 section, and I guess this will probably appear to
22 be self-serving, to use Tom's language, but I
23 guess we're still curious about a couple of
24 things.

25 One is the addition obviously of the

1 section talking about to the extent that a project
2 exceeds what is required for compliance. Can
3 anyone provide sort of an example of what that
4 might mean in, for example, the low carbon fuel
5 standard realm?

6 What it means that, you know, if, in
7 fact, you've already achieved 10 percent reduction
8 early, and wanted to apply for funding, that that
9 might be a possibility or not?

10 And leave to the side for the moment
11 that I'm a petroleum industry person, and just say
12 someone who's perhaps not an obligated party.

13 MS. MACIAS: Do we have -- I would say
14 that that was a good example of if they are
15 exceeding the low carbon fuel standard then they
16 would be eligible for funding.

17 MR. SMITH: Let me just add a
18 clarification to that, expand on that. They
19 certainly, entities certainly could be considered
20 for funding, but we have to keep in mind also a
21 couple of things.

22 Number one, we don't know the details of
23 the low carbon fuel standard yet. Number two,
24 it's very likely that entities that are obligated
25 to comply with the low carbon fuel standard and

1 that exceed the standard certainly will have the
2 ability to use those exceedances, in this case a
3 positive exceedance, as credits in the market.

4 So I think we have to be very careful in
5 that particular regard. But, again, Gina, a lot
6 will be revealed when we know more details about
7 the ARB's proposals.

8 MS. GRAY: Okay, fair enough. And I
9 suppose, getting back to the theme in there that
10 basically if you -- well, let me pose it this way.
11 Is there language in statute, and I should know
12 this, but I only read it about a week ago, and
13 I've forgotten -- is there language in the statute
14 that specifically talks about obligated parties?
15 Or is it just again the language talking about the
16 project not being eligible for funding if it's
17 mandated, and you changed that wording to use for
18 compliance.

19 And I guess what I'm getting at here is
20 if, in fact, there is no specific reference to
21 obligated parties in statute is that something
22 that the Commission has determined they would like
23 to sort of differentiate in this process by saying
24 that not only are you restricted if your project
25 is mandated or used for compliance, but if you're

1 an obligated party, also are restricted.

2 MS. MACIAS: Jared, do you want to take
3 this one?

4 MR. BABULA: This is Jared Babula, Staff
5 Counsel. If you look at the AB-118, the section C
6 does say for purposes of both of the programs,
7 meaning the ARB's portion and the CEC's portion,
8 eligible projects -- so it's targeted to
9 projects -- do not include those required to be
10 undertaken pursuant to state or federal law or
11 district rules or regulations.

12 So it's the project that's the
13 triggering event, not necessarily the entity.

14 MS. GRAY: And I guess this gets back to
15 one of the written comments that WSPA made
16 earlier, which was just our confusion over if, in
17 fact, it's a project and you're saying that
18 obviously, you know, if it's being used for
19 compliance with local, state, federal, et cetera,
20 regs, et cetera, et cetera, that you cannot apply
21 for funding.

22 And I guess in our mind we're still
23 unsure of how the Commission will be able to sit
24 there and with all the applications coming in, be
25 able to determine that a project that could be a

1 renewable fuel project or some other kind of
2 project would not be generated because of, in
3 fact, LCFS requirements or other requirements.

4 So still confused on our part as to how
5 that determination is actually going to be made.
6 Because, in fact, I think our sense is that
7 whether it's our industry doing innovative things
8 or other industries doing innovative things, that
9 innovation has been spurred by and large by
10 federal, state, local et cetera requirements.

11 MS. MACIAS: When we evaluate projects
12 we're going to be looking at the entity that is
13 required to comply. And anything above and
14 beyond, as we've explained, could be eligible for
15 funding.

16 So, with the project versus entity, we
17 will be looking at the point of regulation. And
18 then anything above and beyond that point of
19 regulation that the entity pursues could be
20 eligible for funding.

21 MS. GRAY: Okay, well, I appreciate the
22 restatement. I guess we'll just have to continue
23 to raise that as an issue.

24 One other clarification. The advanced
25 vehicle technology section. Now, just trying to

1 recall, is this under the same funding
2 restrictions? I guess it is, but it's a separate
3 section.

4 MS. MACIAS: Do you mean the -- what
5 same funding -- the entire program would be under
6 the same funding restriction?

7 MS. GRAY: Correct. So in other words
8 if you have an advanced vehicle technology
9 project, that would be under the same funding
10 restrictions?

11 MS. MACIAS: Correct.

12 MS. GRAY: Thank you. I think that's
13 all for now. Thank you very much.

14 MS. MACIAS: Thank you.

15 MR. RATHKE: Hi. Justin Rathke from
16 Capstone Turbine Corporation in Chatsworth,
17 California.

18 I have a question related to the last
19 question about funding eligibility. We're one of
20 the groups that's thinking of doing an advanced
21 vehicle technology project for this program. And,
22 you know, we're kind of grappling with this
23 overlap of our -- you know, we're basically
24 developing a gas turbine engine for heavy-duty
25 vehicles.

1 And there's an EPA standard for diesel
2 emissions coming out, there's one now and then one
3 in 2010.

4 Our engine certainly meets those
5 requirements of the standard, the EPA standard,
6 and exceeds them. But in addition to the
7 emissions benefit, which is what the EPA standard
8 seeks to limit, there are other benefits in terms
9 of fuel flexibility and a hybrid design for the
10 engine. You know, economic benefit to California.
11 All things that are mentioned by the statute.

12 How will those sort of additional
13 benefits of a project be weighed against one area
14 in which there's gains that may coincide with a
15 standard, in this case EPA 2010 standard?

16 And in fact, that one -- and another
17 question. Since it's coming in 2010 how does that
18 affect this solicitation?

19 MS. MACIAS: Well, this regulations text
20 is actually used to prevent us from funding
21 projects that are required by law. So, when it
22 comes to evaluating a particular project, the
23 investment plan and later the solicitations, we'll
24 be better to give the details on those
25 evaluations.

1 But for the purposes of regulatory
2 language, this is just meant to prevent us from
3 funding projects that are already required.

4 So, it's more of a screening than it is
5 telling exactly what kind of projects will be
6 funded.

7 MR. RATHKE: Um-hum.

8 MS. MACIAS: That information will be
9 shared in the investment plan, and later in the
10 solicitations.

11 MR. RATHKE: Um-hum. Just for my
12 edification, could you give an example of a
13 project that would be -- well, I guess used to
14 comply is probably a better use of language --
15 with say, the low carbon fuel standard, so I can
16 use that as a reference?

17 MS. MACIAS: I'm turning to Mike.

18 MR. SMITH: Well, --

19 PRESIDING MEMBER BOYD: O great wizard.

20 MR. SMITH: Well, I guess at this point
21 I'm going to turn to ARB for a little guidance,
22 because until we know exactly what the low carbon
23 fuel standard is going to require, we're really
24 not, we're sort of at a disadvantage to answer
25 that question.

1 PRESIDING MEMBER BOYD: I mean it's an
2 interesting question because it's a technology
3 question. I mean you're going to be theoretically
4 providing a new technology application for a
5 vehicle that happens to perform better than the
6 diesel standard requirement.

7 But this is not a diesel, this is a
8 turbine. So, it raises, to me, a very interesting
9 question about where you draw the lines around the
10 criteria that's being proposed. And I don't have
11 a ready answer. But I don't think we would want
12 to build any barriers against such technologies.

13 I see the ARB champing at the bit.
14 Maybe they can --

15 MS. MACIAS: Andy Panson from the ARB
16 has a comment.

17 MR. PANSON: Yeah. Jim, I agree with
18 what you're saying. Maybe we can talk about your
19 example, you know, we would not fund the
20 manufacturer, you know, of diesel engines to meet
21 the 2010 diesel standards that you're referring
22 to. That's a clear requirement.

23 You're bringing up a kind of interesting
24 case. If you're saying you have a technology that
25 goes beyond that standard that might have other --

1 that has other benefits, fuel economy benefits,
2 you know, something that goes above and beyond,
3 that is something that is eligible for funding
4 kind of in the abstract.

5 But how you draw the line and, you know,
6 whether you could segregate, if there's any part
7 of that that's really just being done to get you
8 to the 2010 standard, which really wouldn't be on
9 the table.

10 But if you're looking at something that
11 goes above and beyond, like maybe another example
12 would be say if someone has a heavy-duty hybrid
13 diesel engine, it's already meeting the 2007
14 standards, it's already meeting the 2010 standard.
15 But you're actually getting some kind of -- some
16 additional greenhouse gas benefit by the fact that
17 it's a more efficient engine, you're using less
18 fuel.

19 That is beyond what's required by the
20 EPA and California engine standards. And so there
21 is an increment there that's surplus and fundable.

22 Does that help?

23 MR. RATHKE: Yeah, I recognize it's a
24 difficult, you know, way to do this formally
25 without, you know, -- but it's good to see that

1 there's recognition that there is some complexity
2 there.

3 MR. PANSON: Yeah, I think some of these
4 questions are difficult to answer in the abstract.
5 But when you're putting in a funding request or a
6 solicitation is going out, there's actually a lot
7 more detail.

8 But the regulation has to be written at
9 this high level. And it answers a lot of
10 questions. But it may not answer every single
11 question. But when the agencies are developing
12 their solicitations, you know, both agencies will
13 word them in such a way that, you know, what
14 they're asking for ideas for are going to be
15 things that clearly are going above and beyond
16 what's required.

17 So, I think a lot of those details, when
18 we get to the solicitation point, nothing will
19 be -- hopefully it won't be unclear. We need
20 people to be very clear about what they're
21 applying for and what's eligible and what's not.

22 MR. SMITH: I would like to ask Andy, as
23 long as you're at the table, I'd like to ask a
24 clarifying question.

25 What, in the concept that you're

1 describing where you get a gas turbine vehicle,
2 what fuel do you envision firing the turbine?

3 MR. RATHKE: Well, one of the benefits
4 is that it is fuel flexible. So, you know, given
5 the current infrastructure, you know, diesel -- it
6 can run on diesel. Natural gas would be
7 preferable, you know, from an emissions efficiency
8 standpoint. It's a gas turbine, so really it's,
9 you know, -- Capstone has built its business on,
10 you know, powering its microturbines with natural
11 gas. But also biodiesel and, you know, methane
12 biogas and, you know, we're looking ahead to
13 hydrogen one day.

14 So, really thinking something very fuel
15 flexible. Given the realities of, you know, where
16 trucks are able to refuel and what they're able to
17 put in their systems, you know, diesel might be an
18 option for some users.

19 But really we would be designing the
20 engine to be able to take all of those fuels that
21 I mentioned.

22 PRESIDING MEMBER BOYD: Well, inherent
23 in a gas turbine is the ability to burn a whole
24 range of fuels.

25 MR. RATHKE: Right.

1 MR. SMITH: Right, so how would ARB, and
2 I don't mean to put you on the spot, but how would
3 you envision a technology such as this that could
4 use a variety of fuels meeting the 2010 standards?

5 MR. PANSON: And actually, I want to
6 step back to my answer when I said we wouldn't be
7 funding a diesel engine that just met the 2010
8 standard. We also wouldn't be funding a natural
9 gas or an alt fuel engine that just meets the
10 standard.

11 I didn't want to make it seem like
12 diesel was out and other fuels were in, because
13 it's not a fuel-based standard. It's an emission
14 limit. So things that just meet the standard are
15 not fundable where there's an increment that goes
16 beyond.

17 And, you know, you're talking about
18 something that really is, you know, more a
19 prototype or an R&D or a -- you're not talking
20 about funding, you know, production of engines
21 that are just going to be rolling off the line to
22 be sold in compliance with the standard.

23 So I think, you know, where you're
24 talking about advanced technology demonstration
25 projects where they're not being used directly to

1 comply with the standard. That's also kind of an
2 element that comes into the evaluation, as well.

3 MR. SMITH: Another -- sorry to keep you
4 up there so long -- but you raise an interesting
5 topic, and it has a number of facets to it.

6 But one of the -- one aspect of our
7 program, actually both ours and the Air Resources
8 Board program under AB-118, is we have anti-
9 backsliding provisions.

10 And as ARB is developing and
11 promulgating those regulations they establish sort
12 of a threshold against which you cannot do any
13 worse in terms of criteria pollutant emission,
14 toxic air contaminants and et cetera.

15 It also, as ARB envisions the anti-
16 backsliding, it sets up a greenhouse gas backstop,
17 as well. So it pretty much follows a trajectory
18 that the low carbon fuel standard will take,
19 whatever that trajectory is, when the rule is
20 proposed.

21 The gas turbine application in this
22 regard doesn't do any worse than the anti-
23 backsliding guidelines established by the ARB.
24 But yet you can demonstrate that there are
25 positive benefits, additional greenhouse gas

1 reductions say beyond the low carbon fuel standard
2 even if the criteria pollutant of this engine
3 simply meets the 2010.

4 You made the comment earlier it actually
5 exceeds, but just for argument sake, even if it
6 meet the 2010 it doesn't backslide, so it meets
7 the anti-backsliding regulation. But if the
8 proposal can -- if you can come in with a proposal
9 that clearly shows additional benefits,
10 particularly greenhouse gas reduction benefits,
11 that's something that the Energy Commission may
12 very well consider.

13 Not speaking for the Commissioners, but
14 I just wanted to add that yet another facet to
15 answering your question.

16 PRESIDING MEMBER BOYD: I think without
17 stating any approval or disapproval of what sounds
18 like potentially an application some day, I think
19 the intent of the law, and I think the intent of
20 our agencies is to stimulate technological
21 development that will bring a host of attributes
22 to the table.

23 And I think that's what you're
24 tentatively talking about, and I think the
25 organizations would certainly entertain that kind

1 of an application, presuming, you know, you make
2 the case of bringing a whole host of other
3 attributes to the table. Not just you, anybody.
4 But you're the case study at the moment.

5 MR. RATHKE: Thank you very much.

6 PRESIDING MEMBER BOYD: Thank you.

7 MS. MACIAS: Do we have one more
8 question?

9 DR. YEH: This is Sonia Yeh from UC
10 Davis. I want to ask a followup question to Gina,
11 the question that Gina raised earlier.

12 That, for example, if a refiner want to
13 fund a project that will produce lower carbon
14 fuel, for example. And, as we know, there are
15 many ways to meet the low carbon fuel standard.
16 You can buy lots of first generation biofuel, or
17 you can improve the efficiency of refinery. You
18 know, there are many ways to meet the low carbon
19 fuel standard.

20 But, for example, if a refiner want to
21 fund or co-fund a project that will support second
22 or third generation biofuel development, at the
23 same time there is no certainty that would
24 guarantee the project will be successful. But it
25 has a potential to produce second and third

1 generation biofuel at a more cost effective manner
2 in this case.

3 So, there's no -- first, there's risk
4 involved with the investment. There's no
5 guarantee that you will successfully be used for
6 compliance. At the same time it has a lot of
7 innovation. It would provide technology
8 innovation and potentially benefits in terms of
9 cost and spill over to the whole industry
10 potentially.

11 Under that condition would that project
12 be eligible for funding under AB-118?

13 MS. MACIAS: Potentially it could be.
14 We keep getting back to the investment plan, and
15 that's really going to have -- it's going to
16 incorporate the regulatory language. Also the
17 sustainability that Jim will talk about in just a
18 minute.

19 But everything is kind of to be decided
20 right now. And it sounds like if there is a
21 benefit outside of the requirement, then it could
22 possibly be eligible for funding.

23 MR. SMITH: Well, your question, just
24 such as the gentleman before you, your question
25 adds yet another aspect, sort of a temporal aspect

1 to the issue of compliance.

2 In this case you're suggesting that a
3 project undertaken by an entity that is otherwise,
4 in another regulatory sense, is required to meet
5 a, comply with a regulation or a law.

6 But that entity is also undertaking
7 research and development for a better fuel, more
8 cost effective fuel, or a fuel that has better
9 environmental and greenhouse gas attributes,
10 second or third generation.

11 One of the issues that the Energy
12 Commission and the Commissioners will have to
13 consider as we move into finalizing our investment
14 plan, and certainly as we move into the
15 solicitations, is that very aspect. At what point
16 is a project far enough removed from the
17 compliance, the entity's obligation to comply in a
18 regulatory world. And at what point is that
19 research project far enough distanced from that
20 obligation to comply.

21 Such that it could be argued that the
22 research will benefit a future market or benefit
23 activities that aren't necessarily subject to that
24 compliance, that entity's obligation to comply.

25 And that's something that we will have

1 to consider as we develop, finalizing this plan
2 and develop these actual solicitations.

3 But it's a very good question and it's
4 one that we're not -- we certainly recognize and
5 will be considering as we move forward in
6 implementation.

7 MS. MACIAS: If there are no other
8 questions, we can move on to the sustainability
9 goals.

10 (Pause.)

11 MR. MCKINNEY: Good morning. I'm Jim
12 McKinney here with the Energy Commission Staff,
13 the team leader on our effort to develop
14 sustainability goals.

15 And what I want to do in this
16 presentation is first give my apologies to people
17 like Steve and Sonia who've heard part of this
18 presentation four times now, so I appreciate your
19 patience here. But we are getting to an important
20 juncture today.

21 So I'm going to just review briefly our
22 legal obligation, the process we've used to get to
23 the goals, what the proposed goals are.

24 And then I want to give a bit of a
25 preview at a staffed working draft proposal for a

1 possible integrated approach to pulling all the
2 pieces together. And that was referenced to a
3 paper that we released, the sustainability working
4 group, last week in an attempt to provide a lot of
5 stakeholders with the answer to the question, how
6 does this all fit together; how do all the
7 different pieces of our sustainability program
8 come together.

9 So the goal for today is to get good
10 public comment input on the goals, themselves.
11 But we did want to give people a preview of what
12 might be coming down the road.

13 So the Legislature asked to do something
14 pretty important with this funding program, and
15 that is to set sustainability goals. They didn't
16 give us a lot of direction, though. And it's kind
17 of fun to parse through this particular paragraph
18 because there's some directions and mandates in
19 here that don't really kind of queue up nicely.

20 So, we're supposed to establish these
21 goals to insure that alternative and renewable
22 fuel and vehicle projects on a full fuel cycle
23 basis will not adversely impact the state's
24 natural resources, especially state and federal
25 lands.

1 And there's kind of an inherent tension
2 there because a full fuel cycle analysis really,
3 if you respect the methodology and the theory,
4 obligates us to look far and wide at every aspect
5 of the fuel pathway when we're thinking about
6 sustainability.

7 But there's many references in the
8 statute to protecting the state's natural
9 resources in particular. So that's one thing that
10 we've been working through to try to pull that
11 together.

12 The statute also gives us a fair amount
13 of guidance on what are called preferences to
14 projects maximizing various environmental
15 criteria. These are consistency with climate
16 change policy and the LCFS from the Air Resources
17 Board; ability to reduce criteria pollutants;
18 decrease water pollutants; no adverse effect to
19 the state's natural resources.

20 And perhaps most importantly, a
21 project's ability to reduce GHG emissions by at
22 least 10 percent from the petroleum baseline on a
23 full fuel cycle basis or lifecycle basis.

24 And what we're going to propose later on
25 in our program is to firm these up, and actually

1 have them become thresholds for project
2 eligibility under the sustainability aspect.

3 So, what has Energy Commission Staff
4 done to arrive at the four proposed goals. Well,
5 first we sought out the experts and consulted with
6 them on both sustainability and alternative fuels.

7 And I'd just like to recognize Dan
8 Kammen's team at UC Berkeley and especially
9 Sabrina Spatari for feeding us some of the key
10 literature, technical literature, on
11 sustainability. And then later getting to work
12 with Professor Kaffka and Sonia Yeh and others at
13 UC Davis.

14 We've had numerous discussions with our
15 agency partners at the Air Board, California
16 Department of Food and Agriculture, Forestry and
17 Fire, and USEPA Region IX and EPA headquarters.
18 And, again, we've learned a great deal from them.

19 And I probably learned the most from
20 talking with stakeholders and developers. We've
21 just had a series of meetings, small meetings,
22 large meetings, where we can really learn about,
23 you know, what are the innovative folks thinking
24 about in terms of proposing projects for AB-118
25 funding. And it's just fascinating.

1 And it's a great way to test kind of our
2 initial thinking and assumptions on what a
3 sustainability program might be. So I really
4 appreciate stakeholders from all through the
5 continuum who have come and shared their ideas
6 with us.

7 As I said, we've looked at the
8 literature. We have our emerging partnerships
9 with Davis. We convened the sustainability
10 working group, which I think will become an
11 increasingly important forum, again for us as
12 staff, to put out ideas, test ideas, and really
13 see, okay, how do the different pieces of this
14 sustainability framework proposal, how do they
15 match up with what people are proposing. And that
16 will be a great way to get a good, open dialogue
17 and fine tune it.

18 We've also released a series of kind of
19 whitepapers and concept proposals. And this is
20 just a chronology. So we really started back in
21 the spring with our initial meetings with the UC
22 teams and the big conference that was sponsored
23 just before Memorial Day -- I guess it was after
24 Memorial Day. And you can see for yourself, this
25 is kind of our march to where we are today on

1 September 9.

2 So the statute, as I said, you know,
3 requires us to develop the sustainability goals.
4 And the goals will just be one piece of the
5 program. And our intention is for the regulatory
6 phase of what we're doing to have broad and
7 flexible goals. Because these have to apply to
8 the next seven and eight years of continuing
9 investment plans and solicitations.

10 So our state of knowledge is going to
11 evolve; the technologies will evolve; the state of
12 the science will evolve; and our capacity to use
13 sophisticated LCA models like GREET will evolve,
14 as well.

15 So we need regulations that can fix and
16 firm targets and objectives, but that will also
17 have enough flexibility so we can continually
18 adapt to the changing world.

19 The investment plan, I don't know
20 exactly where all the pieces of this are going to
21 fit. But, some portion of it will likely fit in
22 the investment plan.

23 And then in the solicitation, that's
24 where we'll probably see the most specific level
25 of detail for what exactly do we mean by

1 sustainability characteristic, what levels of
2 data, what kinds of data and what types of
3 projects that we're looking for.

4 So our strategic approach here for
5 sustainability has really been to focus on the
6 bioenergy crops and the bioenergy fuels and the
7 biofuels, because that's where the action is. I
8 mean, you know, the old bank robbers went to the
9 banks because that's where the money was. This is
10 where the action is now, indirect land use
11 effects, natural resource effects, pollution. So
12 that's why we're focusing so heavily on this now.

13 What folks decide to do in the
14 investment plan may or may not have a lot to do
15 with biofuels. But that's really where the
16 initial focus is in terms of potential for adverse
17 effect.

18 We know we have to address all the fuel
19 pathways. And for me, personally, I think
20 electric drive is probably emerging as the next
21 one that we're going to tackle on the
22 sustainability basis. And for those of you
23 involved with assessing the environmental impacts
24 of different power generation technologies,
25 there's a lot of work. There's a lot of mischief

1 and damage that can be done, even when you're
2 trying to promote renewables.

3 We focused on California because, one,
4 that's what the law asked us to do, and this is a
5 state program. But also one of our key
6 assumptions is that sustainability means going
7 beyond the current measure of the law. And to do
8 that we're going to be looking to develop new
9 ideas and concepts and our key partners and
10 stakeholders are here in the state.

11 We're also tracking what's going on at
12 the federal level with the RFS and sustainability
13 in the work that USEPA and the other federal
14 agencies are doing. And we're also tracking and
15 really trying to get up to speed and understand
16 what's going on in the international arena with
17 the various certification programs, both out of
18 Europe and Asia.

19 So I'm not quite as prepared as Aleecia.
20 She had this nice thing, you know, stakeholder
21 comments, staff response. So I'm just going to ad
22 lib this part.

23 But a lot of people said, what exactly
24 do you mean, what do you want to measure with
25 sustainability. So here's an attempt to lay out

1 kind of the classic, you know, elements or factors
2 we think about in lifecycle analysis for
3 environmental effects, and also the specific
4 things that the law is talking about.

5 So, the classic ones, GHG emissions.
6 And that's really, that's the bottomline for this
7 program. This is in the statute, criterion toxic
8 emissions, water use, wastewater. Something like
9 state and federal lands, that's really a direct
10 response to what's in the statute.

11 We have our environmental ecological
12 factors. For economic factors, you know, there's
13 both economic development benefits. And, again,
14 that's kind of one of the general criteria we're
15 thinking about with this.

16 But we also have to be mindful of cost
17 to developers for certification and data
18 compilation and data submittal to the Energy
19 Commission. That's a nontrivial factor.

20 And then for social factors we have the
21 public health effects and environmental justice,
22 and potential effects -- disproportionate effects
23 to disadvantaged populations.

24 And, again, when we talk about the full
25 fuel cycle analysis we're talking about feedstock

1 production, distribution and end use. So it's
2 quite a comprehensive look.

3 So some of the key staff assumptions
4 that we developed that led up to the goals. One,
5 sustainability does not mean zero impact; it means
6 a lower impact.

7 And in an earlier presentation in one of
8 the working group meetings, to me that kind of
9 posed the question, you know, if sustainability
10 means you got be something better, and it's better
11 than what.

12 What exactly are we comparing our
13 potential sustainability requirements to. And
14 there's no such thing as a zero impact energy
15 source. One just doesn't -- it ain't out there.
16 So we're really trying to specify what exactly are
17 we comparing these things to.

18 And as I alluded earlier,
19 sustainability, it's really a global-level issue.
20 It's a systems level issue. So focusing purely on
21 project effects or state natural resources is
22 problematic.

23 And as I said, the one highlighted here
24 in green, to us sustainability really means going
25 beyond the status quo. And the statue quo, it's

1 not easy, complying with the state's environmental
2 laws is not an easy thing to do. But that's what
3 we're going to expect of applicants for AB-118.

4 And lastly, and this is a sticky wicket
5 if you think about it a lot, but infrastructure
6 cannot be separated from the fuel pathway. And
7 the classic example there is, you know, a proposal
8 for E-85 fueling station, you know, the available
9 fuel right now is corn-based ethanol.

10 Depending on how the indirect land use
11 numbers play out on GHGs, that fuel may or may not
12 be below the petroleum baseline. May not be below
13 10 percent. Yet the infrastructure is something
14 that a lot of people think is needed. So there's
15 kind of a balancing that will have to happen
16 there.

17 So, some additional staff goals. I
18 talked about flexibility. And, again, this
19 balance. We want to promote sustainability being
20 mindful of the economic effects on the emerging
21 technologies and these emerging companies.

22 Some fuels are going to have a long lead
23 time. And lastly, we just need to continue
24 learning about indirect land use effects, and then
25 food-versus-fuel issues.

1 And the last line -- to say compliment
2 with an "i". So, you know, our salutations to
3 ARB, but I was advised to correct this to
4 complement, and that we want to partner with ARB
5 and have our programs be compatible. But I still
6 applaud what they're doing.

7 (Laughter.)

8 MR. MCKINNEY: Some additional goals.
9 There clearly are some benchmark-caliber systems
10 out there in the international arena. And it's
11 incumbent on us to identify them, learn about
12 them, and see is this something that the state may
13 or may not want to back in terms of getting
14 sustainability fuels into California's market.

15 We're one of the hubs in a global market
16 for these emerging fuels. So we really need to be
17 smart and educate ourselves and work with our
18 international partners.

19 And to that end there's an opportunity
20 to leverage our market size and our environmental
21 ethic, both as illustrated with this
22 Administration and the Legislature, to drive
23 international standards towards systems of
24 certified sustainable production.

25 So that's why we got to where we are.

1 Here is where we are. And I hope you'll bear with
2 me, I hate reading long slides, but this is a
3 workshop on the regulatory language. And every
4 word, as our staff counsel always reminds us,
5 every word counts, so the language is important.

6 So, goal number one relates to
7 greenhouse gas emission reductions. Quote:

8 "The first sustainability goal shall be
9 the substantial reduction of GHG emissions to help
10 meet California's 2020 and 2050 targets, as
11 defined in section 38550 of the Health and Safety
12 Code and Governor's executive order."

13 "To that end the Energy Commission, or
14 its assigned policy committee, shall identify and
15 support fuel and technology options with the best
16 potential for meaningful reductions in
17 transportation-related greenhouse gas emissions."

18 Goal number two has to do with natural
19 resource protection and environmental performance.
20 Quote:

21 "The second sustainability goal shall be
22 to protect the environment, including all natural
23 resources, from the environmental effects of
24 alternative and renewable fuel development, and
25 promote the superior environmental performance of

1 alternative and renewable fuel infrastructure and
2 vehicle technologies."

3 "Towards that end, we shall recognize
4 and support production of fuels that are more
5 environmentally efficient and less environmentally
6 damaging in current standard practices for the
7 production of petroleum fuels, production of basic
8 agricultural commodities and extraction of natural
9 resources when measured on a lifecycle basis."

10 Those three baselines are important.
11 Again, what sustainability, in my mind, means
12 doing something better than the status quo. The
13 status quo are these series of standard practices,
14 and these are the three areas where fuels come
15 from at this point.

16 Some of these baselines are well
17 defined, some are not. There's a lot of work to
18 do still on these. But this is what we're
19 comparing, you know, something that's more
20 sustainable to.

21 And then part B of this goal:
22 "Recognize and support production practices for
23 alternative and renewable fuels, the respective
24 physical carrying capacity limits of natural
25 systems at the local, regional and global scale."

1 Three is certification of sustainability
2 practices. The goal is to support certified
3 sustainable production of alternative fuels. To
4 that end, identify and promote practices and
5 programs that support certified sustainability
6 production of alternative and renewable fuels to
7 provide California markets with low GHG emission
8 fuels while providing economic benefits to the
9 areas in which production occurs.

10 Consult with the ARB and stakeholders
11 through the advisory committee to identify
12 internationally recognized sustainability
13 certification programs.

14 Goal four: Avoid unanticipated
15 consequences. The fourth goal shall be to
16 minimize or avoid the risk of alternative and
17 renewable fuel production causing unanticipated
18 consequences. The Commission or its assigned
19 policy committee shall use adaptive management,
20 continuous research, use of the full fuel cycle
21 modeling tools, and establishment of a database
22 for post-project environmental and economic
23 monitoring for projects funded out of this program
24 to insure that unanticipated consequences to the
25 environment, food supplies and social welfare will

1 not occur.

2 We have four definitions that are
3 included in the draft regulatory language. So,
4 state natural resources, forest lands, range
5 lands, waters and watershed, biodiversity
6 resources for fish, wildlife and flora and their
7 habitats, coastal lands and waters, minerals and
8 prime agricultural lands.

9 State and federal lands include surface
10 and subsurface water bottoms and tidal zones,
11 lands owned wholly or in part by any branch or
12 division of the state or federal government. That
13 covers a lot of real estate actually.

14 Environmental performance denotes the
15 relative environmental efficiency and levels of
16 environmental impacts from industrial facilities,
17 agricultural operations or natural resource
18 extraction activities.

19 Facilities with high levels of
20 environmental performance use fewer natural
21 resource and energy inputs per unit of fuel output
22 and have lower environmental impacts than low
23 environmental performing facilities.

24 And last, carrying capacity denotes the
25 ability of an air basin, watershed, ecosystem or

1 landscape to withstand resource extraction or
2 absorb pollution loading until its basic functions
3 are impaired.

4 So I'll stop reading slides. I know
5 it's dry, but again, the words count there, so we
6 really are looking for your input and comment on
7 the regulatory, the four proposed regulatory
8 goals.

9 And I want to move quickly now just
10 through a preview of how this program might all
11 tie together.

12 So, again, staff's effort here is just
13 to provide a preview of how this all might fit
14 together over the next six months as we work
15 towards our April goal for getting this program up
16 and running.

17 So, first off, as I've alluded before,
18 we're going to set high standards for
19 sustainability. In our view, the goal here is not
20 to fund the status quo. It's really to identify
21 the best and the brightest, the gold standard
22 projects, those that are really pushing innovation
23 and have something that can be replicated and
24 shared within the state or the national level.

25 So, we used words like exemplary in

1 their sustainability and their environmental
2 performance.

3 So the way this plan might fit together
4 is that there are four possible pieces. And I'm
5 going to use a lot of conditional language here
6 because this is really a work in progress.

7 I personally don't know where every
8 piece of this is going to fit into every piece of
9 our formal program, but I think my job, as staff,
10 is to help get the ideas going, make sure we get
11 the ideas right, and we'll figure out how all the
12 pieces come together.

13 So the investment plan is going to set
14 the funding priorities for the projects that meet
15 program goals. And there's a possibility that
16 there will be some discrete funding categories for
17 areas of sustainability research.

18 The second part is to set up some what
19 we're calling environmental performance measures.
20 And the idea here is to have something that will
21 serve as screening criteria for projects. We're
22 going to have a bright light and there's got to be
23 some good work demonstrated that a project is even
24 eligible to compete for funding.

25 And this is in response to some

1 stakeholder comments about, you know, let's use
2 sustainability as a screening tool. So this is
3 one way to get at that.

4 And for those of you that have reviewed
5 the draft, working draft staff paper, we propose
6 building those minimum environmental performance
7 measures on those preference criteria in the
8 statute.

9 Third will be the four sustainability
10 goals that we're talking about today. And the
11 fourth element are the sustainability
12 characteristics that we first proposed in the July
13 8 concept paper. They've evolved somewhat.

14 And the goals and characteristics really
15 work together. And in all likelihood they will
16 evolve into some type of evaluation criteria or
17 indicators or what.

18 And we're really thinking of this not as
19 a screening system; it's not a second-level
20 screening system; it's not a punitive system.
21 It's a scoring system. So a project meets a
22 threshold, and then you see how many
23 sustainability points you can get.

24 And in putting this together, again we
25 are trying to respond to stakeholder comments of,

1 you know, how does it look from my perspective.
2 You know, Commission Staff has talked a lot about
3 what we need to do from a statutory, as legal
4 perspective. But we try to put ourselves in the
5 applicant's shoes. So, how do I think through how
6 my project fits into the sustainability element of
7 the AB-118 program. So this is one possible
8 approach.

9 So, again, so goal number one, you know,
10 meet the 2020, 2050 targets. And I think it's
11 going to be 29 percent and 80 percent below the
12 1990 baseline. Tough, tough goals.

13 So, for the characteristics, the first
14 one, so minimum 10 percent reduction in GHG
15 emissions from the petroleum baseline for direct
16 and indirect land use effects, whatever those
17 numbers may turn out to be.

18 And then second is for us to recognize
19 the potential of bridging technologies or projects
20 with long incubation periods. And that's intended
21 to kind of deal with this tension about, you know,
22 indirect land use, greenhouse gas emission
23 numbers. Some projects may be low performers here
24 in 2008, 2009. They may be very high performers
25 down the road. So this is a way to help recognize

1 those projects.

2 The second goal on protecting the
3 environment and natural resources and promoting
4 superior environmental performance. This is
5 really the longest list of what we're calling
6 characteristics.

7 And, again, the idea here is, you know,
8 projects that exhibit or contain these attributes
9 or characteristics might have the best chance of
10 meeting sustainability goals and, ergo, be the
11 most competitive for a funding grant.

12 So, maximizing the wastestream of
13 feedstocks, efficient use of natural resources,
14 less environmental damage, again, in those three
15 baselines. Test and demonstration projects for
16 cultivation of purpose-grown energy crops with
17 best management plans. The idea there is to work
18 either with Steve Kaffka's team at UC Davis, or
19 other, you know, equally credible institutions to
20 develop best management plans for purpose-grown
21 energy crops.

22 Use recognized certification and
23 reporting systems. Try to give credit to biofuel
24 crops and feedstocks that are uniquely suitable to
25 our climate constraints, resource constraints,

1 water constraints, soil constraints here in
2 California.

3 Use extant agricultural lands. So,
4 again, the idea there is, you know, we want to see
5 projects that are within the existing agricultural
6 footprint and not going beyond.

7 Renewable energy, cogeneration use in
8 production is a good thing, as are the creation of
9 co-benefits to natural resources.

10 For goal number three, the
11 characteristics that support certified sustainable
12 production of alt fuels. So, again, recognize
13 best available, most sustainability production
14 methods and practices. And conceptually that's
15 similar to best available control technology. If
16 there's a technology that's proven it's
17 economically viable, that advances environmental
18 performance, that's the benchmark. That's the
19 same idea here.

20 And as I said, this number 12 is kind of
21 a repeat of an earlier one. So recognize,
22 internationally recognize certification and
23 reporting systems.

24 And the fourth goal we've added a
25 characteristic to minimize risk of unanticipated

1 consequences. So recognize projects that avoid
2 disproportionate impacts to disadvantaged
3 communities and that create economic benefits.

4 And I think that's the end of the
5 presentation. So, with that, I don't know,
6 Commissioners, if you want to lead the public
7 discussion or if you'd like me to, but that
8 concludes the formal presentation.

9 PRESIDING MEMBER BOYD: Well, thank you,
10 Jim. And I think we'll just call upon the public
11 for any questions you may have of the
12 presentation. We do have one request from UC
13 Davis to make a presentation, and we'll hold that
14 until we get clarifying questions from the
15 audience. Anybody?

16 MR. SCHUPARRA: Kurt Schuparra with
17 California Strategies. I have one question for
18 Jim in regard to the slide presentation.

19 On this sustainability characteristics,
20 the slide at the bottom of page 12, and actually
21 you allude to it in the slide above that, too.

22 You say that this is not intended as a
23 scoring system and not a screening or punitive
24 system. Well, I mean I'm just trying to figure
25 out if it's a scoring system, assuming it's like

1 Olympic competition and not gold, I'm assuming a
2 higher score is better. And by default a lower
3 score while not maybe, strictly speaking,
4 punitive, is not what I would want to have if I
5 was being evaluated.

6 So, could you just elaborate a little
7 bit on, you know, this scoring system and how it
8 would work in the process as you envision it?

9 MR. MCKINNEY: A couple of points.
10 That's a good question. This is very much a work
11 in progress, so we'll have this discussion over
12 the next few months.

13 But the idea here is that, I mean
14 there's a lot of great technology; there's a lot
15 of really interesting work being done in
16 California. Some are going to be more sustainable
17 than others. And we're not trying to disparage
18 something that may not meet our sustainability
19 standards, but still make just excellent
20 contributions to the marketplace for alternative
21 fuels and alternative vehicle technologies.

22 Let me say, too, just, you know, as a
23 dad, you know, --

24 (Laughter.)

25 MR. MCKINNEY: -- if -- this is

1 reference to my son, five years old, you know, if
2 he doesn't quite hit the mark, I don't say, oh,
3 man, you really blew it. I say good job, we'll
4 get there next time.

5 MR. SCHUPARRA: But in terms of all the
6 factors that would be considered --

7 (Laughter.)

8 MR. SCHUPARRA: -- and I really
9 appreciate that analogy, and very very effective
10 rejoinder.

11 (Laughter.)

12 MR. SCHUPARRA: But, I mean, you know,
13 in the pool of factors that will be considered for
14 projects, this is one of them. And --

15 MR. MCKINNEY: Personally I can say, as
16 staff, this isn't a cakewalk. These are going to
17 be tough.

18 MR. SCHUPARRA: Yeah, all right.

19 MR. MCKINNEY: We're going to be testing
20 people. And I think that's why we need to have
21 this continuing dialogue. And I appreciate, you
22 know, you've attended, I think, all of our working
23 group meetings and had good comments.

24 MR. SCHUPARRA: You're such a compelling
25 presenter, I just don't want to miss.

1 MR. McKINNEY: Thank you. But this is,
2 I mean there's going to be a lot of fine tuning
3 for this system. And, again, we've got to find
4 that balance between identifying kind of the gold
5 standard projects, but not suffocating everything
6 because it has environmental impacts on one of
7 these many attribute areas. So, thanks.

8 Let's see, I think we had somebody next
9 on the WebEx. I'm sorry, excuse me. That was
10 Noelle --

11 MS. CREMERS: Cremers, yes.

12 MR. McKINNEY: -- Cremers, okay.

13 MS. CREMERS: Noelle Cremers with the
14 California Farm Bureau.

15 MR. McKINNEY: Great. You're up.

16 MS. CREMERS: And I have a few questions
17 and some comments. And I don't know the process,
18 if I should just skip the comments and just ask
19 questions at this point.

20 But, my first question. In the draft
21 regulation there's a statement that says,
22 recognize and support production practices for
23 alternatives and renewable fuels that respect the
24 physical carrying capacity limits of natural
25 systems at the local, regional and global scale.

1 Can you explain what you'll be looking
2 for in terms of physical carrying capacity limits
3 of natural systems?

4 MR. MCKINNEY: Yeah, it's a very good
5 question. The idea here is that there's a
6 functionality to ecosystems, to air basins, to
7 watersheds. And that functionality is, you know,
8 is the system healthy enough to support kind of
9 the life and the processes that were there
10 originally.

11 So in an aquatic system, in a river,
12 you're going to have a certain amount of
13 environmental damage, and you're going to have a
14 certain number of native species, you know,
15 working to survive and reproduce and have, you
16 know, sustainable populations of that particular
17 species.

18 So if you load in too many nutrients, if
19 you warm up the water too much, if your DO levels
20 are too low, if you've got toxics in there, at
21 some point that ecosystem collapses and you don't
22 have the native fishery or the native species
23 anymore.

24 So that's the idea is kind of this
25 tipping point notion.

1 MS. CREMERS: So, I guess, I mean I
2 understand it in the biological. It's just hard
3 to see exactly how you'll be making decisions as
4 to what projects to fund for alternative and
5 renewable fuels.

6 MR. MCKINNEY: Sure. I mean since
7 you're with the Farm Bureau, I mean just for
8 example, and I'm just going to make a hypothetical
9 here. You know, if there's a certain biocrop
10 that's proposed and it goes beyond the existing
11 footprint and it dumps a lot of nutrients into a
12 watershed or a water basin; and say that water
13 body's already on the 303(d) list of impaired
14 water bodies the USEPA puts out, that would not
15 score very well in terms of sustainability.
16 Because it's adding incremental damage to an
17 already impaired ecosystem.

18 MS. CREMERS: Okay. And then my other
19 question, there was a statement in the
20 presentation about the use of existing ag lands,
21 not wanting to go beyond what is used today.

22 And I just had a question about fallowed
23 land. I mean we have areas of the state that are
24 being fallowed because of the current water supply
25 crisis. And if, in the future, we were able to

1 identify crops that could produce biofuels that
2 were very low water users, that then we might want
3 to plant on those fallowed ag lands.

4 Would those lose points because that
5 land is currently being fallowed, and so it isn't
6 classified as ag land?

7 MR. MCKINNEY: That's a great question.
8 And you'll see that there's a question mark on
9 that sub-bullet. It's characteristic number 8.
10 Good question, and we need to talk about that some
11 more.

12 MS. CREMERS: Okay.

13 MR. MCKINNEY: Mike, did you have a
14 comment?

15 MR. SMITH: Jim, I'd like to expand on
16 your response to her previous question. While the
17 project that might create additional loading on an
18 ecosystem as proposed, might score low, I think
19 part of what we're trying to achieve in this
20 program is establishing the means for the policies
21 by which such projects can improve their
22 environmental performance.

23 The product that that project might
24 produce could be very important to California in
25 meeting other objectives, greenhouse gas

1 objectives, et cetera.

2 To the extent that those projects can
3 improve their environmental performance in other
4 respects, and you mentioned the loading of
5 streams, I think that would be an important
6 objective for this program, is to find ways to
7 improve those projects, and to find means to
8 mitigate those impacts, improve the environmental
9 footprint and allow those projects to move forward
10 in a more environmentally safe and sustainable
11 way.

12 I think we have to keep in mind that
13 this is public money. And I think you mentioned
14 that in one of your early slides. This is an
15 incentive program using public dollars. And we
16 should set a very high standard.

17 It doesn't preclude projects that
18 otherwise might happen from being funded elseways
19 and being built. But, for projects that want our
20 financial support, I think we should endeavor, and
21 the message we should be sending to stakeholders
22 is we should endeavor to find those -- to set the
23 bar high.

24 And I think in the long run that will
25 help the industry that we're trying to foster.

1 So, anyway, just an added comment.

2 MR. MCKINNEY: And, Noelle, I'd like to
3 add, as well, with the example you gave about, you
4 know, would a proposed project on fallowed ag
5 lands be eligible. If, you know, you're talking
6 about west side, you know, Westlands Water
7 District, San Joaquin Valley, and it's something
8 that might create, you know, what we're calling
9 restoration co-benefits, if it might help with
10 remediation or reducing the salt load, that would
11 be something that we would be very interested in
12 looking at.

13 MS. CREMERS: Okay. And then my last
14 question. Will there -- do you foresee having
15 some sort of comparative measurement against the
16 California production versus production outside of
17 California, either nationally or internationally?

18 I know historically California has set
19 very very high environmental standards for
20 production. And that it can drive production
21 outside of the state into areas that we, as
22 Californians, wouldn't like to see environmentally
23 degraded, Yet we still consume those products.

24 And so I'm wondering if there will be a
25 way to kind of provide points in the system to

1 say, look, you are doing these good things and we
2 want to see it done well in California, instead of
3 getting ethanol from Brazil, or some of those.
4 Will there be ways to measure that benefit?

5 MR. MCKINNEY: Let me try to rephrase
6 your question. So I think you're saying that if,
7 say, for example, we can help comply, say, with
8 elements of the bioenergy action plan that
9 encourage the state to have certain percentages of
10 alternative fuels produced here in the state. Are
11 you asking if that can be done in a less
12 environmentally damaging way than say
13 international feedstocks, that you would recommend
14 that we take a good look at that?

15 MS. CREMERS: Right. I mean I know
16 historically with California forest products
17 industry, we've set incredibly high environmental
18 standards for that industry. And so we've limited
19 California production, but we haven't limited the
20 consumption of wood in the state.

21 And so instead we're moving some of the
22 grading practices that have been banned in
23 California to other parts of the country and the
24 world. And so I'm hoping that there would be a
25 way to insure that that doesn't happen under this

1 system.

2 I know you've talked a lot about we want
3 to make sure that we're above and beyond the
4 baseline, the environmental baseline in
5 California. But I think it's also important to
6 look at if we don't have the projects here in
7 California, what might the environmental impact be
8 if it was built elsewhere.

9 MR. MCKINNEY: So I think the technical
10 word for what you're saying is externalization.
11 We do not want to export our environmental damage
12 so we can have clean fuels to meet our state
13 program goals.

14 I'm speaking personally as staff, but I
15 don't think that that's the intent of anybody
16 associated with this program. And that's why
17 we're having some of our goals and characteristics
18 kind of stretch a broad umbrella that's really
19 global in scale.

20 But there's a lot of issues that we need
21 to get up to speed on technically to have informed
22 recommendations from staff on those international
23 programs.

24 MS. CREMERS: Okay, thank you very much.

25 MR. MCKINNEY: Thank you.

1 MR. STEPHENS: Good morning. My name's
2 Jeff Stephens; I'm with Propel Biofuels. Propel
3 builds, owns and operates retail clean fueling
4 points.

5 First of all I want to commend the
6 Commission and the CEC Staff for all the work
7 that's gone into developing these regulations. I
8 think there's a great piece of work here, and I
9 think it's going to move the renewable fuels
10 industry forward.

11 That said, I think there are a few
12 things I'd like to comment on. Some of the goals
13 and the regulations.

14 One is initially on goal four to avoid
15 unanticipated consequences, I think one of the
16 concerns I have is that in trying to avoid
17 unanticipated consequences there's a potential for
18 over-compensating. And one of the areas where I
19 could see a potential for over-compensating is in
20 the lifecycle analysis.

21 As Jim McKinney has pointed out, the
22 plan is to have indirect land use and direct land
23 use effects in the lifecycle analysis. And as a
24 scientist, I'm a little concerned about the level
25 in the state of the science now, and right now in

1 the land use, especially in the indirect land use
2 effects.

3 There's not a lot of data out there on
4 what those land use effects are. And almost no
5 data on how to mitigate those if there are land
6 use effects. So that's just sort of a comment on
7 the -- a cautionary comment on using data that's
8 not scientifically ready to be used in that way.

9 So, I'm hoping that there will be a
10 chance as those lifecycle analyses are developed,
11 that there will be a chance to look at the
12 datasets that are being used to develop those
13 indirect land use effects.

14 A few other specific comments. One is
15 to sort of extend the question that was brought up
16 a little bit earlier, the comment on the extant
17 agricultural lands and what those are.

18 In the September 4th draft there's some
19 language that only historically -- that
20 agricultural lands that are only historically used
21 for tilled, irrigated agriculture are open to
22 biofuels production.

23 While I know that for the most part
24 tilled agricultural land is the major way that
25 agriculture takes place in California, it seems

1 that that definition of using only tilled
2 agricultural -- or tilled, irrigated agriculture
3 sort of limits the ag base and excludes any dry
4 land, land that has been used historically in dry
5 land rather than tilled, irrigated land.

6 So, hopefully we can expand that and
7 refine that definition so that it doesn't unduly
8 restrict what land can be used.

9 MR. MCKINNEY: And, Jeff, just if I
10 can -- I just want to make sure I understand your
11 point here. So you're saying that there are areas
12 in California and the west where there have been,
13 you know, dry farming practices or maybe pasture
14 lands that would fall out of eligibility because
15 of this definition of the extant footprint?

16 MR. STEPHENS: Yeah, that's correct.

17 MR. MCKINNEY: Okay.

18 MR. STEPHENS: Yes. Right now it says
19 it's only -- that it was only land that was
20 historically used for tilled, irrigated
21 agriculture. And that seems to be limiting in
22 my --

23 MR. MCKINNEY: Okay, thanks.

24 MR. STEPHENS: -- in my sense.

25 And the second is the exclusion of

1 conservation reserve program lands. And I'm from
2 Washington State. And I understand a little bit
3 about how the conservation reserve program has
4 been used, at least in Washington, maybe mis-used
5 to some extent.

6 But, if you look at the goals of the
7 conservation reserve program, in some sense
8 there's a lot of land, at least in Washington
9 State, that was put into the conservation reserve
10 program because it wasn't necessarily profitable
11 at the economics of \$3 or \$3.25 per bushel of
12 wheat.

13 But that land might not have real high
14 conservation value. So the farmers would actually
15 put land into the conservation reserve program
16 because they couldn't make enough money on it in
17 the current economic situation.

18 A lot of that land might be usable for
19 producing renewable fuel feedstocks. And if those
20 renewable fuel feedstocks were produced in a
21 sustainable way with best management practices,
22 that land that's in that conservation reserve
23 program may actually have more value to the public
24 as in producing biofuels, rather than having low
25 conservation value.

1 So, rather than just completely negate
2 the fact that you can't use conservation reserve
3 plans, I think we ought to think about ways that
4 some of those low-value conservation lands that
5 are in the program might be used for biofuels
6 production.

7 And then on the sustainability goal
8 number three, recognizing best available and most
9 sustainable production methods and practices. As
10 a retailer of fuel, and from our experience in
11 retailing renewable fuel in Washington State, I
12 find it a little difficult to envision a storage
13 and distribution infrastructure that is capable of
14 managing a mix of renewable fuels, ones that are
15 designated as best available and most sustainable
16 and others that might not be quite as sustainable.

17 It's sort of like the idea of having an
18 infrastructure for petroleum that designates crude
19 oil, or diesel fuel that's produced from crude
20 oil, pumped in California as having a higher value
21 than crude oil that comes from, or diesel fuel
22 that's made from crude oil from Venezuela.

23 The infrastructure is just not capable
24 of segregating those or finding a way to designate
25 which ones are more sustainable than the others.

1 So I think you have to think a little bit about
2 how that's going to happen on a practical basis,
3 and what the ramifications of designating a fuel
4 as being made from best available and most
5 sustainable. So that's something that I haven't
6 been able to figure out how that's going to
7 practically work.

8 And secondly, when you -- as you
9 recognize or label a fuel as best available, most
10 sustainable, you could be putting -- the economic
11 realities are such that the fuels that are
12 produced using those best available, most
13 sustainable practices may end up being much more
14 expensive than fuel that's produced another way.

15 And such that that fuel, even though
16 it's designated best available, most sustainable,
17 may not be economically viable in the marketplace.
18 So you can produce a fuel that way, but it may not
19 be viable in the marketplace. So those are a
20 couple of consequences that I think need a little
21 bit more thought as to how that's going to play
22 out in the marketplace.

23 Thank you.

24 MR. MCKINNEY: And, Jeff, I know you've
25 participated in a lot of our discussions, so I

1 appreciate the kind of information you're helping
2 put in the record, really helps us, again, think
3 through and fine-tune some of these concepts.

4 I did want to say that on the one, the
5 idea for, you know, best available, most
6 sustainable, it's not a regulatory standard. It's
7 a standard to help qualify for public money under
8 this incentive program. So it's kind of an
9 important nuance there.

10 MR. STEPHENS: Right, okay. Thanks.

11 ASSOCIATE MEMBER DOUGLAS: Yes, and I'd
12 like to step in and emphasize that, as well. And
13 I almost did with the previous speaker.

14 We're not talking about regulations that
15 limit biofuel production and bioenergy crops in
16 any way. We're not empowered to do that. We're
17 not asked to do that by any legislation.

18 What we're doing is evaluating the
19 sustainability mandate under the statute. Looking
20 at sustainability concerns that have been raised
21 with energy crops and thinking about what can be
22 done.

23 The market will determine whether there
24 is a large or small or no energy crop footprint in
25 California. And what we're looking at is what do

1 we do to increase the sustainability and the long-
2 term viability of such an industry, should there
3 be one. Should there be a market for it.

4 So, I just want to emphasize, this isn't
5 a regulatory program. If we say you lose points,
6 or you lose eligibility for proposing a project on
7 conservation reserve land, that doesn't mean that
8 nobody can convert their conservation reserve land
9 to an energy crop.

10 It just means that for the purposes of
11 looking at our program you score lower, or you
12 don't meet a threshold for testing of best
13 management practices, or for testing a
14 certification or a tracking system, or whatever we
15 might be looking at in the solicitation.

16 MR. STEPHENS: Right. And I guess my
17 only thought on that is that -- and my experience
18 is with building infrastructure at the retail
19 level and dealing with the wholesale
20 infrastructure, as well.

21 If there's not sufficient funds
22 available to develop that infrastructure because
23 the AB-118 restrictions or regulations have
24 decreased any, or limited the amount of capital
25 that goes into that, then that'll have a ripple

1 effect on the entire industry.

2 So if the regulations are such that you
3 don't put capital into the infrastructure that's
4 necessary for the fuels to get to the consumers,
5 then in the long run when those more sustainable
6 practices come along, you know, when the 2.0, you
7 know, feedstock that's very sustainable comes
8 along, that infrastructure may not be there in
9 order to bring those fuels to market.

10 Now, I know that to some extent there is
11 a provision in there, that in the guidelines that
12 talks about those types of issues where you're
13 looking at developing infrastructure waiting for
14 that 2.0 feedstock. But, there are ramifications
15 to having, you know, those regulations that limit
16 investment into that infrastructure.

17 So, thank you.

18 MS. FUGERE: Hi. My name's Danielle
19 Fugere from Friends of the Earth. And I wanted to
20 thank you for a great presentation, and especially
21 for the framework document. Because I think that
22 helps put in perspective what the long-term vision
23 is. And I think it certainly helps me kind of
24 frame where we're going.

25 So I just had a few comments with regard

1 to the regs, and the framework. And I'll keep it
2 pretty short. And the bulk of our comments will
3 be in written.

4 But, first with regard to the way the
5 regs frame sustainability. The first paragraph,
6 is it A, and it's not here in your, it's not in
7 your sheet.

8 MR. MCKINNEY: Right.

9 MS. FUGERE: Essentially A says -- let
10 me grab my notebook. Sorry. I'm going to suggest
11 just a very minor language modification which
12 deletes the word state from the initial paragraph.

13 And so it would just say, it would
14 delete state natural resources and it would say
15 natural resources including state and federal.
16 Because I think having the state in that very
17 first paragraph then modifies everything coming
18 after it. And I think has a potential to limit
19 all of the goals to mean that you can only reach
20 state resources.

21 So I don't know if you have the
22 language?

23 MR. MCKINNEY: I do, so just so
24 everybody can follow the discussion of the point
25 Danielle's raising, so for subparagraph A, this is

1 page one of our proposed regulations, subparagraph
2 A, and I think --

3 MR. SMITH: Jim?

4 MR. MCKINNEY: Yes.

5 MR. SMITH: For purposes of the audience
6 could you call up the --

7 MR. MCKINNEY: It's not on here.

8 MS. FUGERE: So it's on page 1 of the
9 proposed draft regulatory language. And
10 subparagraph A. We don't have a section yet.
11 Under sustainability goals.

12 MR. MCKINNEY: So it's the third line
13 there?

14 MS. FUGERE: Right.

15 MR. MCKINNEY: So do not adversely
16 affect the state's natural resources including
17 state and federal lands?

18 MS. FUGERE: Right.

19 MR. MCKINNEY: So you're proposing to
20 strike the word state's?

21 MS. FUGERE: Right, so that --

22 MR. MCKINNEY: Okay.

23 MS. FUGERE: -- to promote alternative
24 and renewable fuels and vehicles that do not
25 adversely affect natural resources including state

1 and federal lands.

2 MR. MCKINNEY: Okay.

3 MS. FUGERE: We also believe with regard
4 to the way the regulations are framed, they're
5 framed as goals. But we believe that there should
6 be some basic minimums in the regs, themselves.

7 So there should be some sustainability
8 requirements even if it's just that CEC will apply
9 sustainability requirements. Because right now
10 it's very much, it's goals, but there is no
11 requirement to actually apply sustainability, at
12 least in the regs.

13 ASSOCIATE MEMBER DOUGLAS: Danielle, let
14 me ask you about that. I think in Jim's
15 presentation he said that we're looking at some
16 threshold requirements to enter into the program,
17 and we're also looking at, you know, the scoring
18 system, ways to score even higher.

19 And are you saying that that is not
20 reflected in the language of regulations? That
21 there would be any threshold requirements, for
22 example?

23 MS. FUGERE: Right. I don't think that
24 it's -- it's not set forth in the regs. The very
25 title, themselves, are goals. And the language is

1 fairly generic in terms of it's just a goal.

2 And so there is no statement saying we
3 will meet minimum sustainability requirements, a
4 simple statement such as that.

5 I mean we, ideally, would like to see
6 the minimum thresholds in the regs, themselves.
7 So stating that 10 percent greenhouse gas
8 reduction is a minimum threshold requirement.

9 We'd also like to see the federal EISA
10 requirements in there, as well, as minimum
11 requirements. If the federal government can -- we
12 think that this should also be applicable to the
13 state government.

14 So we would like to see the minimum in
15 there. And then those could be built on. So, for
16 instance, 10 percent being the minimum with -- and
17 also noting that that will be increased over time
18 to meet the state's goals of reducing greenhouse
19 gas emissions.

20 MR. BABULA: I have a couple comments on
21 that over here. This is Jared, staff counsel. A
22 couple things. First, any law that's already out
23 there, this program would have to follow. So, if
24 you're concerned about not having an endangered
25 species issues in there, these projects would have

1 to follow that.

2 MS. FUGERE: I'm sorry, EISA meaning the
3 federal --

4 MR. BABULA: Oh, you were talking --

5 MS. FUGERE: -- renewable fuel standard.

6 MR. BABULA: Okay. The other thing,
7 too, though, is if you look at the AB-118
8 language, it's also described as sustainability
9 goals, establish sustainability goals. So the
10 language in the statute, itself, uses that term
11 goals.

12 And if you notice in our regs we do say
13 that, in that same section you were talking about,
14 section A, the sustainability goals described in
15 this section shall guide the program.

16 So, the shall indicates that these goals
17 that we're developing will be a guide. And it's
18 not an optional thing. These are going to be part
19 of an over-arching umbrella that we will use to
20 help review, in the solicitation process, look at
21 projects.

22 So combining the actual statutory
23 language of these being goals, and the way we're
24 going to apply both the investment plan and the
25 solicitations, it will encompass more than just --

1 I think you're kind of concerned that these are
2 more like guidelines or something less --

3 MS. FUGERE: Or aspirations, right.

4 MR. BABULA: -- right?

5 MS. FUGERE: Yes.

6 MR. BABULA: Something less. And so
7 between the three parts, the statute, the regs and
8 the investment plan and solicitation, it should be
9 more concrete. But definitely we will look at
10 your suggestion.

11 MS. FUGERE: Okay. And I think it is
12 becoming much more concrete. But with regard to
13 the solicitation, I think I've raised this before,
14 but we're still concerned that maybe in the
15 regulations could describe how there will be
16 public participation in developing the
17 solicitation criteria.

18 So that we know that the public will be
19 guaranteed a right to participate. Because it
20 sounds like a lot of the specificity is going to
21 come not in the investment plan, but in the
22 solicitations.

23 And so just as we've had over multiple
24 workshops, I've noted that as you start discussing
25 things in more, not at the 10,000-foot level of

1 the regs, but at the more specific level, a lot of
2 good examples come up.

3 And so I think that it's really
4 important that the public participate in the
5 development of that solicitation criteria, itself.
6 Because, you know, very much informed by specific
7 examples and by participation. So I just would
8 like to see that, some kind of statement that that
9 will occur.

10 MR. MCKINNEY: And, Danielle, if I could
11 go back to your previous comment about kind of the
12 formal linkages between the goals and the
13 investment plan and the solicitation.

14 With the subparagraph A that you
15 commented on initially, and I regret we didn't put
16 that in the presentation here. But the second
17 sentence there in subparagraph A was really
18 intended to create a more formal linkage, again,
19 between the goals and the investment plan and the
20 solicitations.

21 And this is, you know, in response to
22 the comments from yourself and others. And I
23 think it's a fair comment. So this was our
24 attempt to address that concern.

25 MS. FUGERE: Um-hum. Okay. I would

1 like to see a little bit more specificity, even in
2 this sentence.

3 MR. MCKINNEY: Um-hum.

4 MS. FUGERE: But I think definitely
5 we're getting there in terms of having some kind
6 of comfort of what's coming next and how we're
7 going to participate.

8 Again, with regard to the goals in the
9 certification programs, it's kind of like I read
10 that and said and do what with the certification
11 programs. So, again, I assume this is going to
12 come later, but certification programs, how is it
13 going to guide the investment or the activities?
14 So it just seemed to be a bit of a, okay, we're
15 you're -- the language was very broad.

16 Support certified sustainable
17 production. You know, my suggestion would be to
18 say you will utilize certification standards, or
19 something more specific than just support
20 certification. Because it's not clear what that
21 means.

22 And I think that's the general comments
23 that we have at this time. So we really
24 appreciate the additional description in the
25 framework, and the regs are starting to be filled

1 out. And so we'll give you just specific comments
2 that we would add, but we appreciate where we're
3 at right now.

4 Thank you.

5 MR. SMITH: Danielle, if I might take
6 this opportunity just to respond to a comment you
7 made about public participation. And I want to
8 expand my comments to cover a little bit broader
9 process to address something that Mr. Stephens
10 raised in his first comment about sustainability
11 and -- excuse me, indirect land use impacts and
12 how we will go about the process of measuring
13 that.

14 We have said before, and I think your
15 comments are very good points that we need to
16 consider in terms of what the regulation language
17 ought to look like. We've been trying to keep it
18 fairly general, but we've, in the past, described
19 this sort-of three-tier process.

20 The process, the next step is to begin
21 to reflect sustainability goals and sustainability
22 issues into our investment plan. And then
23 ultimately when we develop, when that is adopted,
24 the Commission will hold public forums on actual
25 funding mechanisms, and how we go about

1 incorporating, even at a lower level detail -- or
2 excuse me, a greater level of detail, excuse me --
3 into the actual solicitations or interagency
4 agreements or whatever funding mechanisms that the
5 Commissioners deem appropriate for the funding,
6 depending on the project.

7 So we're committed to having that sort
8 of, that public engagement. We --

9 MS. FUGERE: Is that -- are you talking
10 about a solicitation-by-solicitation input? Or is
11 this going to be something that's at a higher
12 level, like the workshops that we're doing now?

13 MR. SMITH: Well, I think it'll be --
14 well, that's a good question. We originally
15 envisioned that it would probably be at a little
16 bit higher level, so that when we complete the
17 investment plan the next step we want to do is
18 turn around quickly and engage the public and
19 stakeholders into commenting on the mechanisms
20 that we would employ to actually solicit funding
21 or award funding through this program.

22 And so in that effort we would also,
23 just like we've been doing through the regulations
24 and through the sustainability working group,
25 through the investment plan process, we would

1 continue that public engagement through the
2 solicitation phase.

3 So that you folks, your colleagues and
4 members of the public have an opportunity to see
5 what we're proposing in terms of criteria
6 regarding sustainability, as well as other factors
7 that we would employ in evaluating projects.

8 So we're committed to keeping them very
9 public and transparent process moving forward.

10 The other thing I just wanted to point
11 out, too, and, Mr. Stephens, your comment about
12 indirect land use issues and the level of science,
13 the status of the state of science regarding it.

14 It's a very important question to us.
15 And it's one that is still a very young science.
16 We are -- I just wanted to assure you and others
17 that we are working very closely, not only with
18 our colleagues at the Air Resources Board, but the
19 UC university system, and other entities, to try
20 to understand this more clearly.

21 We certainly are sensitive to applying
22 indirect or direct land use criteria in evaluating
23 projects and in designing this program.

24 Just to be clear, I want to just take a
25 minute to lay out how we're going about that. We

1 did the 1007 report which we and the Air Resources
2 Board jointly adopted last December. That was the
3 first attempt at doing a full fuel cycle
4 assessment on a wide variety of alternative and
5 renewable fuels.

6 We recognized early on in that process
7 that one big piece that was missing was this, the
8 effects of direct and indirect land use. We
9 recognized that in the report and we're committed
10 to, in researching that further, understanding and
11 further developing the tools necessary to
12 accurately incorporate those considerations into
13 our future decisions.

14 The Air Resources Board, now sort of the
15 baton was handed to them in their low carbon fuel
16 standard proceeding. And they are now faced with
17 the daunting challenge of developing, through
18 their regulatory program, a metric for direct and
19 indirect land use impacts.

20 And, again, we are working very closely
21 with them, as with the folks at UC and other
22 academic institutions, trying to figure this out.

23 There is still yet another process
24 underway that we're just getting underway here at
25 the Energy Commission, that leapfrogs over that

1 and sort of continues that process even beyond
2 what the Air Resources Board might adopt as part
3 of their low carbon fuel standard.

4 We have just recently approved contracts
5 with entities to continue the research into
6 sustainability, continue the evaluation of the
7 GREET model that both we and the Air Resources
8 Board are employing to evaluate the full fuel
9 cycle assessment. Trying to figure out ways of
10 incorporating more accurately and reliably
11 considerations for sustainability, direct and
12 indirect land use impacts, broader arrays of
13 alternative and renewable fuels into the model.
14 And continually updating the knowledge of those
15 fuels.

16 So, that will then carry on beyond the
17 low carbon fuel standard for the next several
18 years. So we have this sort of tag-team process
19 in play between us and the Air Resources Board
20 with involvement of the UC and other entities,
21 trying to continue this knowledge hunt, and
22 continuing to develop the tools that will allow us
23 to reliably and accurately reflect these
24 considerations.

25 So, I'm sorry to take up, but I wanted

1 to address that, also. It's a process question,
2 but a very critical one to both our programs.

3 MS. FUGERE: Right, and that reminded me
4 that I did want to comment on that, just for the
5 record, to say that because AB-118 is primarily
6 concerned with greenhouse gas emissions, we think
7 that it's imperative that we consider land use
8 with the knowledge that exists right now. And the
9 significant potential damage that can be caused by
10 these -- by land use impacts.

11 We think it's important and appropriate
12 to take those into account now. And as additional
13 knowledge comes in, it can always be adjusted.
14 But you don't want to make the wrong decision from
15 the outset.

16 So, thank you.

17 ASSOCIATE MEMBER DOUGLAS: Is there any
18 other public comment or questions before we --
19 please.

20 DR. YEH: This is Sonia Yeh from UC
21 Davis. First of all I want to congratulate Jim
22 for doing an excellent job. And having the
23 opportunity to review the staff paper, I think
24 they've done a tremendous effort and it's one step
25 toward the right direction. Of course, a lot need

1 to be done, but really congratulate and think you
2 guys have done a good job.

3 And I have two questions, and they're
4 very short one. And first question I'm not
5 definitely for -- or argue for or against, but I'm
6 just curious that since this is you're
7 establishing sustainability goals for investment
8 plans.

9 So wonder whether cost can be a
10 consideration. So, for example, if you have two
11 projects that have equal scoring and
12 sustainability goals improvement, but one project
13 will cost half -- will have expected production
14 costs of half of the other. Does that warrant
15 further -- a favorable consideration than the
16 other? So that's a question.

17 And then the second, I'm not sure if I'm
18 jumping ahead, but I would just wonder whether the
19 -- you have any review process -- do you have any
20 plan for review process for the investment plan
21 with all the scoring and the review will be public
22 -- will be transparent and publicly available?

23 And if it is, what would be the
24 tradeoffs between transparency and public
25 involvement versus business privacy?

1 Thanks.

2 MR. MCKINNEY: Those are two very good
3 questions. They're really investment plan
4 questions. I can see if Mr. Ward wants to take a
5 shot at that, or Mike Smith is reaching for the
6 microphone.

7 MR. SMITH: I'll take a shot at it.
8 We're in the middle of, or perhaps nearing the end
9 of the investment plan process. We've had at
10 least two -- we're had two meetings thus far of
11 the advisory committee to discuss the investment
12 plan, that have been Committee-sponsored
13 workshops. We've had one staff-sponsored
14 workshop. And we have yet another staff-sponsored
15 workshop planned for September 19th to discuss the
16 methodology that we've developed that will allow
17 us to establish priorities and funding
18 opportunities in the investment plan that the
19 statute requires us to do.

20 We have yet a third Committee-sponsored
21 public workshop scheduled for October 6th with the
22 advisory committee. Beyond that we anticipate and
23 we will plan a series of public workshops for the
24 draft final investment plan we're hoping during
25 the month of October which we will take around to

1 different parts of the state once we have a draft
2 final plan that has been completely vetted by the
3 advisory committee.

4 And our Transportation Committee,
5 Commissioners Douglas and Boyd will then embark on
6 a series of public workshops statewide to get
7 further input on the investment plan, itself.

8 All this leading up to adoption of the
9 investment plan at a December 3rd business
10 meeting. That's our schedule. It's not cast in
11 concrete but that's what we're really shooting
12 for.

13 Does that help or does that answer your
14 question? I know you also mentioned something
15 about scoring criteria. And it's not our intent
16 at this point to include in the investment plan
17 specific scoring criteria.

18 Again, that's something that we will
19 hold until we have public workshops on
20 solicitations, themselves. The investment plan is
21 intended to be sort of the strategic level
22 document and provide, as the statute says,
23 priorities in funding opportunities.

24 MR. MCKINNEY: And let me repeat
25 Commissioner Douglas' request, this is the time to

1 make public comment on this phase of the
2 regulatory proceeding for AB-118. So, again, if
3 there are any more folks in the audience -- we
4 have one, and then I'll put out a friendly
5 reminder to people who are participating by WebEx
6 to use the little call button to raise your hand
7 electronically

8 MR. JAGUNICH: I just made a slide
9 presentation but I won't present it that way. My
10 name is Bob Jagunich. I'm with a company called
11 Biofuels, Logistics and Terminals. We're
12 located -- I'm attempting to put up a terminal for
13 mid-stream distribution of biofuels into the
14 California energy system for transportation.

15 And it's attractive because it takes
16 advantage of a variety of different infrastructure
17 complements including the interstate rail, deep
18 water port, refined petroleum pipeline for
19 distribution into the system.

20 So, in a sense my intent is to provide a
21 logistical platform for the LCFS. And also the
22 aspect about this is that I'm essentially
23 feedstock neutral. I'm not trying to promote any
24 type of feedstock in particular, but I'm invested
25 in this in about every way that you can think of.

1 And eventually I hope to get a grant under AB-118,
2 as well. But that's not my point here today.

3 The important point is while we're
4 looking at California for feedstock production, we
5 have to recognize its limitations. Now, I know
6 there's people here with ideas for, as was pointed
7 out, feedstock or biofuels 2.0 and 3.0, and as I
8 stand here I know that's going to be changing.
9 And hopefully we will be able to do our own
10 indigenous feedstocks.

11 But our limitations are we can't grow
12 corn and vegetable oils we can't produce in any
13 great quantity right now to really achieve the
14 goals of the LCFS. They may be coming. I'll
15 support them with my terminal. Come to me, I'm
16 happy to provide a midstream opportunity to store
17 either your feedstock or your biofuels for
18 whatever California's needs may be. My terminal,
19 by the way, will be located in Richmond.

20 The one comment I'd like to introduce
21 here for the Commission to consider in the long
22 run is the idea of like 7 degrees of freedom,
23 consider 15 degrees, plus or minus, of the
24 equator. Why is that important? There just
25 happens to be more sunlight, more water, higher

1 temperatures to grow and refine products. And
2 that has a huge impact on lowering carbon in the
3 atmosphere and other places.

4 The important products there are palm
5 oil for biodiesel, sugar for ethanol. It's more
6 productive, reduces carbon. All the studies show
7 consistently you're going to do better in that
8 type of climate because of a variety of reasons.

9 But it could impact other things like
10 detropa. We know for a fact that detropa, which
11 is often kicked around, will grow a lot better in
12 that particular part of the world. And I suspect
13 it will also impact things like your future
14 feedstocks and biofuels.

15 The other thing that's important about
16 that, there already is a sophisticated
17 infrastructure to produce feedstocks in that part
18 of the world. And it could be expanded. Not by
19 taking advantage of the land by replacing other
20 crops like rubber plantations, land that's used
21 for ranching, et cetera. It doesn't have to have
22 a negative impact on the environment.

23 The problem is that we always will
24 consider, and I have a direct comment on that in
25 the future, is that's the third world. We're

1 always suspect of people in the third world having
2 impact.

3 I think we have to recognize the
4 international impact of AB-118. The definitions
5 that we eventually standardize here in California
6 will propagate all over the world. We don't have
7 to look any farther than the no-smoking law.

8 We have to then consider the impact of
9 not allowing palm oil in particular, one of the
10 customers I'd like to have for this. And that is
11 due to skepticism about RSPO, the Roundtable for
12 Stable Palm Oil standards. RSPO is not perfect,
13 but it's an honest start.

14 You have to understand that RSPO is not
15 a system that's been developed for California
16 biofuels, it's been developed already for other
17 industries, the oil-chemistry industry. And
18 that's supported by companies like Procter and
19 Gamble, Unilever and Nestle.

20 The rules have been extended now in RSPO
21 to have to have certification of plantations under
22 the productive process. No one debates the
23 suitability of the rules. What everybody debates
24 is the sustainability of the goals. And it
25 follows, also, the sustainability of the goals put

1 forth today.

2 The skepticism lies in the enforcement,
3 or the ability of third world people to game RSPO.
4 But to exclude palm oil in other third world
5 countries and multinational companies is to
6 abdicate California's role as a world leader.

7 I just want that to be understood. I
8 think that RSPO should be considered. I know
9 there's a lot of debate about this. But I think
10 California, if it uses RSPO as a standard for
11 obtaining sustainability for biofuels, I think
12 that could be used for other feedstocks. And then
13 California will have access to this wonderful
14 source of bioenergy that exists plus or minus 15
15 degrees of the equator.

16 That's my comments.

17 PRESIDING MEMBER BOYD: Thank you. Any
18 other folks here in the audience? You have any
19 folks on the webcast?

20 MR. MCKINNEY: Commissioner Boyd, I'd
21 suggest we just open up the phone lines, take off
22 the mute and see if there are comments that aren't
23 coming through electronically.

24 PRESIDING MEMBER BOYD: Okay, because I
25 want to let Professor Kaffka make his

1 presentation, as well.

2 MR. MCKINNEY: Okay.

3 PRESIDING MEMBER BOYD: Been holding him
4 off and --

5 MR. MCKINNEY: So we'll just briefly
6 unmute the phones and see if there's anybody who's
7 been trying to comment who hasn't been able to
8 indicate so electronically.

9 (Pause.)

10 MR. MCKINNEY: Okay, why don't we mute
11 the phone again, then. We'll turn it over to
12 Professor Kaffka.

13 DR. KAFFKA: Good morning. This is
14 Steve Kaffka from UC Davis and the California
15 Biomass Collaborative.

16 I think good process is important, so I
17 want to make clear how it is that I happen to have
18 a PowerPoint presentation. I was asked yesterday
19 whether I was coming and would make comments. And
20 I said yes. And then so I said, well, do you
21 think some formal presentation would be useful.
22 And said, well, perhaps it would, let me check.
23 And so I found out, in fact, it might be. So
24 that's how come I worked a little bit late last
25 night to get a formal presentation.

1 So, I'd like to talk about
2 sustainability and crop-based biofuels and
3 regulation. And in doing this I want to grasp the
4 nettle of the difficulty of dealing with
5 sustainability in a regulatory framework.

6 I think there are some areas in which
7 it's quite clear where we can make measurements
8 and have what we call substantive or --
9 substantive measurements or criteria for
10 sustainability. But in many other areas it's much
11 more difficult to do that.

12 So that's basically the framework that
13 I'd like to follow for my talk. Jim, are you
14 going to be doing the --

15 MR. MCKINNEY: Sure, I'll page through
16 for you.

17 DR. KAFFKA: So let's dive right into
18 it. What's sustainability? Well, it means
19 something; in this case the ability to act on
20 contrasting views about what should be important.

21 And those views are often correlated
22 with whether you benefit or don't benefit from the
23 definition of sustainability.

24 And what this author, Mario Giampietro,
25 suggests is that -- and I agree with, is that it's

1 very difficult in a complex phenomenon to guess
2 the implications of a change. So it makes it
3 complicated.

4 Next. So he asks the question, this
5 author, Giampietro asks the question. I think
6 it's a useful question to ask. How can you use an
7 optimization model in which you identify what is,
8 in fact, to be optimized, and how can you that, in
9 fact, the terms of those optimization models are
10 the right ones. And how can you use algorithms,
11 in fact, to evaluate the perspectives and values
12 of winners and losers in this process of defining
13 what sustainability is.

14 So, how can we study agricultural
15 sustainability? Well, let's talk a little bit
16 about some of the concrete things that we can do.
17 Well, one of the best ways to do this is to use
18 long-term experiments to measure biophysical
19 changes.

20 So the University has had a long-term
21 research project that has operated now for 14
22 years. It's just like the rest of the state,
23 suffering budget problems, and it's kind of in
24 abeyance at the moment.

25 Next. But long-term research allows for

1 us to detect trends in the direction of change
2 over time in well-defined systems. These trends
3 can be measured independent of stochastic
4 variation.

5 The value of empirical studies is that
6 you can incorporate all the factors of relevancy,
7 even if they're not specifically measured. For
8 example, you might be looking at changes in soil
9 organic matter, but one of the things that's --
10 and crop yield, but one of the things that it's
11 affecting is the occurrence of pests and diseases.
12 They're not specifically necessarily measured, but
13 they impact real systems in the real world and
14 they're effectively incorporated in the outcome of
15 such research.

16 So we can ask questions, biophysical
17 questions, about the directions and trends in
18 which farming practices go in time. Those trends
19 can then be used to calibrate and validate
20 ecosystem models, which allow us to make much
21 longer term predictions with more confidence than
22 we can in the past.

23 But you need that constant link back to
24 an empirical study in an iterative and
25 hematopoietic process. So that not just long-term

1 research, but other specific agricultural research
2 projects allow us to gain data that allows us to
3 use models more reasonably and effectively.

4 But what about agricultural
5 sustainability? What do we mean by agricultural
6 sustainability? What about social- and value-
7 based concerns? Well, if you look at the ag
8 literature you find all kinds of discussions that
9 are philosophical or ideological in nature that
10 pose a set of strategies for standards, the
11 capacity to fulfill a set of goals. Those are all
12 there.

13 One of the more recent books is called,
14 Developing and Extending Sustainable Agriculture,
15 edited by Chuck Francis. And the best essay in
16 that book is by John Ikerd, who's an economist at
17 the University of Missouri.

18 And I think he says some wise things
19 about the social- and value-based concerns. One,
20 that the issue of sustainability is often rooted
21 in a world view that's fundamentally different
22 from a mechanistic world view.

23 Another that one's world view is a
24 matter of personal belief and reflects how we
25 believe the world works and what we believe about

1 our place in it.

2 And lastly, he -- well, not lastly, but
3 among other things, he suggests that ecological
4 issues are fundamentally ethical and moral in
5 nature. Not necessarily technical.

6 So, a paper that's submitted and will be
7 printed in California Agriculture in January that
8 I've read, I've taken this comment from it. Most
9 simply, I think sustainability means the ability
10 to continue over time. We can assess and monitor
11 the sustainability of agricultural biomass use for
12 energy using well-validated simulation models
13 linked to long-term research.

14 And we can use those to improve the
15 accuracy of LCA assessments for the net benefits
16 from agricultural biomass. But agreement about
17 other aspects of sustainability that are primarily
18 social- and value-based, I think, can only come
19 from a process that embodies what we can call
20 procedural rationality.

21 So, we can perhaps talk about moving
22 from substantive rationality, which is the idea
23 that we can somehow create some kind of
24 optimization model that tells us the best
25 solution, moving to a well-guided and constant and

1 ongoing process of negotiation.

2 So when dealing with sustainability in a
3 time of change, the right set of relative criteria
4 to represent a problem that is not known or
5 knowable a priori. And a satisfactory set of
6 criteria can only be obtained as a result of
7 negotiation among stakeholders who are dealing
8 with the effects of those changes.

9 Clearly, we're talking about changing
10 the energy economy of our society. It has huge
11 effects for us all. And we can't necessarily
12 know, a priori, what the outcome is. So it's very
13 hard to necessarily pick a good optimum at this
14 point in time.

15 So we, I think, have to have a process
16 that's built into the regulatory process that
17 incorporates this constant evaluation. I think
18 some of the comments from the staff have leaned to
19 that. And I think Jim has this in his regulatory
20 language, and I want to essentially support that.

21 The weight given to incommensurable
22 contrasting criteria for performance cannot be
23 defined once and for all by considering existing
24 knowledge, and cannot be applied over the entire
25 planet at the different locations in specific

1 situations.

2 And when substantial change is
3 occurring, it's impossible to have an objective
4 definition of the best thing to do. So, assigning
5 a best set of choices is essentially short-cutting
6 that process.

7 This is a bit of systems analysis, but
8 basically I want to talk a little bit about the
9 relationship of modeling and sustainability. When
10 we do something like grow a corn crop, we apply
11 fertilizer, nitrogen, to it. We get a nice high
12 yield. That's a great outcome. So we continue to
13 do it.

14 Next slide. But, over time, we discover
15 that maybe there are some secondary consequences
16 that the system reacts at a slower rate, but
17 necessarily negative. And so we find out that
18 we're having pollution of groundwater; or perhaps
19 problems in the Mississippi River Delta, in the
20 midwest, in this case.

21 But with additional time and capacity
22 and research, we can develop solutions to those
23 slow lagtime reactions through research and
24 through regulatory programs and through other
25 mechanisms. And we can start to have solutions to

1 those timelag problems. But we can't necessarily
2 know what they're going to be ahead of time.

3 So if we go to simple systems theory,
4 there's a paper called Order and Disorder in
5 Biological Control Systems by Robert Rosen. I
6 think it's a very good one.

7 He says that a deviation of a system
8 from the behavior expected arises from the fact
9 that the system is more open to interaction than
10 predicted on the basis of the model. In other
11 words, models are selected and they reduce -- they
12 have to, by definition, reduce the numbers of
13 things that they can encompass just simply to be
14 able to have an outcome.

15 But in life, there's all these things
16 that are affecting the process that's being
17 modeled that are not included in the model. So
18 such disordering arises from the very nature of
19 abstraction, the model building itself, and it
20 can't simply ever get out of it entirely.

21 So, when you use these predictive models
22 to control a system it's going to result in a
23 variety of unpredictable effects on system
24 behavior, or the side effects.

25 Next. This is a figure that I got just

1 in a paper the other day. It's by Vinod Khosla,
2 and he's responding to the idea of indirect land
3 use change and the role of models in predicting
4 the consequences of a direct land use change.

5 And he gave some examples of how, in the
6 past, models have been actually quite widely
7 wrong. The first one are prediction models by the
8 energy, EIA, Energy Information Agency, about oil
9 price. These are experts in energy use and
10 consumption and supply that work for the
11 Department of Energy.

12 These are the differences between the
13 actual and forecast prices over the last 25 or 20
14 years or so. And they're substantial. Even by
15 experts.

16 So if you were basing, perhaps like
17 General Motors did, some of their plans on
18 predictions by the best people in the room in
19 terms of people who know the most about this,
20 they've been wildly wrong.

21 Another example that he quotes that I
22 thought was interesting was the McKinsey Group,
23 which I think is a high-powered consulting firm,
24 they did a prediction for AT&T in 1980 about the
25 number of cellphones that would be used in the

1 year 2000 in the U.S. And they predicted there
2 would be a million. The actual number is closer
3 to 100 million. Again, using the best available
4 knowledge in 1980.

5 Next. So let me then now talk a little
6 bit about the indirect land use change issue. As
7 we sit here now, there's quite a bit of land
8 clearing going on in the tropical regions.
9 Forests are burning. It's been a traditional
10 method of surviving of farming in such areas.

11 Slash-and-burn agriculture is clearly
12 what happens is the forest is cut down, burned.
13 The ashes and residue are used for fertility to
14 grow a series of crops. After awhile the crops
15 become weedy and unproductive. The nutrients are
16 used and the farmer moves on, goes off and burns
17 another system.

18 The system has broken down in the modern
19 world because of population pressures. But it's
20 an example of ongoing land use processes.

21 Next. In discussing crop biofuels
22 there's been a lot of controversies developed
23 about the indirect land use change issue. And
24 properly so, in my view. I don't want to say that
25 it's not an issue, it is an issue.

1 Tim Searchinger, Dr. Dan Kammen down at
2 UC Berkeley, and others, have essentially argued
3 that calculating the effects of biofuel use only
4 on the basis of a field of the region was too
5 simple. It was too simple a calculation.

6 In other words, that they were effects
7 that were beyond the scale of the field. And that
8 if you incorporated them, at least Searchinger
9 argued that if you incorporated those effects as
10 he calculated them, that they would overwhelm any
11 net benefits from the use of the crop-based
12 biofuels. It seems it's a reasonable argument,
13 per se.

14 Next. So, basically most of the
15 calculations about the benefits of CO2 have been
16 conducted mostly at the field level, perhaps at
17 the farm level. But not at the policy level, if
18 you will, of regional or larger level.

19 Okay. But what was proposed as an
20 alternative was another simple model. In other
21 words, that if you take land out of use in the
22 midwest for ethanol you have fewer soybean acres,
23 the soybean price rises, that soybeans then get
24 planted on forest land in the tropics. Forest
25 dwellers are displaced, and you get large CO2

1 emissions. Fairly simple model.

2 Next. I've tried to create a model that
3 I think actually is -- this isn't complex enough,
4 but it's much closer, I think, to what actually
5 goes on in the world.

6 First of all, one of the factors that
7 has -- a major factor that reduced soybean land
8 over time was the conservation reserve program.
9 One of the previous commenters mentioned it.

10 The primary purpose of the conservation
11 reserve program wasn't necessarily conservation.
12 It was, in fact, price control. There was too
13 many soybeans and too much corn around. And so
14 land was taken out of production. Some of it was
15 erodible and nonusable, but it was usually the
16 less productive land, but not necessarily
17 unsuitable for agriculture.

18 That resulted in fewer soybean acres.
19 Increased demand for corn also resulted in fewer
20 soybean acres. That caused a soybean price rise,
21 clearly. But also, increasing world demand for
22 feed grains has caused that soybean price rise.
23 Perhaps much more than the diversion of land due
24 to corn ethanol demand.

25 The real consequence, if you follow the

1 GTAP model, has been an increase in soybean acres
2 in the southern U.S., substituting for cotton.

3 There may have been a small direct
4 effect on forest lands in Brazil or elsewhere
5 where soybeans are produced. But that effect on
6 the increasing feed grain demands is a much more
7 direct effect on that.

8 Now, what's going on in the tropics? In
9 the tropics you have ongoing land conversion
10 processes for timber, charcoal, slash-and-burn and
11 agriculture and other reasons. Some of that land
12 obviously displaces forest. Some of this process
13 indigenous to those areas displaces forest
14 dwellers. But it also provide a land base for
15 corn, soybeans or other crops that's different
16 than this newly converted forest land. And it's
17 this scale, this process here that's unknown. Not
18 well quantified. And can't be, at the moment,
19 well quantified.

20 One of the possible consequences is to
21 stabilize land -- biofuel production is possible
22 to stabilize that process and improve it, which
23 would be a desirable process from many
24 perspectives.

25 But these forces that really are

1 affecting this process most powerfully are
2 independent and have been going on over multi
3 years. They're not instantaneous and they're not
4 going to change very quickly.

5 Next. So, we notice that some of the
6 sustainability standards, the most recent one for
7 the Roundtable on Sustainable Biofuels, has come
8 up with a nice set of definitions or guidelines
9 for sustainability. But at the moment they
10 acknowledge indirect land use change, but leave it
11 unaccounted, because they don't feel it can be
12 properly accounted for.

13 Next, Jim. Go through, we don't have to
14 read these. So, what are some problems with
15 assessing and valuing land use change. This is my
16 list; it coincides with other people's. It's
17 difficult to quantify, it involves many subjective
18 and value judgments.

19 It's unreasonable to ascribe to biofuel
20 production alone in many instances because
21 cropping systems have diverse integrative effects.

22 Models used to estimate land use change
23 were not designed for the purpose to which they're
24 now applied. Powerful economic sources and human
25 well being drive the conversion of land. Tropical

1 land use change attributed to biofuel production
2 may not be due to it at all.

3 Next. Not all conversion is destructive
4 or the least bad local alternative. It does not
5 account for new crops, new crop systems, new
6 technology and their interaction.

7 It's used for standards. This is
8 important. May preclude much beneficial
9 development, especially, but not only, in poor
10 areas of the world. And may conflict with other
11 legitimate public policy goals. And I think for
12 unique reasons LUC will not apply to California-
13 grown feedstocks.

14 Sustainability is a big topic. We could
15 put any number of circles and dots up here. Human
16 welfare, direct land use effects, conservation
17 values, greenhouse gas reductions, you could think
18 of others.

19 Next. What a carbon standard does is
20 take one element of sustainability out and
21 essentially ask that we force all these other
22 elements of sustainability into that one smaller
23 box.

24 It's a legitimate problem. We have to
25 have carbon fuel standards, but we have to

1 acknowledge, as well, that it's something of a
2 forced process.

3 Next. So, getting back to what we mean
4 by sustainability, these tradeoffs are not always
5 commensurable. You have different relevant scales
6 that have to be considered simultaneously. There
7 are different relevant social groups. There's
8 legitimate, but contrasting, views. There are
9 heterogeneous perceptions of costs and benefits
10 that all have to be accounted. This is the nettle
11 of dealing with sustainability. It's been
12 introduced in the statutes, but this is the nettle
13 that we have to grasp.

14 Next. I want to focus at last on just
15 these last two problems with land use change with
16 respect to California and give you some examples.
17 It's used for standards, may preclude beneficial
18 development, including currently unanticipated
19 solutions. And may conflict with other legitimate
20 public policy goals. And I think, for unique
21 reasons, it doesn't apply very well to California-
22 grown feedstocks.

23 Next. This is retired land in the
24 western San Joaquin Valley. It's retired because
25 there's inadequate water, because it's affected by

1 shallow saline water tables.

2 It's very difficult and it's impossible
3 in arid or semi-arid regions to irrigate and not
4 have some salinity enter groundwater supplies. It
5 simply can't be done. If you move water through
6 the profile, it dissolves salts. And they move
7 down. Some of it, however, can be intercepted
8 with tile drains. And that process can be
9 forestalled.

10 Next. So, in the western San Joaquin
11 Valley the underlying geology is such that shallow
12 water tables appear, especially down close to the
13 river in the Mendota area and along the western
14 side of highway 5. It's due to this confining
15 layer of the Corcoran clay.

16 These areas tend to, especially up-river
17 where -- upstream where you have all the almond
18 trees now. If you drive along highway 5, that
19 irrigation's pushing salt and water down to the
20 water table and it's showing up in the lower
21 areas. And some of those lower areas are being
22 idled or retired.

23 Next. We have a project in Kings
24 County, a little farther south. This is basically
25 the subsurface geology there. Where we've taken

1 land that was abandoned by the farm because of
2 salinity reasons and I've been using wastewater,
3 some saline drainage water, wastewater from the
4 town of Lemoor, and some good irrigation water to
5 grow my favorite crop these days, bermuda grass.
6 And it's doing pretty well.

7 Next. It seems to be thriving. It's a
8 salt tolerant, halophytic species. It can grow
9 both on saline lands and on wastewater.

10 Next, Jim. And since 1999 we've been
11 irrigating it in this fashion and grazing cattle.
12 But cattle are one perfectly good use, but you
13 could also be using this for biomass for -- as a
14 biomass feedstock.

15 Next. So, with our low carbon fuel
16 standard that may require the use of biomass for
17 transportation fuels in related measures, some of
18 these kinds of crops, the halophytic crops, that
19 might use wastewater might be able to be used for
20 feedstocks. We don't have a lot of surplus land
21 and water in California, and this may be a way,
22 for example, of killing two birds with one stone.
23 In other words, trying to manage the salinity
24 problem which is a sustainability problem, but
25 also using the production of biofuels to basically

1 provide economic means for doing so.

2 It's not without ecological risks.
3 There are trace elements and other things
4 associated with it. But nothing I can see going
5 forward is without risks.

6 Next. The other thing is let's talk a
7 little bit about unanticipated solutions. I know
8 that we're talking primarily about transportation
9 fuels. But we use petroleum for other things,
10 including petrochemical hydrocarbons. And if you
11 use petroleum for petrochemical feedstocks, you
12 have to oxygenize them, you have to change them
13 chemically.

14 Go ahead. So, that's expensive and it
15 takes energy. Instead you could use natural
16 products for lubricants, crankcase oil, for
17 example, for biodiesel as an ester. And these
18 products are already stereochemically correct and
19 oxygenated. And actually ends up being much more
20 energy efficient than trying to make it out of oil

21 Go ahead. So, you know, there's a lot
22 of products that might come from the growth of
23 biofuels or biomass crops for energy including
24 solvents, plastics, lubricants, fragrances and
25 other things.

1 Next. So here's one of the crops I
2 think has actually, at least theoretical,
3 potential in California. This is joboba
4 *simmondsia chinensis*. It's a native shrub in
5 California, in the Sonora Desert, Arizona and
6 Mexico. It produces these large seeds. They're
7 55 percent wax esters.

8 This farmer melts them and puts them
9 right in his diesel engines. But it also can be
10 used for all kinds of other projects. This is
11 hydrogenated feedstock material.

12 Next. It has a very low water
13 requirements, it's a desert shrub. So, for
14 instance, I'll be talking about this next week at
15 the Harlem Conference at UC Davis, but improved
16 jojoba cultivars, which are now available, may use
17 only 40 percent of the water and less than 30
18 percent of the fertilizer needed to produce an
19 equivalent harvest of almonds, for example, in the
20 San Joaquin Valley.

21 At high enough production levels it'll
22 reduce petroleum use in potentially many ways.
23 But this is a project that will require, since
24 it's a shrub or a tree, it's going to require
25 years to develop. But it has potentially, I

1 think, terrific opportunities in California. But
2 people haven't been thinking about them yet.

3 Next. Lastly, just a couple of comments
4 about another potential feedstock. This is
5 sugarcane in the Imperial Valley. Had a grower
6 say to me a couple of weeks ago that if you were
7 to add the income from sugarcane produced in the
8 Imperial Valley, which has the highest solar
9 energy levels almost anywhere in the world,
10 together with income from electricity sales and
11 other biofuel products, then sugarcane may be the
12 most profitable crop in the Imperial Valley per
13 acrefoot of water used.

14 We tend to think of it only as the
15 ethanol, but the energy production per acrefoot
16 combined, or the sugar, actually adds up to quite
17 a potentially valuable use of water in the desert.

18 Next. So there's some sugarcane being
19 harvested down there on plots. Go ahead. What
20 would sugarcane displace? One of the things it
21 might displace is bermuda grass hay. Another is
22 sorghum, is Sudangrass hay. There's about 100,000
23 acres of vegetable crops in the Imperial Valley
24 out of about 500,000 acres. The majority of the
25 rest is forages that are produced for various

1 reasons including these low-value forages, Bermuda
2 grass and Sudan.

3 Next. Some of that Sudan gets exported
4 to Japan. There it is feeding Kobe beef, which is
5 really quite wonderful I'm told. I've never eaten
6 it, it's so expensive.

7 But this really is such a trivial
8 displacement that it seems to me it's not even, in
9 fact, if you look at the global models that
10 calculate land use change that are being used,
11 like GTAP and so on, California's not even in the
12 models.

13 So this displacement, in terms of the
14 gains that California may get back from, for
15 example, sugarcane ethanol, becomes viable in the
16 Imperial Valley, I think is really quite trivial.

17 Next. Can we produce biofuels in
18 California from crops and crop systems? Yes, I
19 think. But we should certainly -- we have to
20 consider sustainability. One thing to keep in
21 mind about our own production is that we can have
22 the most clear information, the best knowledge
23 about our assumptions associated with it. This
24 should, I think, provide some additional value for
25 our own feedstocks. Someone else mentioned it

1 earlier, I don't think we should export our
2 pollution.

3 Next. So, we can grow these crops, but
4 I think we have to be humble in our regulatory
5 approach. We have to expect that we'll make some
6 mistakes. It's perfectly human and nonavoidable
7 that we'll have some things we'll want to adjust
8 in our standards as we go along.

9 I recommend that we go slowly, that we
10 gradually increase sustainability requirements as
11 knowledge and public consensus approves. And make
12 sure that the public agrees.

13 I think we need to use a light touch and
14 not constrain innovation, be willing to make
15 prudent tradeoffs. Some ambiguity in language
16 actually is appropriate. It allows that
17 negotiation process to proceed and come up with a
18 legitimate consensus answer.

19 And right now at this stage in time the
20 net long-term public benefits from such
21 innovation, I think, will out-weigh short-term
22 losses in greenhouse gas benefits, if any, from
23 overly restrictive policies.

24 MR. MCKINNEY: That's it.

25 DR. KAFFKA: Is that it? Okay, thanks.

1 PRESIDING MEMBER BOYD: Thank you,
2 Steve. Let me just, a couple of comments. I'm
3 glad somebody asked you to make this presentation.
4 I'm, frankly, very impressed and gratified. You
5 and I don't know each other very well, but we
6 share a lot of common thoughts predicated maybe by
7 you on all the studying that you've done and by me
8 on all the years I've been sitting behind the
9 table like this as a regulator, et cetera, in
10 California.

11 And your comments about systems
12 analysis, modeling, sustainability and unintended
13 consequences are certainly true from my
14 experience, my academic training has left me kind
15 of a fan of systems analysis. But in government
16 I've seen very little of it until the greatest
17 driver of all, climate change, has arrived on the
18 scene to force a more integrated look at
19 everything else that's happening.

20 But, my fear has been, as an extreme
21 advocate of the need to address climate change for
22 well over a decade, you know, we waited so long,
23 now we're running like crazy. And I'm talking out
24 of school here, but I got about two days notice on
25 the low carbon fuel standard, and I did say to

1 people, do you have any idea what you're getting
2 into. We can't even see the bottom of this pool
3 on modeling and the incredible investments that
4 have to be made.

5 But I also agree and subscribe to
6 stretch goals and push as hard as we can. I think
7 you have laid out some very good cautions. I want
8 to ask you an almost rhetorical question that I
9 wrote down as we were going along. Do you think
10 we're ready to do what we've been asked to do?
11 We, the ARB, we, the Energy Commission, we, our
12 society, to address things like the low carbon
13 fuel standard and a alternative fuels plan so
14 deeply steeped in process as the legislation has
15 required, and as we are working here on today?

16 DR. KAFFKA: Well, that's a, you know, I
17 would say we're ready to start. We're clearly
18 ready to start socially. I think the public is
19 interested in climate change and is willing to
20 make some sacrifices.

21 I think it's incumbent on us that we not
22 be so anxious about it that we foreclose our best
23 options, and right from the very beginning by
24 assuming that we know more than we do.

25 In other words, I would recommend that

1 throughout the LCFS and AB-118 process, that we
2 consider it a learning hematopoietic process as
3 much as possible.

4 Not to say that some things cannot be
5 measured. I mean I think we can -- we'll be able
6 to agree that some things that we can measure; we
7 can measure trends in agriculture, for example,
8 what's going on with soil organic matter. We can
9 estimate overall energy efficiency on a per-acre
10 basis, or per-unit product basis.

11 We can look at or estimate the runoff
12 impacts. We certainly can estimate water use. We
13 can measure some things concretely. But meaning
14 and interpretation of those, about whether they
15 are sustainable or not, though, that's a much more
16 dynamic complicated process.

17 But I think there are also other things
18 that some people think we can model that I don't
19 agree we can at this stage. And I think the
20 indirect land use change issue is one of those.

21 And there is the potential, I mean the
22 argument goes this way. If we don't account for
23 the carbon costs associated with indirect land use
24 change, we will send the wrong signals to the
25 world market. I think that's possible.

1 There are clearly some areas of the
2 world where I think, without any modeling at all,
3 we could argue that we don't want to see biofuels
4 produced. On high organic matter swamplands in
5 Indonesia, displacing orangutan habitat.

6 The easy ones are obvious. But most of
7 the world is in the grey area where we can't very
8 well quantitatively apply that.

9 Using models when information that's
10 required for accuracy, and even the methods that
11 are best to use are not available is not good
12 science in my view, no matter how rigorous the
13 models are done. I don't think it's good public
14 policy.

15 So I would say that we are ready to
16 launch a program, but that I think our focus, from
17 a regulatory view, should be to gradually -- to
18 start light and gradually increase our restrictive
19 regulatory standards as our knowledge becomes more
20 apparent, and our methods become more reasonable.
21 And are more broadly accepted by the public.

22 I don't know if I directed that
23 answer --

24 PRESIDING MEMBER BOYD: No, thank you,
25 appreciate that. Part of your -- your

1 presentation reminded me of why I'm so into using
2 our waste resources in this state for bioenergy.
3 While you all debate the crop additive.

4 But, in any event, I appreciate very
5 much what you had to say. And I think you've laid
6 out the painful problem that we have. And this
7 agency, and some of the people in this room, have
8 very painful familiarity with your EIA slide.

9 We tend to take their high estimate as
10 our low estimate and make our own estimates. And
11 we can't -- we're not right, either. So it's an
12 incredibly different area.

13 And an unintended consequences, I don't
14 know why I feel like saying this, but as a
15 survivor of the MTBE issue in California, when we
16 did cleaner burning gasoline in another life of
17 mine, we have in the files letters from the USEPA,
18 the California Health Department of Water -- the
19 water-drinking people, the State Water Resources
20 Control Board that there's absolutely nothing
21 wrong with MTBE.

22 And then, it wasn't mandated in the
23 regulations. They could have used any oxygenate
24 they wanted. They used MTBE, and the rest is
25 history. So, unintended consequences is something

1 that we always have to be looking over our should
2 at. Enough said by me. Questions, comments by
3 others?

4 Speechless.

5 (Laughter.)

6 PRESIDING MEMBER BOYD: Jim, is there
7 anybody else left on the phone do you think? Do
8 you want to check one more time?

9 MR. MCKINNEY: Should we check one more
10 time and open the -- unmute the phone?

11 Okay, last chance for public comment on
12 this phase of our regulatory proceedings?

13 MR. SPEAKER: Hello?

14 MR. MCKINNEY: Somebody was walking up
15 to the microphone, so, sir, if you could hold on
16 for a second, we'll recognize Danielle Fugere.

17 MS. FUGERE: Yeah. I just wanted to,
18 the only thing I wanted to say was with regard to
19 the comment that we might be foreclosing our best
20 options.

21 The one thing that I think is important
22 to remember, and this was pointed out, I think, by
23 the TIAX analysis in the gap analysis, in terms of
24 biofuel production. There's an enormous
25 investment in biofuels in this country and

1 worldwide. So I don't think to the extent that
2 AB-118 really focuses on the most sustainable
3 fuels, that we will be foreclosing options.

4 MR. MCKINNEY: Then we had somebody on
5 the phone line? Can you identify yourself,
6 please?

7 (Pause.)

8 MR. MCKINNEY: No. Commissioner Boyd, I
9 don't think there's any more public comment on
10 this phase.

11 PRESIDING MEMBER BOYD: Well, I want to
12 thank everybody for being here today, for
13 participating in this actually very stimulating
14 discussion of a very difficult topic.

15 And if there is no other comment from
16 anyone, we'll adjourn this workshop and thank you
17 all.

18 (Whereupon, at 11:49 a.m., the workshop
19 was adjourned.)

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CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Committee Workshop; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said workshop, nor in any way interested in outcome of said workshop.

IN WITNESS WHEREOF, I have hereunto set my hand this 15th day of September, 2008.



PETER PETTY