

COMMITTEE WORKSHOP
BEFORE THE
CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)
)
Preparation of the 2008 Integrated)
Energy Policy Report Update and the) Docket No.
2009 Integrated Energy Policy Report) 08-IEP-1
)
Improved Efficiency Measurements and)
Attribution in Energy Demand)
Forecasts)
_____)

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

TUESDAY, AUGUST 12, 2008

10:04 A.M.

Reported by:
Peter Petty
Contract No. 150-07-001

COMMISSIONERS PRESENT

Jeffrey D. Byron, Presiding Member

Jackalyne Pfannenstiel, Associate Member

Karen Douglas

ADVISORS PRESENT

Laurie tenHope

Tim Tutt

STAFF PRESENT

Suzanne Korosec

Michael Jaske

Chris Kavalec

Tom Gorin

Sylvia Bender

ALSO PRESENT

Michael Wheeler
California Public Utilities Commission

Mike Rufo
Itron

Richard Aslin
Pacific Gas and Electric Company

Mary Anderson
San Diego Gas and Electric Company

Jasmin Ansar
Pacific Gas and Electric Company

Athena Besa
San Diego Gas and Electric Company

ALSO PRESENT

Michael Cockayne
Los Angeles Department of Water and Power

Art Canning
Southern California Edison Company

Andrea Horwatt
Southern California Edison Company

Nate Toyama
Sacramento Municipal Utility District

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Redding Electric Utility

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1 P R O C E E D I N G S

2 10:04 a.m.

3 PRESIDING MEMBER BYRON: Welcome to the
4 Committee workshop on improved efficiency
5 measurements and attribution in energy demand
6 forecasts. I'm the Presiding Member of the
7 Integrated Energy Policy Report Committee. With
8 me is our Chairman, Jackie Pfannenstiel, who's
9 also the Associate Member of that Committee.
10 And also joining us is Commissioner Douglas;
11 welcome.

12 With us at the dais is Chairman
13 Pfannenstiel's Advisor, Tim Tutt; and my Advisor,
14 Laurie tenHope. And I don't know if anyone else
15 will be joining us, but we'll introduce them if
16 they do.

17 I'd just like to take a few moments and
18 just kind of recap where we are on this particular
19 issue, and remind everyone why we're here. I'd
20 also like to thank you all for being here this
21 morning.

22 The purpose of this workshop is to
23 present information about clarifying and improving
24 the measurement and attribution of energy
25 efficiency in the Commission's energy demand

1 forecast.

2 Now, the meeting notice does a very good
3 job of going through, in more detail, information
4 about that objective. But you may all recall, and
5 some of you were probably here, that we identified
6 in the 2007 IEPR the need to conduct a public
7 process to determine an effective method to better
8 delineate energy efficiency savings assumptions in
9 the Commission Staff's demand forecast.

10 As a result we had a workshop on March
11 11th; and the conclusions of that workshop are
12 also contained in the meeting notice. And I call
13 them to your attention.

14 And we also released in May of 2008 a
15 scoping order for the 2008 IEPR update that
16 identified topics for energy efficiency that we
17 needed to make sure we addressed. Those are also
18 delineated in detail in the notice, and I won't go
19 through them. But I encourage you, if you
20 haven't, to please take a look at them.

21 I'd like to thank the staff. I know a
22 lot of time has passed since the March 11th
23 workshop, but they've been very busy. We've had
24 numerous meetings to make sure that we try and get
25 the communications around these issues correct.

1 And that we also try and get it correct in our
2 demand forecast.

3 So we're here today to try and resolve
4 some of these issues. We're going to be
5 discussing a lot about nomenclature and
6 definitions of some of the terms. Concepts and
7 vocabulary is one of the presentations. We're
8 going to be looking more carefully at the energy
9 efficiency attribution and measurement in our
10 current demand forecast. We're also going to look
11 at and plan to improve the conservation
12 quantification for the 209 IEPR.

13 So the plan is that we will get -- we
14 have a very detailed agenda. The plan is that
15 we'll take a lunch break and we'll probably go on
16 till 3:30 timerange. And I hope you'll all be
17 able to stay for that. If time allows, we'll do
18 some public comment in the first, just before we
19 break for lunch in the event we have some folks
20 that are not able to stay for the full day.

21 So, I'll turn to my fellow
22 Commissioners. Do we have any other comments?
23 Chairman Pfannenstiel.

24 ASSOCIATE MEMBER PFANNENSTIEL: Thank
25 you, Commissioner Byron. Just briefly, I also

1 want to thank people for being here today and
2 helping us with this thorny issue. This is
3 fundamental to what we do at the Energy
4 Commission.

5 We've got to get this right. We've got
6 to make sure that our demand forecasts are
7 accurate in that they incorporate all of the
8 latest information, and that they're
9 understandable. That the people who are using
10 these forecasts are using them appropriately.

11 And I think, as the Presiding
12 Commissioner on the 07 IEPR, we realized sort of
13 at the end of the day that there remained a fair
14 level of either confusion or controversy, or both,
15 over what went into this forecast.

16 And we realize that we couldn't go
17 forward with this sort of uncertainty of where the
18 Energy Commission believed that demand,
19 electricity demand in California, was going; that
20 we had to straighten that out.

21 It's been surprisingly difficult. I, at
22 the time, thought that once we all sort of got
23 around the same table and agreed to agree, we'd
24 figure it out. But it hasn't been that easy. We
25 still are slogging our way to making sure that we

1 all understand things the same way and that the
2 forecasts are ones that we all stand behind.

3 So, hopefully we will get there today.
4 I'm hoping that it won't be a lot more theoretical
5 conceptual discussion, but much more kind of
6 hands-on, what do these numbers really mean, and
7 how much reliance can we put in them, such that
8 the 08 IEPR update has a really strong foundation
9 of a demand forecast.

10 So, thank you.

11 PRESIDING MEMBER BYRON: Good. I'm glad
12 you're here. You've been at this issue a lot
13 longer than I have, so I'm hopeful, as well.

14 Commissioner Douglas.

15 COMMISSIONER DOUGLAS: I actually do not
16 have opening comments. I'd like to welcome
17 everybody here, and look forward to both the
18 presentations and the public comment.

19 PRESIDING MEMBER BYRON: Our staffs have
20 also been very involved in this. Tim Tutt, Ms.
21 tenHope, you want to say anything? Okay. Thank
22 you, Commissioner Douglas.

23 Well, I'm going to turn it over to
24 Suzanne Korosec and take it away.

25 MS. KOROSEC: All right. I just have a

1 few quick housekeeping items. For those of you
2 who have not been here before, the restrooms are
3 out the double doors and to your left. There's a
4 snack room on the second floor of the atrium under
5 the white awning.

6 And if there's an emergency and we need
7 to evacuate the building, please follow the staff
8 out to the park across the street, and we'll wait
9 for the all-clear signal.

10 Today's workshop is being webcast, so
11 for parties who wish to make comments who are
12 listening on the webcast, the call-in number is
13 888-566-5914; the passcode is IEPR; and the call
14 leader is myself, Suzanne Korosec.

15 Commissioner Byron did an excellent job
16 of setting the context for today's workshop so I
17 think we'll move right on to Mr. Jaske and his
18 presentation.

19 DR. JASKE: Thank you, Suzanne. For the
20 record my name is Michael Jaske, Energy Commission
21 Staff.

22 I'd like to start off by repeating one
23 of the slides I used at the March 11th workshop,
24 poses the two basic questions that we used to help
25 frame that workshop.

1 First, for the adopted 2007 IEPR load
2 forecast what are the near-term, incremental
3 impacts from the next set of energy efficiency
4 programs. That is the 2009/2011 set.

5 And, of course, this is the issue that
6 the PUC resolved on sort of a basis of expediency
7 by saying only 20 percent of those program impacts
8 would be incremental to the forecast. That was a
9 very unsatisfactory resolution of the issue, and
10 we are striving to come up with a better way of
11 linking the forecast with incremental program
12 impacts.

13 And then secondly, given the Energy
14 Commission's load forecast, what are the long-term
15 incremental impacts and costs from the further
16 portions of potential that policymakers wish to
17 set forth as goals. Clearly this has come up in
18 the staff scenario project during the course of
19 the 2007 IEPR; it's come up in the PUC work
20 through the GHG calculator; and now embodied in
21 the sort of preliminary scoping plan the ARB has
22 set forth for AB-32 implementation plan.

23 At that workshop there was a series of
24 next steps that were proposed. This slide is the
25 same slide with just a slightly different title,

1 characterized that it was what was proposed.

2 Much of the process identified in the
3 steps of the first bullet are what we're going to
4 talk about today. But unfortunately, Chairman
5 Pfannenstiel, we're going to talk more about
6 process than numbers, and perhaps be less able to
7 resolve things than you might have wished.

8 These are the things that have actually
9 been able to be accomplished since the March 11th
10 workshop. As Commissioner Byron has said, we have
11 had several meetings with the IEPR Committee. We
12 have, in effect, gone through multiple iterations
13 of a conceptual project plan, which has been
14 distributed now to all parties. And it will be
15 discussed as one of the last agenda items this
16 afternoon.

17 We have obtained PUC energy division
18 comments on a draft of that conceptual project
19 plan; have modified it in some respects to
20 incorporate their comments. Most importantly, we
21 have secured a commitment from the PUC to fund
22 Itron to undertake some of the work. And we here
23 publicly thank the PUC for taking this step.

24 And we are in the stages of working
25 through, in detail, what Itron will accomplish and

1 over what timeframe, gearing both to particular
2 things that can be done as we develop the load
3 forecast for the 2009 IEPR cycle, and at least
4 setting the stage for some work beyond that, if
5 not committing to doing that work, itself.

6 PRESIDING MEMBER BYRON: Dr. Jaske,
7 thank you for reminding me. We had discussed this
8 earlier. Wanted to make it clear, we are very
9 appreciative of the PUC, the California Public
10 Utilities Commission, funding of Itron -- forward
11 on this. So, thank you for bringing that up.

12 DR. JASKE: And I think that's the
13 reconciliation of the work that Itron has done
14 principally on potential, but also in the sort of
15 application of potential to goals, and how that
16 relates to the Energy Commission's forecast, is
17 sort of mutually important to both agencies.

18 And there are numerous things under way
19 at the PUC that sort of, from their perspective,
20 are aspiring for resolution of this issue; and
21 from our perspective, the Energy Commission's
22 perspective, moving toward some degree of
23 resolution of this issue.

24 And one of the things we'll talk about
25 this afternoon is the way in which we can get

1 additional support from utilities and others to
2 sort of carry out all of this planned activity.

3 So, in terms of staff's objectives for
4 this workshop, we're trying to get some
5 recognition that these issues are fundamental to
6 all forecasts. Certainly the genesis of this is
7 with the staff's forecast, but all of the entities
8 involved in doing demand forecasting for various
9 purposes have these same issues.

10 Anyone who's trying to make a long-run
11 forecast, or even an intermediate run forecast is
12 needing to come to grips with the focus that the
13 policymakers are raising on high energy efficiency
14 goals, high aspirations for efficiency measures
15 and their penetration into the population.

16 Staff has, you know, particular ways in
17 which it deals with these issues. They may not be
18 the best ways, and we're going to try to adopt the
19 best techniques that we can that are applicable in
20 the timeline of the 2009 IEPR. And to the extent
21 there's yet better things we can do over the
22 longer run, we'll set forth to do that, as well.

23 We want to lay out, you know, this
24 multiyear plan, which I have to confess may
25 disappoint you by being multiyear, but given the

1 nature of the issues and the resources available,
2 I think there was just no getting around the fact
3 that this is going to take more than what can be
4 completed in the 09 IEPR cycle.

5 But you have gotten staff's attention
6 and we are focused on improving what we do in this
7 area, and we're hopeful that we can get the
8 support we need from utilities and others to make
9 steady progress.

10 And finally, of course, as you have
11 heard and what I've said before, clearly there
12 have been some indepth discussions with a limited
13 set of parties, and we want this workshop to
14 provide an opportunity for other interested
15 parties to learn what's going on and provide any
16 comments that they have.

17 Broadly speaking, this is the schedule
18 that we anticipate in the 09 IEPR, itself. The
19 workshop that was already conducted on March 11th,
20 sort of setting the stage. This workshop, in
21 effect reporting on progress that we have in
22 developing these plans and securing commitments
23 from various entities.

24 Contributing to the 08 IEPR update in
25 what perhaps will be a chapter, or section of a

1 chapter, that can describe where we're going over
2 time. And the 09 IEPR, itself, developing a
3 preliminary demand forecast to have some degree of
4 improvement, both in the substance of how energy
5 efficiency is included, as well as its
6 documentation.

7 Some further improvements, perhaps, in
8 the May timeframe in the revision of that
9 preliminary forecast. And then bringing forward
10 in June a set of impacts from uncommitted energy
11 efficiency programs that are consistent with that
12 revised demand forecast.

13 And then beyond the 2009 IEPR cycle,
14 either later in 09 or in 2010, some method for
15 developing impacts from high efficiency scenarios,
16 whether that be extracting from Itron's asset
17 model results, or some translation from that
18 model, or some other mechanism all together.

19 So that's the conclusion of my sort of
20 opening overview and objective presentation. Are
21 there any questions?

22 PRESIDING MEMBER BYRON: Not really a
23 question, but we did review the schedule and the
24 Committee determined that it does work. And it
25 fits with our needs in moving forward with the 09

1 IEPR.

2 I'm also going to be interested to hear
3 today how this schedule works for the utilities
4 and the Public Utilities Commission going forward,
5 as well, in meeting their needs.

6 So, thank you, Dr. Jaske.

7 MS. KOROSK: All right, next we will
8 have Michael Wheeler from the Public Utilities
9 Commission.

10 MR. WHEELER: Good morning,
11 Commissioners. My name is Michael Wheeler from
12 the California Public Utilities Commission. I'm
13 the Lead Analyst on our energy efficiency goals
14 update work which thankfully was recently
15 completed, with a final decision giving us energy
16 efficiency goals for the IOUs for the years 2012
17 through 2020.

18 I'm also the Lead Analyst on our
19 residential strategic planning efforts going
20 forward.

21 I'd like to take the opportunity just to
22 thank you all for putting forth such a concerted
23 effort on these issues. I'm here today to
24 reiterate the CPUC's position regarding the IEPR
25 load forecast as the state's load forecast.

1 I apologize I don't have a presentation.
2 Things are very busy right now over at the CPUC.
3 We've recently received the utilities' energy
4 efficiency application filings for the years 2009
5 through 2011.

6 There's not a lot for me to report here.
7 Yesterday we have a prehearing conference
8 regarding that proceeding and really all I can say
9 is that staff is still reviewing those filings.
10 We are reviewing them to insure that there's
11 consistent use of the proper figures, figures that
12 will be going forward with the demand forecasting
13 staff in making sure that those all line up with
14 the figures that you all use in the demand
15 forecasts.

16 We'll also be reviewing those for
17 compliance with our decision 07-10032 last
18 October, setting up some key orders for utilities.

19 But I'm pleased to say that given the
20 three-year goals for utilities, 2009 through 2011,
21 their portfolios that they've proposed exceed
22 those goals somewhere on the order of 117, 115
23 percent for our gigawatt hour and megawatt demand
24 goals.

25 But back to what we're here to talk

1 about. The CPUC has held a long-standing --

2 ASSOCIATE MEMBER PFANNENSTIEL: Excuse
3 me, Mr. Wheeler, I just want to make sure I
4 understood your last sentence.

5 MR. WHEELER: Sure.

6 ASSOCIATE MEMBER PFANNENSTIEL: You said
7 that the utility filings exceed the goals by 115
8 percent?

9 MR. WHEELER: I'm sorry, they exceeded
10 the goals -- they met the goals at 115 percent.

11 ASSOCIATE MEMBER PFANNENSTIEL: Okay, so
12 they --

13 MR. WHEELER: They are coming in at --

14 ASSOCIATE MEMBER PFANNENSTIEL: --
15 exceeded by 15 percent?

16 MR. WHEELER: Sure. Sure. That's
17 probably a better way of saying it.

18 So, the CPUC has held a long-standing
19 position in regards to the IEPR load forecast that
20 the forecast is the state's load forecast. And
21 that we use that forecast in our LTPP proceedings.
22 And that the LTPP, long-term procurement plan,
23 proceedings shall not be an alternative forum for
24 relitigation of such issues.

25 And we have held this position and

1 reiterated this position in multiple documents.
2 In our own OIR, order instituting rulemaking, for
3 the 2008 long-term procurement plan. We describe
4 there that the LTTP proceeding will be based on
5 this IEPR load forecast. And we do not intend to
6 re-examine load forecast issues there except for
7 with very narrow exceptions, such as material new
8 information or materially changed circumstances.

9 In addition, in decision 07-12052, which
10 is the 2006 LTTP, this document also reaffirmed
11 that long-standing position.

12 And we actually presented at the March
13 11th IEPR update workshop similar to statements
14 made today; we also filed comments in response
15 to -- in regards to that workshop.

16 Those comments expressed our agency's
17 intention to collaborate in the 2008 IEPR update
18 proceeding. And noted that quantification of
19 energy efficiency in the CEC load forecast was
20 placed in the scope of our LTTP proceeding, but
21 was deferred to the CEC IEPR process for the issue
22 to be resolved. So that, again, is just another
23 message, I suppose, to the utilities which will be
24 working in our LTTP proceeding, that this IEPR
25 proceeding is the proceeding to deal with load

1 forecast issues.

2 Also in those comments we expressed the
3 CPUC's preference for the CEC to produce a
4 mitigated and unmitigated forecast in order to
5 distinguish the effects of the utilities' energy
6 efficiency programs. And to demonstrate the
7 tangible benefits of energy efficiency to offset
8 new fossil generation.

9 And finally, in those comments, we
10 included questions that were mainly prepared for
11 the CEC's forecasting staff in order to refine
12 understanding of our interest, or the scope of our
13 interest.

14 Some of those questions covered issues
15 such as the calibration of data start dates
16 between our agencies, as well as comparing the
17 modeled attribution of energy savings from such
18 things as building and appliance standards, market
19 effects, price effects and utility programs.

20 And comparing those to the CPUC's
21 evaluation, measurement and verification
22 conventions such as the participant and
23 nonparticipant spillover program market effects,
24 free-riders.

25 Today it'll be great to listen to Mike

1 Rufo and get into some of these issues about some
2 of these definitional issues, so we can all begin
3 to speak a similar language on some of these
4 topics. I think that's really the first step
5 towards coming to consensus about how to deal with
6 these large issues.

7 And finally, I take a lot of pleasure in
8 saying that the CPUC Staff is extremely pleased
9 with the way that these questions and others were
10 handled in the scoping of this conceptual workplan
11 that Dr. Jaske and the demand forecasting staff
12 put together.

13 We were very pleased to see the
14 comprehensiveness of that scoping plan. And are
15 excited to have everybody take a look at that
16 today and excited for the discussion that ensues.

17 So, finally, I'll close by saying that
18 the CPUC is again committed to bring its experts
19 to the table to satisfactorily address these
20 issues. And both through our own staff resources,
21 and through our existing contract resources with
22 Itron. We're really excited to see this schedule
23 carried through.

24 And it wasn't in my presentation, but I
25 heard your interest, Commissioner Byron. This

1 schedule does work with our LTPP proceeding. And
2 so we're excited to see it move forward on
3 schedule.

4 Can I take any questions from you?

5 PRESIDING MEMBER BYRON: That was going
6 to be my only question. So, Mr. Wheeler, thank
7 you for being here. Thank you for reiterating the
8 PUC's commitment to our load forecast and the
9 determination of energy efficiency in our IEPR
10 process.

11 I'm glad to hear these things. And I
12 also am very pleased to see the way that the
13 staffs are working together and trying to resolve
14 all these issues. That's why we're here today.
15 Thank you for being here.

16 MR. WHEELER: Sure thing.

17 PRESIDING MEMBER BYRON: Any other
18 questions?

19 ASSOCIATE MEMBER PFANNENSTIEL: No.

20 PRESIDING MEMBER BYRON: No. Good.
21 Thank you.

22 MS. KOROSK: All right. Now we will
23 hear from Mike Rufo from Itron.

24 PRESIDING MEMBER BYRON: Mr. Rufo,
25 you're going to define concepts, vocabulary,

1 terms, acronyms. I've always wanted to know, does
2 Itron, is that an acronym that stands for
3 something?

4 (Laughter.)

5 MR. RUFO: You know, when I joined Itron
6 a few years ago, I Googled it trying to figure
7 that out. I think it actually is. It goes back
8 to something with the State of Idaho, when
9 originally the company was, I believe, founded in
10 a garage, like many companies, and it was
11 something like the Idaho Electronic Metering
12 Company or something. But I can get you a clearer
13 firmer answer to that.

14 PRESIDING MEMBER BYRON: Okay, good.

15 MR. RUFO: A Trivial Pursuit question.

16 PRESIDING MEMBER BYRON: Thank you.

17 MR. RUFO: Well, thank you,
18 Commissioners and everyone for being here today.
19 I'm here to talk about a couple things in this
20 first presentation about some of the savings
21 concepts and vocabulary that we're using in
22 various different proceedings. Mostly focused on
23 those related to energy efficiency and
24 forecasting.

25 And I'm hoping that I can get through

1 this in a timely way. Mike Jaske, if you'll help
2 me out here with the schedule, I think we're
3 trying to make up a little time, and I think 15
4 minutes ahead of schedule right now. We want to
5 leave some time for comments.

6 So, we could use a lot of time talking
7 in detail about a lot of these terms, but I think
8 for today my goal is really to introduce some of
9 the terms, refer folks to the accompanying report.
10 And then to encourage comment really on the
11 current set of terms that we have.

12 I think one of the project team's goals
13 is to improve some of these definitions moving
14 forward and to consider, you know, whether
15 additional terms are needed or really significant
16 changes in terminology or concepts, moving
17 forward.

18 So, what we've started with is just kind
19 of a where-are-we-starting-from, let's see if we
20 can get, you know, some common understanding of
21 the terms, as currently used, as a way of starting
22 to move forward to what are the strengths and
23 weaknesses or inadequacies of some of these
24 concepts and terms, and what are possible
25 improvements that folks think need to be made.

1 I think we have some in mind, ourselves. But we
2 didn't want to jump too quickly to those.

3 So I think I talked a little bit about
4 our objective; and Mike Jaske did, as well. We
5 want to try to get folks where we have some
6 consistency in the use of terms in the current
7 nomenclature before we move on to potential
8 improvements in some of that nomenclature.

9 It's not just an academic issue because
10 the way we define these terms should directly
11 translate into how we're doing various different
12 analyses and quantifications. So it is material,
13 and it can be material to all kinds of things,
14 including things like shareholder incentives that
15 folks may care strongly about.

16 So it's really not just -- it can
17 sometimes seem a bit esoteric and academic, but
18 given the importance of energy efficiency in so
19 many different proceedings and for overall energy
20 policy it really is important that we get this
21 right and make some improvements moving forward.

22 So, as I noted, we're going to go
23 through the efficiency and conservation terms and
24 how they're used in the forecasts. Talk some
25 about attribution of savings to programs and

1 market factors.

2 Talk some about the level of savings
3 reasonably expected to occur, which is a long-
4 standing Commission definition and concept, as
5 used in the forecasting process. And then really
6 emphasize our desire to get comment and input from
7 various stakeholders on these issues.

8 So as I go through a few of these I'm
9 going to, I think, you know, try to go fairly
10 quickly at a high level. Hopefully there is a
11 fair amount of common understanding about most of
12 these terms and how they're used. And to the
13 extent that there isn't, I think we will address
14 that through the day through some of the
15 presentations and comments, and in the written
16 comments that are filed and subsequent further
17 work that the team produces.

18 So, here, just wanted to differentiate a
19 few different things. Energy intensity, energy
20 efficiency and conservation. Energy intensity we
21 have described here as a normalized unit of energy
22 over some level of energy service and structural
23 demand.

24 So this is typically expressed as
25 kilowatt hour per square foot, or kilowatt hour

1 per household for some type of services in an end-
2 use-driven perspective. So energy per home for
3 water heating or for lighting.

4 Energy intensity has both an efficiency
5 dimension and an energy service dimension. So the
6 amount of energy for a task is a function of how
7 efficiently the task can be performed, and what
8 the specific level of service demanded for the
9 task is.

10 Energy efficiency we're defining as the
11 amount of energy it takes to deliver the task.

12 Conservation, defined here as more of a
13 behavioral, sometimes short term, not necessarily,
14 but it's more reduction in the level of energy
15 service demanded. And that may be because the
16 level of energy service demanded originally was
17 unnecessarily high. Say, doesn't necessarily
18 apply that there's a level of service that's
19 inadequate after the conservation action has
20 occurred.

21 ASSOCIATE MEMBER PFANNENSTIEL: So,
22 Mike, does that make conservation a subset of
23 energy efficiency? I mean the terms are used
24 interchangeably. And I've never really thought
25 they should be interchangeable.

1 MR. RUFO: Yeah, no, I --

2 ASSOCIATE MEMBER PFANNENSTIEL: But
3 you're making the distinction here, I'm just
4 trying to understand --

5 MR. RUFO: We're trying to draw some
6 lines in the sand to separate the use of the
7 terms. You know, lots of people in the field over
8 the last 25 years have used these terms in the
9 vernacular, kind of loosely.

10 But I think, you know, when you dig
11 deeper into some of the formal definitions you'll
12 see this type of a separation.

13 And, so, no, I would say, you know,
14 there are some grey areas. People like to say,
15 you know, turning off lights is conservation. But
16 you could also argue that it's efficiency if the
17 lights aren't really providing any needed service.

18 One distinction might be that if we
19 provide a piece of equipment, like a lighting
20 control system, to turn off those lights, we'll
21 call that energy efficiency. If we're relying on
22 people to manually turn the lights off, we're
23 typically going to call that conservation.

24 And that distinction, I think, is useful
25 because it points out, you know, differences in

1 how the job is being done. And, you know, we've
2 seen, over time, that those conservation effects
3 can surge and ebb over time in response to prices
4 and general concerns or not about the
5 environment --

6 ASSOCIATE MEMBER PFANNENSTIEL: Well, I
7 think it is useful and I think conservation seems
8 to have a connotation of deprivation with it. And
9 I think that, so it has sort of a negative sense,
10 I believe, in the public, so we try to use energy
11 efficiency in lieu of. But I just wanted to make
12 sure that was how you were thinking of it.

13 MR. RUFO: Yeah, it is.

14 MR. TUTT: Mike, I'm missing why you
15 have energy efficiency and energy efficiency
16 improvement. Is there a distinction between those
17 two?

18 MR. RUFO: I'm not sure that there is.
19 There are a few cases in the tables in the report
20 where we introduced a concept, and then we've kind
21 of talked about the level of savings associated
22 with it. So, I think that's -- I'm not sure that
23 that row is really adding a whole lot conceptually
24 here.

25 That reminds me, I did want to thank

1 Mike Messenger for putting together the slides
2 that I'm presenting here today. Mike and I have
3 been working on this together. Mike wasn't able
4 to join us today. So there may be a few questions
5 like that where -- we didn't complete our vulcan
6 mind meld and I may have to speculate on what Mr.
7 Messenger had in mind there.

8 But you will see a couple of cases where
9 we talk about the concept and we try to convert it
10 into, you know, what does that mean in terms of
11 the level of savings in a forecast. But I think
12 our focus now should really be on these big
13 picture concepts. Any other questions?

14 I think I already mentioned why, some of
15 the reasons why we think getting these terms right
16 is important. We were just talking about
17 conservation, and conservation does have, I think,
18 more of a temporal variance than perhaps energy
19 efficiency does. So that's one of the reasons to
20 keep a good eye on that.

21 Energy intensity changes can occur for a
22 variety of reasons, not just efficiency. So we do
23 think it's important to separate the intensity
24 from the efficiency. Sometimes those are
25 confounded a little bit, as well.

1 And, as we'll talk about in a little
2 bit, the amount of all of this is really a policy
3 issue. But there are many many factors that lead
4 to both efficiency and conservation adoptions.

5 So, as we move down to, you know, some
6 of the terms that are used in the different kinds
7 of forecasts that are out there, just kind of
8 laying out some annual savings for energy
9 efficiency would be a reduction in energy
10 intensity or UEC, as a function of an efficiency
11 improvement. That's carried out through the
12 number of structural-consuming units that have
13 made that change.

14 The cumulative savings are the annual
15 savings from a given point in time relative to our
16 reference here over the life of the measure. And
17 there are nuances there that aren't shown here in
18 the table. Different analysts will sometimes have
19 different methodologies for how these savings are
20 forecasted to occur over time.

21 But that there's a survival function
22 associated with that. Decisions about what
23 happens at the end of the useful life of the
24 measure. Is it automatically readopted; is it
25 readopted because of code. Is it only readopted

1 with program intervention. So, there can be
2 differences in accounting mechanisms for
3 cumulative savings over time.

4 The baseline year for savings just
5 defining that different analysts and different
6 venues and different studies may have a different
7 starting point for estimation of their savings
8 over time.

9 And similarly, the concept of frozen
10 efficiency forecast is one that, you know, we
11 think can be helpful around these challenging
12 forecasting issues. There are so many things that
13 naturally have to be invented in the forecast for
14 the forecast to be accurate.

15 Sometimes one of the only tools
16 available to try to figure out how much efficiency
17 is embedded in those forecasts is to reforecast by
18 trying to back that efficiency out and hold
19 efficiency constant at some point in time.

20 Any questions on that?

21 MR. TUTT: I guess I have one, Mike.
22 When you say frozen efficiency forecast, I think
23 another term that you might use is frozen
24 intensity forecast. Because some of the changes
25 moving forward are going to be ascribed to

1 nonprogram effects.

2 And I think some of the confusion is
3 that people call that efficiency, and other people
4 don't. Does that make sense?

5 MR. RUFO: Yeah, it does. And I think
6 one would -- there are benefits to doing both, as
7 well, because then there are energy service demand
8 changes, I think, that are going on in forecasts.
9 And I think it's useful to see the efficiency and
10 the service demand separated a little bit because
11 there's a lot of policy information there, as
12 well. You know, how much of the change in demand
13 is associated with increases or decreases in
14 energy service demand.

15 So, yeah, I agree that those can be done
16 together, and there are benefits to separating
17 them, as well.

18 Any other questions on that slide?

19 We were just talking about baseline
20 years for different modeling efforts. You know,
21 this is something that we have seen with looking
22 at the potential studies that have been done over
23 the last five, six, seven years. And the CEC's
24 forecasts, I think, have done a nice job over
25 history of trying to estimate cumulative savings

1 from sort of the dawn of the energy policy era in
2 California back in the mid 70s.

3 But for most of the work that a lot of
4 us are doing with respect to forecasting future
5 potential with respect to programs, we tend to
6 calibrate those models to data that's, you know,
7 in the one- to five-year looking-backwards
8 timeframe.

9 So, even when we're estimating savings
10 or comparing a frozen efficiency forecast, we may
11 have completely different time references for the
12 baseline. And there are advantages to both; they
13 tell you different things. And we'll get back to
14 this issue, I think, in a little bit or later
15 today.

16 I think one of the tough issues that
17 we'll be talking about again more today is how the
18 different models and analyses handle naturally
19 occurring conservation or energy efficiency. And
20 how we deal with that aspect of savings with
21 respect to what's in the baselines. So, let's go
22 into some of those issues here.

23 So, now we're going to talk about how
24 does energy efficiency manifest conceptually with
25 respect to different types of forecasts and

1 analyses of program or market effects.

2 So, some of the things we have here on
3 this table, we've got program direct savings. So
4 those are typically utility kinds of programs;
5 that is what we mean to refer to in that bucket.

6 And in that world you typically have
7 savings being estimated in relation to a group of
8 participants in a specific set of programs. And
9 often in the utility program world those savings
10 will be claimed and reported by the utilities in
11 their filings with the PUC for a variety of
12 purposes.

13 And currently there's a set of CPUC
14 evaluation measurement and verification protocols
15 that are used to estimate what those savings are.

16 I'm actually going to jump down from
17 there quickly to the last row, since we're
18 referring to program direct savings. There's sort
19 of a semi-bright to grey line between what in the
20 CPUC protocol nomenclature being referred to as
21 program direct savings versus program indirect
22 savings.

23 The program direct savings are typically
24 being associated with incentive programs where
25 there's, you know, very direct link between

1 program participation and a piece of equipment
2 that received an incentive, and the savings are
3 counted and claimed for.

4 Then, of course, there's a whole other
5 set of potential program effects that are
6 associated with less direct, nonincentive kinds of
7 program interventions. So energy information,
8 energy audits, and even market effects,
9 potentially program induced market effects.

10 So in the CPUC's current protocols
11 that's a separate bucket of savings, these
12 indirect savings. And they have a different set
13 of methodologies for evaluation. And generally
14 not as much savings being claimed, although this
15 kind of issue has shifted over time, the amount of
16 energy that's being claimed for these kinds of
17 indirect program activities.

18 So, another concept lurking here is
19 okay, well, those are different flavors of savings
20 associated with programs. Then we have this
21 uncomfortable animal that has been called a free-
22 rider for many many years. And a lot of
23 discussion, not a lot of satisfaction, I think,
24 with the use of this particular term. Although I
25 think conceptually what it's trying to represent

1 remains very important, the term, itself, I think
2 is problematic.

3 But here we're referring to savings that
4 would have otherwise occurred. A program
5 participant who receives an incentive, say, and is
6 determined, through various analyses, to the
7 conclusion is well, that's they participate in
8 this program, they received an incentive, but they
9 were going to adopt that energy efficiency measure
10 anyway.

11 If there's time we can talk about some
12 of the things that are wrong with that term, I
13 think, in terms of its association, how it's used
14 in traditional economic literature. I think the
15 way it's used in energy efficiency is a little bit
16 too strong.

17 But I think the bigger issue that we
18 have with the term in the current policy
19 environment is, you know, that term was pretty
20 tractable and useful at the dawn of energy
21 efficiency market interventions because we had a
22 lot of baselines which had a very low saturation
23 of energy efficiency; and it was easier for
24 analysts 15 years ago to kind of establish what
25 they thought that estimate of free-ridership was.

1 And there hadn't been a lot of years of program
2 interventions.

3 Now, we've been doing this for 20 years
4 or more. And we had this issue of, well, as an
5 end-user or the consumer who takes an action today
6 and is determined that they would have otherwise
7 done it, is that a free-rider if they were
8 potentially influenced by the last ten years of
9 programs. The reason they're taking action today
10 is because of the cumulative effect of program
11 interventions over the last X or Y years. Is that
12 an appropriate term to use.

13 And I think that's one of the things
14 that we want to get comment on. Even though I
15 think that the concept of, I would sometimes refer
16 to this as marginal program efficacy, even if we
17 don't like the term free-rider and we re-label it
18 or redefine some of these things, we still have to
19 ask the question, is there importance or validity
20 to the concept of a marginal program effect.

21 So you take your next dollar in the
22 program cycle and how do you determine what the
23 incremental effect of that program dollar is.
24 Even if you give credit to the long-standing
25 program effects, you may still want to know what

1 is the marginal effect today of the next dollar
2 spent.

3 Okay, the last item there is just an
4 estimate of what the net savings are, which, you
5 know, theoretically are these total gross program
6 savings less the free-ridership or estimate of
7 what would have occurred in the absence of the
8 program.

9 Any questions on that?

10 MR. TUTT: So the net savings do not
11 include the indirect savings?

12 MR. RUFO: They may or may not. I think
13 it depends on you can have a net savings
14 associated with an indirect program activity, for
15 example, an audit program. We've estimated and
16 others have estimated a net impact for audit
17 programs. It kind of depends on what's being
18 claimed.

19 So, what's in and what's out between
20 direct and indirect, I think, is an issue that
21 changes over time. But conceptually there's
22 nothing, you know, that should -- you could argue
23 that it's all in and it's just a matter of trying
24 to get the analysis right.

25 There's no reason, I think, there should

1 -- I think there are non -- hopefully there are
2 nonzero indirect impacts. They're just a little
3 bit more challenging to estimate at times.

4 Any other questions on that?

5 Okay, I have a few more concepts here.
6 Program and market attribution. I think I used
7 the word market effects a couple times. Sometimes
8 you'll hear people refer to market transformation.
9 And here what we're talking about are changes in
10 the structure of the market as a result of program
11 interventions.

12 And generally we tend to associate these
13 with, hoping that these are positive changes that
14 produce more energy efficiency. So a program-
15 induced market effect or market transformation
16 would produce structural changes in the supply or
17 demand side of the market that lead to more energy
18 efficiency that is sustainable and would continue
19 to occur absent direct intervention.

20 I'm going to skip down to the naturally
21 occurring. And naturally occurring savings is a
22 term that's closely associated with the free-
23 ridership concept. But it's used more in the
24 forecasting venue, so evaluators, when they're
25 looking at snapshots of programs will talk about

1 net savings and free-riders, and they're in and
2 out of a program cycle.

3 Forecasters, when looking over five, 10,
4 15, 20 years, will often use this term naturally
5 occurring savings, and it represents pretty much
6 pretty similar concept, which is what level of
7 energy efficiency is forecasted to occur in the
8 absence of programs.

9 But that term suffers from some of the
10 same problems, maybe not all, that the free-
11 ridership term does, what's natural 10 or 20 years
12 after a series of market interventions. So I
13 think some folks are starting to think about
14 shifting this term over to something like, you
15 know, market-driven savings.

16 Which the idea would be that, well,
17 today there's a certain amount of energy
18 efficiency, there's demand in the market. And a
19 chunk of that might be because of program
20 interventions for the last 20 years. A chunk of
21 that might be because of codes and standards. A
22 chunk of that might be because of price. A chunk
23 of that might be because of changing norms,
24 behavior, perception of the environment, climate
25 change.

1 But from a forecaster's point of view,
2 it's all market demand for energy efficiency
3 before you even try to cut it up. As opposed to
4 maybe this naturally occurring, which has some
5 kind of reference to some theoretical time zero
6 year that may not be very useful anymore.

7 Price-induced savings. The idea here is
8 recognizing that there is the price elasticity out
9 there, getting economists to converge and agree on
10 what the level of the price elasticity is for
11 electricity and natural gas, is not always easy.
12 And the data that's available to estimate price
13 elasticity, especially down at an end-use level,
14 is fairly inadequate.

15 But conceptually, again, changes in
16 prices should lead to some changes in demand. And
17 that's something that can be estimated directly or
18 indirectly, albeit not as accurately as all of us
19 would like.

20 I think I'm going to wait on committed
21 savings because that term's going to come up again
22 in a slide or two.

23 ASSOCIATE MEMBER PFANNENSTIEL: Mike,
24 can we just make sure then that I'm clear. Could
25 you give me some examples on the market effects

1 compared to the naturally occurring compared to
2 price-induced?

3 For example, would market effects be
4 more education, advertising, information induced
5 kinds of savings? Naturally occurring might be
6 that of perhaps over a longer period of time? And
7 price effects through outside of those two, but
8 just plain, you know, price elasticity demand?

9 I mean, is that really what you're
10 saying here? I'm finding the terms a little
11 difficult to follow without the context.

12 MR. RUFO: Yeah, and I think one of the
13 challenges here is what we've -- what we're trying
14 to do at this stage is to lay out some of the
15 definitions that are out there without -- we
16 haven't taken the step of -- let me try to clear
17 the deck and say, well, let's redefine these
18 things in a way that we think deals with all of
19 the mutual exclusions --

20 ASSOCIATE MEMBER PFANNENSTIEL: Then I'm
21 just going to bear with you and let this go until
22 we reach the point where we try and decide which
23 are useful definitions.

24 MR. RUFO: Yeah, but I think there's
25 something I can address in your question. For me,

1 you know, this is my opinion, others may have
2 different opinions. I see the term naturally
3 occurring or market-driven as potentially the
4 bigger animal from which some of these other
5 things are subsets.

6 So, as I was saying before, forecasting
7 point of view, if you believe that there's a
8 certain structural change in the market or the
9 equilibrium for energy efficiency is what it is,
10 and it embodies everything that's out there,
11 that's the bigger unit.

12 And then price and program-induced
13 market effects would be subsets of that.

14 ASSOCIATE MEMBER PFANNENSTIEL: Really
15 just the question of how finely policy people need
16 to disaggregate this.

17 MR. RUFO: Yeah, and it can, you know,
18 there can be a lot at stake --

19 ASSOCIATE MEMBER PFANNENSTIEL: And to
20 what purpose.

21 MR. RUFO: Right, from the utilities'
22 point of view, it's important, I think, to have
23 some attribution and disaggregation of this. For
24 example, you know, program-induced market effects.
25 So if in one set of nomenclature, that's just

1 rolled into this market-driven or naturally
2 occurring because it suits the forecasting need,
3 from a policy point of view it doesn't necessarily
4 reflect for the entity could be the Commission's
5 for codes and standards getting the recognition of
6 the long-term effect of some of the program
7 interventions.

8 So, I think we'll get back to that issue
9 today, I'm sure.

10 MR. TUTT: One specific question here.
11 What do you mean in price-induced, where you say
12 that the current staff forecast includes all
13 behavior-induced changes in intensity in that
14 category?

15 MR. RUFO: I asked Mike about that.

16 (Laughter.)

17 MR. RUFO: And I think he said that was
18 a quote from one of the CEC forecasting
19 methodology documents. Mike Jaske, or anyone
20 else, help me out here?

21 But I think he put that in there because
22 he found it in one of the documents and wanted to
23 just confirm or not, or --

24 MR. TUTT: So, you mean, is it simply
25 that there may be many reasons why a change in

1 energy intensity happens and there's just one way
2 to reflect those in the price, in the staff
3 forecast, and that's through a price change? Or
4 to describe it as a price-induced change?

5 MR. RUFO: That may be, but I'm probably
6 not the best person to answer that question.
7 Maybe we can take that up in the next
8 presentation. What do you think, Mike?

9 PRESIDING MEMBER BYRON: Dr. Jaske to
10 the rescue.

11 DR. JASKE: I think from the perspective
12 of how staff differentiates or conducts
13 attributions, let's put it that way, that when
14 there are things introduced for reasons other than
15 direct impacts programs, we're not really
16 separating between all of the various purely
17 behaviorally induced changes.

18 So what Messenger is trying to record
19 here is that there's several motivating factors
20 that really we're not, traditionally at least,
21 separating between price and other things that
22 might have caused, you know, that measure to be
23 introduced.

24 MR. TUTT: Okay, one last question. The
25 market effects transformation at the top. You

1 haven't used this term. I'm wondering if it's
2 fallen out of favor. But is that similar to a
3 free driver effect?

4 MR. RUFO: Yes. Spill over. I guess
5 one other thing about -- I think I said the market
6 driven was the biggest animal, but again, where
7 the program-induced market effects go, those are
8 decisions that could be made by different animals.

9 And I think what we're saying is, you
10 know, we think it's important to try to separate
11 the price, the market effects and the program
12 effects if we can. At least acknowledge when
13 multiple of those entities are bundled up
14 together, be careful with the nomenclature.

15 I think we've already talked about most
16 of what's on this slide. I do want to pick up
17 some time. So, let's go on to the committed and
18 uncommitted. And I don't know if we need to say
19 too much about this, this is what's already been
20 documented in the IEPR in terms of committed
21 savings being those estimated to result from
22 programs that are funded and authorized. And the
23 uncommitted are those that are reasonably expected
24 to occur based on goals or program plans. But are
25 typically not included in the forecast.

1 Now, the next slide, now talking about
2 some of the terms, in general; how they're used in
3 evaluation; how they're used in forecasting. And
4 there are different sets of analysts that may use
5 those terms that are presented slightly
6 differently.

7 In the report we've provided some
8 citations on the PUC's definitions and some of the
9 CEC's definitions.

10 But you won't find a, you know, like
11 holy grail that defines these things precisely for
12 the industry, per se.

13 Now, we're going to talk about some
14 terms that are used in the, for lack of a better
15 term, stand-alone energy efficiency potential or
16 forecasting models.

17 So I think, as most of you know, there's
18 been a set of analyses done here in California and
19 around the country, around the world, I'm sure, in
20 which energy efficiency potential is estimated,
21 but through a set of models that are typically
22 stand-alone. They're not trying to forecast the
23 entire load. They're looking at the incremental
24 effect of energy efficiency over a particular
25 period. And some of these terms have also been

1 around for a couple of decades.

2 So technical potential is typically used
3 to represent the theoretical potential of energy
4 efficiency if you could apply the energy
5 efficiency measure throughout the population for
6 all applications where it's feasible from an
7 engineering point of view. Not taking into
8 account consumer preferences or economics.

9 There are different -- other little
10 sticky issue of technical potential is the time
11 dimension. So a lot of typically most studies
12 will estimate technical potential as a theoretical
13 snapshot concept. So you wave the magic wand and
14 swapped out all the equipment, there's your
15 savings.

16 That's an interesting concept, but when
17 you try to put it onto a forecast graph what you
18 see is instantaneous drop in load, that's
19 inconsistent with the natural turnover of capital
20 equipment. So it doesn't often tell you much in
21 the short term about what the potential is.

22 Sometimes you'll see that technical
23 potential phased in for certain measures as a
24 function of the capital equipment natural
25 replacement rate.

1 Economic potential is the same thing as
2 technical potential, but with the economic screen
3 applied. So a cost effectiveness test is applied
4 to each measure typically. In California that's
5 usually based on the total resource cost test.
6 And other jurisdictions it might be based on a
7 different economic test. Might be based on the
8 consumer's perspective.

9 The same issue with respect to the
10 instantaneous and capital replacement issues.
11 Oftentimes economic potential will be a big number
12 initially because that doesn't take into account
13 the time it takes to replace the equipment.

14 Achievable potential is where analysts
15 try to calibrate these estimates of potential
16 looking at the costs and the benefits from the
17 consumer's point of view. And looking at what
18 adoption in the real world is.

19 And so there are a number of different
20 models and analyses out there from various
21 analysts who try to estimate potential by
22 calibrating to actual adoptions. And what happens
23 when you do that is it usually reveals what has
24 been called the payback cap for 25 years, or high
25 implicit discount rates. All kinds of different

1 ways people talk about this. Market barriers, you
2 know, why don't 50 percent of the consumers adopt
3 the measure with the two-year payback. Depends on
4 the measure.

5 But there are a number of reasons for
6 each measure and market segment why consumers
7 might not adopt a measure that looks theoretically
8 very attractive from an economic point of view.

9 For the achievable potential analysts
10 it's like a forecaster, they'd like to know why,
11 but what they really care about is the bottomline.
12 What percent of the market has adopted the
13 measure. And if it's not explain by economics,
14 then it's typically calibrated with some factor in
15 order to get the model to mimic what's going on in
16 the market.

17 And there are good things and bad things
18 when you do that. One of the good things is that
19 you have a calibrated analysis. One of the bad
20 things is that you may have an analysis that's
21 tied to the past in terms of the performance of
22 that measure is now maybe locked down based on
23 what the performance has been historically. When
24 what you really are trying to look at are programs
25 and policies that would change that dynamic

1 fundamentally.

2 Within achievable potential there's a
3 whole range of sub-terms that get used in
4 different studies by different analysts. Base
5 potential, current potential, business-as-usual
6 potential, a variety of terms to characterize, you
7 know, what's the level of program activity that's
8 expected in the current paradigm or the business-
9 as-usual paradigm.

10 Then there will often be a set of
11 analyses that ramp up from there. Aggressive
12 potential, higher incentive levels, more
13 information, marketing outreach. And then you get
14 up to the top you'll see terms like maximum
15 achievable potential or full potential. And those
16 are typically models in which full incremental
17 costs are assumed to be paid through rebate
18 programs. Or the amount of resources devoted to
19 information and knowledge building are adequate to
20 create knowledge and awareness throughout the
21 entire population. And that will kind of underlie
22 this estimate of what's the maximum you can get
23 from these voluntary programs.

24 But there's a lot of variation and
25 differences in assumptions in all of those

1 studies. Some general consistencies, too.

2 Questions on that? Oh, I should also
3 say that many of these studies also have their own
4 estimate of naturally occurring or market-driven
5 potential. And, of course, the obvious question
6 that comes up right away when you have these
7 stand-alone studies, that we have them all over
8 the country in conjunction with econometric
9 forecasts, is well, how much of that naturally
10 occurring estimated in the stand-alone model is
11 embedded in the econometric forecast.

12 Because hopefully, if it was the same
13 amount you would then just take the net savings
14 from the stand-alone energy efficiency forecast
15 and apply that to the load forecast. But if it's
16 not the same amount, then it wouldn't necessarily
17 just be the net estimate.

18 Questions on some of these concepts? I
19 know we talked a little bit about this with some
20 folks who were here in other workshops in the
21 past.

22 Okay. So, maybe we should wrap this up,
23 stay on schedule. Our real goal at this point was
24 just to put out some of these terms of reference,
25 the sources. And it's mostly from PUC --

1 protocols and some of the CEC's own documents.
2 And to, you know, open the door for comment,
3 input. Because I think the project team would
4 like to refine some of these things, make them
5 more precise and potentially propose maybe some
6 changes in nomenclature, or even additional terms.
7 But we wanted to gain a lot of input from the
8 stakeholders on that.

9 That's it. Anything else?

10 PRESIDING MEMBER BYRON: You had some
11 good questions from the dais here, Chairman
12 Pfannenstiel and her Advisor. But I want to make
13 sure that the staff or public has any -- those in
14 attendance here might have an opportunity to ask
15 any questions or clarifications on this
16 presentation.

17 Okay. Oh, please. Just come forward
18 and identify yourself and ask your question.
19 Yeah, if you're going to use one of those
20 microphones, just turn on the green light.

21 MR. ASLIN: My name is Richard Aslin and
22 I work for Pacific Gas and Electric Company. And
23 I just had a couple of questions.

24 First of all, I thought the presentation
25 was very very interesting and worthwhile. And I

1 feel like you've saved me hours and hours of
2 having to dig through reference material to come
3 up with this same level of understanding. So I
4 really appreciate your presentation.

5 Just had a couple of questions that
6 might go to your request for comments here at the
7 end. One was on this slide number two. Let's
8 see, it's the one that says efficiency and
9 conservation concepts. It's number two in line.

10 So I'm still struggling with the
11 difference between energy intensity and energy
12 efficiency. And actually when I'm looking at this
13 definition the first sentence says, estimated
14 kilowatt hours required to meet a specific level
15 of energy service.

16 And then later on it says, intensity
17 changes include both efficiency effects and
18 changes in the level of energy service.

19 So, I'm wondering how those two
20 things --

21 MR. RUFO: Yeah, I think we need to
22 clean that up a little bit. And we did have some
23 internal back-and-forth on that.

24 What we'd like, I guess my preference is
25 that the intensity capture the efficiency and the

1 service demand. And that the efficiency capture
2 just the efficiency.

3 And that as kilowatt hour per square
4 foot or per home changes or say, residential water
5 heating, that change -- that we understand how
6 much of that change is efficiency and how much is
7 the service demand.

8 But at the end of the day you still have
9 an intensity there. I think maybe we should --

10 MR. ASLIN: Okay, so it would be --

11 MR. RUFO: -- remove the service. I
12 think we have to -- putting the service demand up
13 there maybe confounds it a little bit, I agree.

14 MR. ASLIN: Okay.

15 MR. TUTT: One example might be when I
16 get rid of my 30-year-old CRT television set and
17 put a plasma screen on my wall that's going to
18 change the energy intensity. It's not an
19 efficiency measure necessarily.

20 MR. ASLIN: Okay, yeah, thank you. That
21 did clarify it for me. Thanks very much.

22 MR. RUFO: Oh, you wanted -- I'm sorry,
23 I thought we were still -- the problem was in the
24 language, but it was in the concept.

25 MR. ASLIN: Well, it's kind of both.

1 One thing was I really do like the distinction
2 between energy efficiency and conservation being
3 around the level of service, since the energy is
4 really a derived demand. And what you're really
5 consuming is the service. I think it's really
6 important to make a real clear distinction between
7 those two things because it's so easy to confuse
8 those issues. And that leads to confusion going
9 forward.

10 So, I like the nomenclature here; I was
11 just struggling with that --

12 MR. RUFO: Yeah, and we'll work on that.
13 The intensity can get a little muddy, too, because
14 if it's say kilowatt hours per home for cooling,
15 and the home size increases, then the intensity is
16 increased because cooling is the denominator. But
17 if it was square footage then it would be -- the
18 more you normalize, the more you start to approach
19 efficiency. I think you could normalized some of
20 the service demand out, but it's just a matter, I
21 think, of trying to be clear.

22 That's a good comment. I know we need
23 to, this is one where we need to sharpen the
24 pencil a little bit more.

25 MR. ASLIN: Okay. The other question I

1 had was on slide 4, which is titled, why
2 efficiency terms are important.

3 The last bullet says conservation or
4 efficiency reasonably expected to occur is a
5 policy issue. And I have to say, that immediately
6 struck me as being -- I usually would think of
7 that as being a technical issue.

8 So I was curious, what did you mean by
9 that.

10 MR. ASLIN: Well, that's -- I think the
11 credo term is mostly associated with programmatic
12 intervention. So I think it was just highlighting
13 that, the use of that term, at the Commission
14 historically. I think legislatively, the Warren
15 Alquist is, you know, it's associated with a set
16 of programmatic policies.

17 But, you know, it's both. There are all
18 kinds of technical issues associated with
19 estimating that. But the animal, itself, how much
20 is in there is more of a policy issue. Although I
21 don't know that that's really that germane to the
22 presentation, honestly.

23 MR. ASLIN: Okay, so if I understood
24 that, so what you were talking about there was,
25 for example, one of the policy choices would be to

1 just take the Public Utilities Commission's target
2 goals and say that that's the level of energy
3 efficiency that's reasonably expected to occur?
4 Or it could be some percentage of that? Is that
5 what you were getting at?

6 MR. RUFO: I think so. Pardon my
7 equivocation, because I'm just not positive, since
8 Mike Messenger put these slides together. He
9 might have also been trying to get at -- one of
10 the things I didn't maybe emphasize is that this
11 term conservation is really the one that's the
12 official term, conservation reasonably expected to
13 occur. So he may have been referring to it maybe
14 policy issue with respect to whether we want to
15 change that to efficiency reasonably expected to
16 occur, or come up with some other term to capture
17 both efficiency and conservation.

18 MR. ASLIN: Okay, thanks. If you could
19 bear with me for just one last question here. I
20 have slide number 7 called attribution of observed
21 or estimated savings.

22 MR. RUFO: Yeah.

23 MR. ASLIN: What I'm interested in
24 knowing, and maybe the fellow from the Public
25 Utilities Commission could answer this, as well,

1 but for the current targets that are out there
2 through 2013, in this slide of those targets,
3 which one of these boxes is closest to those
4 targets?

5 Is it program-direct savings? Is that
6 the measurement of the target? Or is it the net
7 savings? Are you familiar with that?

8 MR. RUFO: I am familiar with it. My
9 understanding is in the 06/08 cycle it's primarily
10 the direct. There's not an allowance or a
11 measurement, per se, of the market effects part of
12 indirect.

13 It is, I think, allowed in the 06/08
14 cycle to claim some indirect savings on
15 information and audit programs. Not all utilities
16 are doing that.

17 I don't know if anybody from the
18 audience wants to comment or clarify. I think
19 Edison, you guys are claiming some indirect audit
20 effects in your 06/08 portfolio.

21 But what's not on the table in the
22 current measurement regime or in the current --
23 maybe I should say risk reward regime, is
24 inclusion of, you know, market effects or
25 nonparticipant spillover as it's sometimes

1 referred to.

2 So the current goals are net goals. And
3 the way you get to the net goals is, you know,
4 determined by each utility. But the claims are
5 primarily on the direct and a little bit on the
6 indirect side.

7 Does that -- I guess Michael Wheeler's
8 not here, but, utilities, anybody? Does that
9 sound right enough? I guess when we take that
10 up --

11 MR. ASLIN: Okay, an area for further
12 discussion.

13 MR. RUFO: Why don't we take that up in
14 your guys' panel. Get some other input on it.

15 MR. ASLIN: All right. Well, thanks
16 very much. I really appreciate that.

17 MR. RUFO: Yeah.

18 DR. JASKE: I don't think I or,
19 Commissioners, in your opening comments, we
20 reminded the audience that I believe August 19th
21 is the date for comments.

22 And to the extent that there are
23 clarifications the parties want to make as a
24 result of this presentation and others, as we are
25 going to be influencing things moving forward,

1 those kind of comments are especially appreciated.

2 We'd like to sort of receive them on
3 that date so we can build them into our materials
4 and start making progress.

5 PRESIDING MEMBER BYRON: Thank you, Dr.
6 Jaske. That date is also in the notice of the
7 Committee workshop August 19th.

8 Ms. Korosec.

9 MS. KOROSEC: All right, I think we'll
10 be moving on now to the staff presentation on
11 energy efficiency attribution. Mr. Kavalec.

12 MR. KAVALEC: My name is Chris Kavalec
13 from the demand analysis office. I'm going to
14 take just a couple of minutes here to give a brief
15 review/summary of our model structure and how we
16 incorporate efficiency.

17 And this is just meant to give sort of a
18 minimum level of familiarity to the way we do
19 things to better inform our discussions later.

20 And then Tom Gorin is going to go into a
21 little bit more detail on some of these things.
22 So if you have questions about the dirty details,
23 I would suggest waiting for his presentation.

24 And he's also going to talk about some
25 of the challenges that we face in modeling

1 efficiency.

2 So, here's the forecast structure. On
3 the left-hand side we have the residential and
4 commercial models which are our end-use models.
5 The agricultural model which is an econometric
6 model. And then on the right the industrial
7 model, which is a hybrid econometric and end use.

8 We also project energy consumption for
9 transportation, communications and utilities and
10 street lighting in simpler models.

11 And the results from these are gathered
12 together into the summary model where we calibrate
13 to historical use; we adjust for weather; and we
14 make certain external program adjustments, for
15 example, for unclassified use.

16 Then annual totals from the summary
17 model are shuffled off to the peak model where
18 incorporated load shapes in the peak model allow
19 projections of peak for each year for each service
20 territory.

21 Okay, incorporating efficiency programs.
22 The two sectors where we explicitly account for
23 efficiency programs for the residential and the
24 commercial models. And the bulk of programs that
25 affect residential and commercial are incorporated

1 in the models.

2 Past impacts are incorporated implicitly
3 in other sectors through calibration to actual
4 energy use. Historic and projected impacts from
5 committed efficiency programs not modeled in the
6 residential and commercial models are accounted
7 for in the summary model which I'll talk about a
8 little bit more in a minute.

9 And we plan to modify in the future the
10 industrial model to allow explicit incorporation
11 of efficiency programs.

12 Okay, the residential model, our end-use
13 model. Forecast residential consumption based on
14 projections of the number of households, appliance
15 saturations and appliance unit energy consumption,
16 or UEC, which just basically means average energy
17 use in a given period of time for an appliance.

18 As I mentioned, it incorporates most of
19 the residential efficiency program impacts through
20 the introduction of building and appliance
21 standards and various retrofit programs. A
22 complete listing of the programs that are included
23 is given in one of the discussion papers for the
24 workshop today, the one on modeling efficiency.

25 Efficiency program impacts are handled

1 through adjustments to the UECs, given the
2 assumptions we make on penetration and compliance.
3 And, as we've talked about earlier this morning,
4 sorting out impacts from individual programs
5 requires adjusting for price and other market
6 effects.

7 The commercial model. Our other end-use
8 model that forecasts energy use for electricity
9 and natural gas by projecting commercial floor
10 space. The portion of floor space devoted to each
11 end use, and end-use energy intensity. In other
12 words, energy use per square foot in a period of
13 time.

14 Like in the residential model, it
15 incorporates the bulk of commercial efficiency
16 program impacts through the introduction of
17 standards and federal, school and hospital
18 programs. And, again, a complete listing of the
19 programs is given in the discussion paper.

20 Efficiency program impacts are handled
21 through adjustments to the EUIs, given our
22 assumptions on penetration and compliance. And,
23 again, sorting out impacts from individual
24 programs requires muddling through price and other
25 market effects.

1 Okay, the summary model, as I said,
2 combines the energy forecast from all the
3 individual sectors. The combined forecast is
4 adjusted for weather, unclassified consumption and
5 efficiency programs. And it's calibrated to
6 historical data.

7 The additional efficiency adjustment
8 accounts for committed programs that are not
9 incorporated in the residential or commercial
10 models. And examples of these programs include
11 master metering, industrial energy management
12 incentives, and a complete list is given in the
13 discussion paper.

14 To quantify these programs, the way we
15 do it is first year impacts are assigned a useful
16 measure life. Then a degradation factor is
17 applied to each year of that useful life to
18 account for poor maintenance or equipment failure.

19 And if you can't get enough of this
20 stuff, we have a couple papers available on our
21 website included with the materials for this
22 workshop. They give you tons of details on our
23 modeling and how we handle efficiency.

24 So, with that I will turn it over to Tom
25 Gorin unless there are questions about our general

1 approach.

2 ASSOCIATE MEMBER PFANNENSTIEL: Yes,
3 Chris, --

4 MR. KAVALEC: Yes.

5 ASSOCIATE MEMBER PFANNENSTIEL: On your
6 slide on the residential model, the last bullet,
7 sorting out impacts of individual programs
8 requires adjusting for price and other market
9 effects.

10 Describe a little bit how you adjust for
11 price and other -- I understand what you do with
12 UECs. But how do you adjust for price and other
13 market effects?

14 MR. KAVALEC: A simplified example,
15 let's say you have a standard for some appliance,
16 and at the same time you have a large price
17 increase. And use of that appliance because of
18 the price increase is reduced below that that
19 would have happened with the standard.

20 In that particular case the standard
21 would have no impact, because folks are reacting
22 to the price. So those savings would have
23 occurred anyway. So the standard is having no
24 effect.

25 ASSOCIATE MEMBER PFANNENSTIEL: How do

1 you figure that out for each of these appliances
2 that you model the UECs for? Just in your model
3 go through each and every one and decide whether
4 that is standards or a utility rebate program had
5 any effect, or whether it was just the price that
6 happened at that time? Or the price at some
7 future time? Or some change in marketing or
8 information value or some promotion? Or how do
9 you decide that?

10 MR. KAVALEC: That is a perfect
11 transitional question for the man who did it for
12 us in the last forecast.

13 ASSOCIATE MEMBER PFANNENSTIEL: All
14 right, thanks.

15 MR. TUTT: Chris or Tom, I just had one
16 question on that slide, too. How does the
17 residential model take into account changes in
18 square footage of houses?

19 MR. GORIN: I'm Tom Gorin from the
20 forecasting office.

21 We essentially used the RAS results to
22 develop square footage estimates by housing
23 vintage, for the vintages of houses we have in the
24 forecast which are consistent with the building
25 standards. And the new houses, each housing

1 vintages grown for purposes of additions and
2 renovations at a slight increase each year, the
3 average square footage.

4 MR. TUTT: And then that's factored into
5 the UEC somehow?

6 MR. GORIN: That's factored -- the UECs
7 for heating and cooling are based on kilowatt
8 hours per square foot, and therms per square foot.
9 So if the houses are getting larger the UEC will
10 go up over time. Does that answer your question?

11 MR. TUTT: It's --

12 MR. GORIN: Back to Chairman
13 Pfannenstiel's question. I think your question
14 brings up part of the purpose for this workshop
15 and the purpose for the contract and the working
16 group, is we're trying to put all of these
17 attribution -- we're trying to fill all the
18 attribution boxes more accurately than we have in
19 the past.

20 In the past, from forecasting
21 perspective, we were more interested in what the
22 most reasonable forecast of future energy use
23 would be. And we weren't that interested in
24 whether it was a price impact or a program impact.

25 From my perspective there was a bound

1 of, you know, unmitigated forecast and a most-
2 likely forecast, and the difference between those
3 two was the difference allocated to savings
4 programs.

5 And, you know, we tried our best to
6 allocate those things in various boxes. And there
7 wasn't the demand that there be a more accurate
8 accounting in those boxes that there is now.

9 Does that help any?

10 ASSOCIATE MEMBER PFANNENSTIEL: But if
11 you're doing end-use forecasting, I'm sort of with
12 you, I just want to know what the forecast is.
13 And, you know, how much electricity or natural gas
14 we're going to use in California.

15 But in order to get to that I think we
16 have to determine how much, how effective our
17 energy efficiency programs are. And to get to
18 that we have to back into why we're here today. I
19 mean all of this trying to allocate this.

20 I don't think we're doing it -- from the
21 PUC standpoint I believe the PUC needs to
22 determine how much is in each of the boxes,
23 because that's how they incent the utilities.
24 That's the risk and reward in the utilities.

25 From our perspective it's less how much

1 is in each of the boxes, but when you do an end-
2 use forecast you kind of have to do, you have to
3 get it down to the granular level and be confident
4 that for each item in your model you know what's
5 happening, and whether that's happening because
6 there's a new appliance standard, or because
7 prices have gone up, or, you know, something else
8 has changed in the marketplace.

9 You need to know what the right number
10 is. So I don't see how you cannot describe the
11 adjustments that are done for what's called there
12 for price and other market effects.

13 I'm just trying to figure out how those
14 adjustments --

15 MR. GORIN: Well, in the residential
16 model there's slight price elasticity for heating
17 and cooling use based on the relationship between
18 the current price and the price last year.

19 And residential prices have been
20 relatively constant over the past 20 years, so
21 there's not a lot of movement in that. There's
22 some discussion that that's going to change in the
23 next forecast because there's some belief that
24 prices are not going to be constant in the future,
25 or declining in the future. So, we're going to

1 have to specifically visit that subject.

2 In the residential sector we've
3 primarily driven the reductions in use by
4 standards. And, you know, taken the price impact
5 comes in mostly in play in the miscellaneous end
6 use where it goes up and down in relationship to
7 changes in historic pricing.

8 And residential use has been fairly
9 inelastic, I think, over --

10 ASSOCIATE MEMBER PFANNENSTIEL: So there
11 really haven't been any adjustments for price
12 because there's been very little change in price,
13 and it's all done on the basis of elasticity,
14 which hasn't been very great anyway?

15 MR. GORIN: Right. Now, in the
16 commercial model, the EUI -- there's EUI developed
17 on the basis of a price elasticity for each end
18 use. But that is also compared with the 1977
19 price, which bring up a question of what our base
20 year needs to be now.

21 And that, the reduction in the EUI,
22 there's an EUI that's calculated based on what the
23 difference in price is, and there's an EUI
24 calculated on the basis of what standard or
25 conservation program would be. And what is taken

1 for the forecast is the lower one of those. So
2 the most credits given, if there's a huge price
3 increase it's determined that the energy use is
4 based on the lower one of those two.

5 Now, for the forecast purpose, now
6 that's slightly different, and it's probably open
7 to discussion in whether you credit the price or
8 the program impact for the savings estimate, which
9 is different than where you're going with the
10 forecast.

11 ASSOCIATE MEMBER PFANNENSTIEL: Are
12 there any other market effects adjusting -- do you
13 adjust it for any other market effects other than
14 price?

15 MR. GORIN: We try to -- these are old
16 illustrations, but in gas appliances we removed
17 the gas use by pilot lights, because they're no
18 longer used. And we would look at changes in
19 television sets that are market induced. You
20 know, they've gone down, and now they're going
21 back up.

22 Part of the problem -- not the problem,
23 but with going back to 75 as the base year, you
24 know, you're looking at tvs that had tubes in
25 them. And there was a huge savings when you went

1 to transistors. And now we're going back sort of
2 the other way, and probably the new plasma tvs
3 will get more efficient over time.

4 And, you know, maybe because of
5 standards, maybe not.

6 ASSOCIATE MEMBER PFANNENSTIEL: So this
7 is the UECs --

8 MR. GORIN: This is the UECs, right.

9 ASSOCIATE MEMBER PFANNENSTIEL: -- not
10 outside of those.

11 MR. GORIN: Right.

12 ASSOCIATE MEMBER PFANNENSTIEL: Thank
13 you.

14 MR. GORIN: And I dug through and put
15 these old documents out for people that wanted
16 more detailed information. Granted they are old,
17 but they give a good description of the savings
18 calculations and the inputs to those savings up
19 through the probably about 1998, even though they
20 were done in 1995.

21 You've all seen the residential model.
22 We track appliances by year of purchase and decay
23 those. We track households by year of
24 construction and decay those. And essentially
25 have a UEC for each appliance year of purchase.

1 The benchmarks we're currently using are
2 pre-1978 for appliances; pre-1975 for building
3 shell. The savings for heating and cooling are a
4 combination of both shell improvements and
5 appliance improvements.

6 So, if you put a new SEER 13 air
7 conditioner in a pre-75 house, it will use more
8 than if you put a SEER 13 air conditioner in a new
9 house.

10 And the savings are quantified
11 iteratively by running the models, by taking
12 specific years out. And this tries to explain it
13 a little better. The baseline forecast is our
14 assumption of our most reasonable forecast.

15 In order to get savings for each of the
16 standards and retrofit programs we run the model
17 with the standards. The efficiency's essentially
18 frozen at 2001 levels to get the value of the 2002
19 standards and subtract the baseline from that
20 result to get the savings.

21 And this is not an exhaustive list, but
22 it's pretty close to the number of iterations that
23 we go through to try and get savings for each of
24 those programs.

25 And the run number 8 with prices held

1 constant at the 75 level, and other measures held
2 constant would be our unmitigated forecast which
3 may be too unmitigated for the purposes that we're
4 looking at it today. We may need to find a way to
5 upgrade, to make our base year more recent.

6 What we're doing with the end uses that
7 are affected by the standards, refrigerators,
8 freezers, room air conditioners, dishwasher
9 motors, dishwasher and clothes washer water use,
10 and water heaters.

11 This is a table that I presented in
12 March. It shows the relative efficiency to the
13 base year of 1978 that we assumed new appliances
14 have that are entering the stock due to standards
15 impacts.

16 Now, if you're looking at a rebate
17 program, some of these would -- some of the
18 efficiencies like if you take the 1987 frost-free
19 refrigerator standard, you would maybe interpolate
20 between those two to increase the efficiency over
21 that time period to look at an acceleration of
22 more efficient appliances in that period.

23 This is an attempt to graphically look
24 at the way the savings are calculated. The base
25 UEC is the dark line. Now the iteration of taking

1 the standards out, the 2002 standards savings is
2 this shaded part; the 92 savings would be the next
3 shaded part. And this is essentially holding the
4 efficiency and actually the size constant at those
5 pre-standards levels for each of the iterations of
6 the standards. So the entire shaded part is the
7 total savings that you get from the standards.

8 I was talking with some people at LBL
9 about this, and they said, well, but the size of
10 the refrigerator increased. So you should
11 actually increase the unmitigated forecast. And
12 the point of this would be that you would give
13 more savings to -- there's more savings available
14 for the standards, but it doesn't actually change
15 the forecast of where you're going. But it
16 changes the value that the -- it changes the
17 savings estimates for the standards, which I think
18 is the major question of -- major purpose of our
19 workshop is to determine what the most accurate
20 level of savings are.

21 I think there's more agreement on where
22 our forecasts, our most reasonable forecast is,
23 where the larger level of disagreement is how much
24 savings is in there.

25 Space heating, central air conditioning

1 and water heating are affected by both building
2 and appliance standards. This is a chart that --
3 a table that I presented in March of the
4 relationship of heating and cooling requirements
5 per square foot based on each of the standards.

6 And while these are based on a reduction
7 on a square foot basis, if we're increasing the
8 housing size, then the savings will increase
9 because of the housing size.

10 When you put all those things together
11 and use this multicolored chart, attempts to put
12 attribution into all our little boxes that we
13 have.

14 Now, with some combination -- there's
15 some overlap between these boxes and the boxes
16 that Mike Rufo put together, and that's, you know,
17 sort of the crux of the matter that we're talking
18 about today, is where all these savings go; how
19 much they are; and trying to come to some
20 agreement with all the parties on this.

21 Now, for the programs that we're talking
22 about, I tried to put together what I thought was
23 sort of the history of the new types of programs.
24 We start out with goals that are developed from
25 the potential studies and scenario projects.

1 The goals turn into programs. These
2 programs start out with saving estimates or what
3 the parties expect the programs to save. And
4 after the program is done, there's post-program
5 measurement using measurement evaluation and
6 verification tools that provides an actual savings
7 or net savings after the program has been
8 delivered.

9 And then there's a whole question about
10 the attribution of how the savings affects each of
11 the boxes or how much of the savings would be put
12 into each box.

13 The objective of the EM&B projects,
14 which I think are important, are to document and
15 measure the impacts of a program to see if it
16 actually met the goals, and to provide better
17 understanding of why the impacts occurred.

18 And from our forecasting perspective,
19 one of the jobs that we are going to have is to go
20 through the EM&B reports and determine what the
21 basis for the savings is; how that savings
22 compares to what would be in our forecast; and try
23 and eliminate any double-counting. And I don't
24 think that is a well-defined task right at the
25 moment. But it's something that needs to be done,

1 and there are a lot of reports we have to go
2 through.

3 One example is the 2004/2005 single
4 family efficiency rebate program that, based on
5 the measured savings results, which I'm assuming
6 is at the meter, the program met 50 percent of its
7 goals that it started out with.

8 Now, if you think about that from a
9 resource planning and forecasting standpoint, the
10 goals in the program were probably developed in
11 2002/2003. The program was executed 2004 and
12 2005. The evaluation, I think, was completed in
13 2007.

14 So there's a lead time there from a goal
15 of savings to an actual verification of savings of
16 about five years. Which, if you contrast that
17 with siting a power plant, putting steel in the
18 ground, it's more tractable, I think.

19 And that's our challenge right now, is
20 how to treat the efficiency programs as a resource
21 and have them accounted for with the
22 accountability that a generation facility would
23 have.

24 And to do that we need a lot more data.
25 And we have to have a better sense of the

1 measuring end use in housing and building type
2 when we're in the process of conducting a new
3 statewide RAS survey. And hopefully we'll get
4 more cooperation or a better response rate than we
5 did in 2002.

6 So we can get more detail on the
7 distribution of consumption, the distribution of
8 use within the residential sector and commercial
9 sector, and more detail on existing level of use
10 by appliances.

11 Any other questions?

12 PRESIDING MEMBER BYRON: Do we have any
13 questions from those in attendance here for Mr.
14 Gorin? Please, come up and identify yourself.

15 MR. SANSTAD: Thank you, Commissioner.
16 I'm Alan Sanstad from Lawrence Berkeley
17 Laboratory.

18 PRESIDING MEMBER BYRON: Is your
19 microphone on? Can you tell?

20 MR. SANSTAD: I think my mike -- the
21 light's on.

22 PRESIDING MEMBER BYRON: Good.

23 MR. SANSTAD: Tom, I want to say, having
24 waded through some of this documentation fast,
25 your presentation was great. It was a very

1 helpful sort of high-level summary of how this is
2 all working.

3 I have a specific question on the
4 building standards, and I'm looking at the
5 paragraph on page 3 of one of the summary of
6 modeling efficiency that was circulated. Not the
7 slide, but the prose report.

8 Can you say, just in summary terms,
9 about the use, I think you were referring to the
10 use of DOEII, the building simulation model. Or
11 is there some -- it says a DOE model.

12 I'm interested in how the -- the general
13 question is how you estimate the effect of the
14 building standards that you then do the step-by-
15 step calibration and sort of pulling out the
16 vintages.

17 And if -- my other question, in
18 specific, is the use of the building simulation
19 model and the inputs to that calibrated
20 consistently with all of your other inputs about
21 housing size and thermal shell bear on the
22 characteristics of the buildings that you're
23 simulating.

24 Does that make sense?

25 MR. GORIN: It does, and we're in the

1 process now --

2 (Alarm ringing.)

3 MR. GORIN: Somebody tried to get out.

4 (Laughter.)

5 MR. GORIN: The original analysis was
6 done with DOEII and it's relatively ancient. I
7 mean it goes up to R-30 ceiling insulation and R-
8 19 wall insulation.

9 We're in the process, and what we did
10 was developed a set of 20 or 25 iterations of
11 kBtus per square foot for heating and cooling, and
12 backed those out with the standard.

13 So, our assumption was if we have kBtus
14 per square foot and multiplied by square footage
15 we would get, you know, the difference.

16 Now there's some concern that the volume
17 of the houses have changed, which is true. The
18 houses now have a smaller footprint, and so the
19 first floor is 10 feet instead of 8 feet. So we
20 have to take that in consideration.

21 We're going back and trying -- and we
22 have a staff member that's trying to put all the
23 old assumptions into MICROPAS. And develop -- and
24 redo history, if you will, of the savings based on
25 the most recent computer simulation model.

1 And, you know, one of the things the
2 original DOEIII I don't think took into consider
3 duct losses. So automatically you have no duct
4 losses. Now we've discovered we have duct losses,
5 so we're going to go back and try and calibrate,
6 you know, the earlier sets of standards with those
7 assumptions, assuming that we have 28, 30 percent
8 duct losses.

9 MR. SANSTAD: A quick followup question.
10 Does this process use or otherwise in any exploit
11 the analysis and the data that the Title 24 people
12 go through to set the standards?

13 MR. GORIN: We are actually using -- we
14 were using their prototypical houses. We'd have
15 maybe some differences with their assumptions on
16 the operating characteristics of those houses.
17 Because when -- we're trying to calibrate to
18 actual use. And, you know, at some point they're
19 basing the standards on a prototypical use, where
20 they're assuming that everybody that moves into a
21 house that has an air conditioner uses it.

22 And we're finding that, you know, 15 --
23 depending on where you're living, 15 to 20 percent
24 of the people don't use an air conditioner, even
25 though they have it.

1 So, we have to, you know, try and cross
2 that bridge and make some assumptions there.

3 MR. SANSTAD: Thank you.

4 PRESIDING MEMBER BYRON: Okay. Thank
5 you, Mr. Gorin. There's no other questions. I do
6 have, it looks like just one person that's still
7 with us in terms of public comment, Ms. Ettenson.
8 We certainly want to hear from you by the end of
9 the day. But I want to offer to you, and anyone
10 else who is not able to stay with us until about
11 the 2:30 timeframe, if they want to make comments
12 at this time.

13 MS. ETTENSON: I can wait; I'll be here
14 till the afternoon.

15 PRESIDING MEMBER BYRON: Wonderful. So
16 if there's no one that wishes to make comments
17 now, then I think we'll take a lunch break. Is
18 that all right?

19 Okay, good, I'm going to take the
20 Chairman's prerogative and suggest that we be back
21 here at 1:15 promptly.

22 Thank you, thank you, all.

23 (Whereupon, at 12:03 p.m., the workshop
24 was adjourned, to reconvene at 1:15
25 p.m., this same day.)

1 AFTERNOON SESSION

2 1:18 p.m.

3 PRESIDING MEMBER BYRON: Thank you all
4 for being so prompt. I apologize. I am
5 personally going to set that clock back a few
6 minutes. I'm always late compared to my clock, so
7 I apologize.

8 Thank you all very much. I hope you
9 partake of the farmers' market outside, as well,
10 during the lunch hour.

11 Ms. Korosec, are you going to introduce
12 this panel? Okay.

13 Mike, I would like to ask, before you go
14 ahead, as we discussed last week, I'm going to
15 turn this over to you and we're really going to
16 try and extract comment information from all these
17 folks that have agreed to be here today.

18 If you need the full time allotment, use
19 it. But if both you and Mr. Rufo feel comfortable
20 that we've achieved our goals here during the
21 panel, it's your discretion to foreshorten it.

22 And, of course, we'll also defer to
23 Chairman Pfannenstiel to make sure she's satisfied
24 that we've gotten there, as well. So, go right
25 ahead.

1 DR. JASKE: Thank you. One thing that
2 Mr. Rufo and I are going to do is try to make sure
3 that we cover each of the four broad categories of
4 questions. I think at the end of each one of
5 those we're going to maybe try to give a very
6 brief summary of, you know, anything particularly
7 noteworthy that we heard or controversial that,
8 you know, probably the sort of thing that we might
9 want to be thinking of as take-aways from this
10 panel discussion.

11 And first of all, thank you to all of
12 you who are here today for agreeing to participate
13 and share some insights about these issues. As I
14 said at the outset of my opening comments this
15 morning, while a lot of this effort is focused on
16 the staff forecast, we sort of all have these
17 problems to one degree or another. And the
18 solutions is something that we need to pursue
19 collectively, jointly, in some way.

20 To some extent what we're trying to do
21 by asking this particular set of people to
22 participate is to get both a forecasting and a
23 program quantification perspective, because that's
24 the real nut of what we're trying to deal with
25 here.

1 And so, I don't even actually know all
2 the people at this table. I think maybe we'll
3 just go around the table and people can say who
4 they're with and what sort of perspective they're
5 bringing to this discussion. We do that first.

6 PRESIDING MEMBER BYRON: That means
7 everyone at the table.

8 (Laughter.)

9 PRESIDING MEMBER BYRON: Mr. Rufo, you
10 may begin.

11 MR. RUFO: Yes, I'm Mike Rufo with
12 Itron, and I'm here to assist Mr. Jaske -- Dr.
13 Jaske, excuse me, with this panel.

14 MR. GORIN: Tom Gorin from the demand
15 analysis office; I work on the demand forecasts
16 for the Energy Commission.

17 MR. KAVALEC: Chris Kavalec, demand
18 analysis office. I also work on our forecasts.

19 MR. ASLIN: Richard Aslin, Pacific Gas
20 and Electric Company. And I manage the team that
21 does the long-term energy forecasting for PG&E.

22 DR. ANSAR: I'm Jasmin Ansar from PG&E.
23 I'm in customer energy efficiency strategic
24 planning.

25 MS. HORWATT: I'm Andrea Horwatt from

1 Southern California Edison. I work in Edison's
2 DSM planning and integration group. And my
3 primary focus is long-term energy efficiency and
4 demand response potential on forecasting.

5 MR. CANNING: That was a mouthful,
6 Andrea. Art Canning, Southern California Edison.
7 I manage a group that does long-term and day-ahead
8 forecasting.

9 MS. BESA: I'm Athena Besa with San
10 Diego Gas and Electric. And I work on energy
11 efficiency and demand response policy,
12 administration and measurement and evaluation.

13 MS. ANDERSON: Hi, I'm Mary Anderson. I
14 work with --

15 PRESIDING MEMBER BYRON: You have to use
16 the large microphones. The smaller ones really
17 don't amplify sound.

18 MS. ANDERSON: Okay, thank you. My name
19 is Mary Anderson. I work with San Diego Gas and
20 Electric. I work in the long-term demand
21 forecasting department.

22 MR. VONDER: I'm Tim Vonder; I'm also
23 with San Diego Gas and Electric. And I also work
24 in forecasting, long-term forecasting area.

25 MR. TOYAMA: Nate Toyama from SMUD. I

1 do load forecasting primarily. Our energy
2 efficiency analyst is on vacation today, so I'll
3 try to answer both the forecasting, as well as the
4 energy efficiency questions that you might have.

5 MR. COCKAYNE: My name is Mike Cockayne.
6 I'm with LADWP. I do the load forecasts for
7 LADWP.

8 MR. ZETTEL: My name's Nick Zettel with
9 the City of Redding; I'm a resource planner. I
10 deal with both the load forecast side and energy
11 efficiency side. And I presume I'm here to give a
12 viewpoint of a small utility.

13 DR. JASKE: Okay, thank you. You can
14 tell from the logistics of handing these
15 microphones back and forth that we're not going to
16 be able to be completely spontaneous, and also for
17 purposes of the recording.

18 So, I think probably the best way to
19 proceed through these questions is perhaps at
20 least to start by just working on the first
21 category, and maybe work ourselves around the
22 table. People give some perspective on how their
23 organization, and where there's two of you if you
24 have multiple perspectives about how all this
25 happens, that you are willing to share with us,

1 you know, that might be one way to start.

2 So, the essence of the first question
3 really is the dichotomy between the end-use
4 models, econometric models, the need for something
5 either like an end-use model, or it's close
6 neighbor, you know, a model like ASSET or some
7 other detailed quantification of the impact of
8 programs.

9 And then, using two different
10 techniques, bringing them together so that you
11 actually have a forecast. So part of -- the
12 essence of this question really is how is that
13 done, you know, in the way you develop long-run
14 forecasts.

15 I think probably the staff's position is
16 pretty well known. So, PG&E, could you start us
17 off?

18 MR. ASLIN: Sure, I can do that. So, at
19 PG&E we don't use an end-use model at all for the
20 purposes of forecasting. And I don't believe we
21 use an end-use model structure to develop energy
22 efficiency program design, either. So we don't
23 use end-use modeling at all.

24 The way that we develop the long-term
25 energy demand forecast is by using the econometric

1 model which uses statistical technique to develop
2 a relationship between the historical sales and
3 load data, and certain economic and demographic
4 variables, like households, energy prices, income,
5 underlying commercial activity.

6 And once that model is fit, then we have
7 forecasts of the underlying drivers. And we
8 simulate the model structure to produce a base
9 forecast.

10 Once we get the base forecast then we
11 ask ourselves what in the future is likely to be
12 different than in the historic period for which we
13 use to develop the estimated relationships.

14 In the case of energy efficiency over
15 the last few years that has been one of the key
16 areas that we've focused on in terms of what's
17 different going forward than in the past.

18 And what we do is we have a fairly
19 straightforward approach to that. We do have a
20 big team that's devoted to energy efficiency,
21 program design and also measurement evaluation,
22 and in reporting out what the effectiveness of our
23 programs are. And Jasmine is part of that team.
24 So I'll let her talk more about that.

25 But we work with that team to

1 understand, you know, what the amount of energy
2 efficiency savings were in the past. And then we
3 take the targets from the Public Utilities
4 Commission that are out there, that are public.
5 And for which it's our point of view that we've
6 been requested to include in all of our long-term
7 forecasts for the purposes of long-term planning
8 for transmission or for procurement planning
9 purposes.

10 We look at those two things, what's in
11 the history and therefore captured in the
12 regression, and what's in the future. And we
13 calculate the difference between those two and
14 then we make an adjustment to our forecast from
15 the econometric model.

16 So just to put that in terms of, you
17 know, some round numbers. In the current forecast
18 if we look at our history we see that in terms of
19 megawatts over the period of the history that we
20 did the regression over, the average savings due
21 to CEE programs was about 150 megawatts per year.
22 So about 1500 megawatts over a ten-year period.

23 And when we look at the targets we see
24 that 2009 going forward the average is about 250
25 megawatts per year. And therefore there's an

1 average adjustment to our forecast, pushing it
2 down 100 megawatts per year relative to what it
3 would have been had we just used the regression
4 model going forward.

5 So that's how we do it.

6 PRESIDING MEMBER BYRON: Good.

7 ASSOCIATE MEMBER PFANNENSTIEL: I have a
8 question, Rich. I know some years ago PG&E did
9 end-use forecasts, long-term forecasts, and did
10 econometric for short-term. What moved PG&E away
11 from using the end-use forecasts for long-term
12 forecasts?

13 MR. ASLIN: I'll let Jasmin answer that
14 since she was the manager of our group when we
15 decided to make that change.

16 ASSOCIATE MEMBER PFANNENSTIEL: Good
17 idea. Dr. Ansar.

18 DR. ANSAR: I think it was really, in
19 some sense, an evaluation of what did we get, what
20 did the end-use models with a much greater level
21 of disaggregation and complication, what did we
22 buy in terms of forecast accuracy; and in terms
23 of, you know, just projecting what our resource
24 needs were.

25 And on balance we came to the conclusion

1 that the additional complexity and resource cost
2 really did not, you know, outweigh the potential
3 benefits.

4 I mean one of the beauties, if you like,
5 of an econometric model is that it does, it
6 embodies historical data. And that, of course,
7 embeds all past accomplishments. And in some
8 sense what that does is it enables you, if you
9 like to continuously adapt, and to learn what the
10 effects are on these programs on resource need and
11 on, you know, future resource need.

12 As Rick outlined, we basically moved
13 much more towards, you know, the econometric
14 models at least, you know, for load forecasting
15 and resource forecasting needs.

16 That isn't to say that there isn't a
17 role to be played by end-use-type models. And I
18 think there is. And we use those types of models
19 really as Rick said, in the energy efficiency
20 arena. And what we're looking at, individual
21 program design, program planning. We use, you
22 know, Itron potential studies and those much more
23 disaggregated models for those purposes rather
24 than for the load forecasting.

25 ASSOCIATE MEMBER PFANNENSTIEL: So the

1 relationship then between your efforts at
2 determining on a disaggregated basis the
3 efficiency impacts of these various programs. The
4 energy savings in the programs becomes pretty
5 irrelevant then to Rick's forecast in the future.

6 He doesn't really need to need that
7 information to plug in. He just looks at past
8 experience at PUC, determine goals.

9 DR. ANSAR: Yes. He's more interested
10 in the gross sum impact rather than, you know, the
11 attribution issues or, you know, on a program-by-
12 program basis. That's correct. .

13 ASSOCIATE MEMBER PFANNENSTIEL: All
14 right, then I need to ask a question. Do you,
15 between the two, do a true-up to compare the
16 results that you would get on a disaggregated
17 basis from what he is -- he's plugging in, I
18 assume, what the PUC has said are your goals. And
19 so you need to do a bottoms-up disaggregated
20 calculation to get to that same place. Is that
21 how you do it?

22 DR. ANSAR: There's isn't actually a
23 true-up, partly because even the sum of all of the
24 disaggregated, there are, if you like, holes or
25 gaps. And so we don't actually do it in that

1 context. We would only do it in the context of
2 looking at the overall forecast accuracy and error
3 correction. And to the extent that we noticed any
4 type of bias or anything in terms of the forecast
5 accuracy creep in, then clearly, you know, the
6 energy efficiency impacts would be one of the
7 areas we would want to explore.

8 ASSOCIATE MEMBER PFANNENSTIEL: Thank
9 you.

10 MR. ASLIN: I would just add, if I
11 could, that PG&E is designing its programs to meet
12 the targets or exceed them. So, there's really no
13 conflict there.

14 And also to the extent that PG&E filed
15 program designs, which did exceed the targets, or
16 this won't happen, but if they design programs
17 which didn't meet the target and they were filed,
18 I would pick those up.

19 So, --

20 ASSOCIATE MEMBER PFANNENSTIEL: I was
21 actually sort of thinking about an after-the-fact,
22 a historical basis true-up of looking at what you
23 thought was going to happen from the -- and then
24 comparing against the actual program, the actual
25 experience with demand.

1 MR. ASLIN: Go ahead.

2 DR. ANSAR: Sorry. I was going to say
3 that actually does happen through the measurement
4 and evaluation process. Because in that process
5 that's exactly what you're doing, you're truing up
6 what you hoped for with what's ex-post is
7 realized. And then you use that information and
8 those learnings to actually adapt and to change
9 whatever the future targets are.

10 MR. ASLIN: And so that's what I would
11 say, also. I was just going to say that same
12 thing, that we really have a process for doing
13 that exact thing. And that is the updating of the
14 goals.

15 So when the goals are being updated
16 through that whole process, all the stakeholders
17 get to weigh in as to whether they think those
18 goals are appropriate. And one of the key
19 criterias that they're using to judge whether
20 they're appropriate is what was their past
21 experience.

22 So, if we think, oh, you know, those
23 goals were set so high in the last round that we
24 just really couldn't achieve them, we had 70
25 percent of 60 percent of that. Even though we

1 designed the programs in such a way that they
2 should have achieved them, then that would go back
3 to inform all of the parties that were setting the
4 goals in the next round.

5 And I think that has happened. So I
6 think that process is working.

7 MR. TUTT: Do you explicitly account for
8 the effects of building and appliance standards in
9 your forecast methodologies?

10 DR. ANSAR: Yes, they are included.

11 MR. TUTT: As part of a historical
12 correction or factor in the econometric equation?

13 MR. ASLIN: We don't explicitly adjust
14 for that. The point of view there is that in the
15 historic period there were upgrading to the
16 building and appliance standard codes, and that
17 that will continue in the future.

18 So, yes, the forecasting model, it is
19 going to forecast forward all trends in the
20 historical data unless they are explicitly
21 recognized and adjusted in some way going forward.

22 So if we had reason to believe that that
23 was not the case, then we could make an adjustment
24 for that.

25 MR. TUTT: For example, like with the

1 efficiency programs, if you had reason to believe
2 there would be greater savings from future
3 standards than historically seen, you might adjust
4 for that?

5 MR. ASLIN: Yes. If we have reason to
6 believe that. Although that's one of the things
7 we might want to talk about later, is the targets,
8 themselves, the goals per the decisions from the
9 Public Utilities Commission, it's somewhat unclear
10 as to how they treated increases in standards and
11 so on and so forth.

12 So that's one of the things that I think
13 we're hoping will be an outcome here of the work
14 between the CEC and the PUC, is to really
15 establish, you know, what were those different
16 buckets, so that we could, you know, better
17 incorporate it or at least know, you know, where
18 we're going wrong.

19 DR. JASKE: Okay. Edison?

20 MS. HORWATT: This is Andrea Horwatt.
21 Art and I are going to kind of tag-team the
22 description on the way Edison works things between
23 the energy efficiency forecasting side, and then
24 how that falls into our long-term sales
25 forecasting efforts.

1 We really attempt to leverage the
2 results of the work that's been done by Itron, and
3 prior to Itron by KEMA Energy, in terms of looking
4 at EE potential. Several different statewide
5 studies have been done, and those are broken out
6 by utility service territory.

7 The world that we're currently living
8 in, the EE goals that had been set are an
9 aggregate number that really isn't broken out by
10 sector and by end use. So we use the information
11 about potential from the statewide studies to help
12 guide where we focus our energy by sector and by
13 end use in terms of program design.

14 We use that to help guide, like in the
15 case of our application that we filed a week or so
16 ago, couple weeks ago, to help guide program
17 design and where to focus our dollars and our
18 expected kilowatt hour savings, with the objective
19 of meeting or exceeding the PUC goals for our
20 service territory.

21 And at that point basically those are
22 handed off to Art.

23 MR. CANNING: On the long-term forecast
24 we do it econometrically. We go back in history
25 and look at how much energy efficiency we claimed

1 that we saved, and add it back to recorded sales.

2 So, we calculate a consumption number we
3 might call it, Jack, -- I mean Mike, that is
4 similar to energy plus energy that would have been
5 consumed except for energy efficiency. And we run
6 our models on that.

7 And then in the forecast period we go
8 ahead and subtract off the total forecast of
9 energy efficiency that came from Andrea.

10 At the same time we can include a price
11 variable, and it's coming up as it usually has
12 with about a negative .15 price elasticity. And
13 that's been about the same number for the last 20
14 years, so that seems fairly reasonable.

15 And we get the energy efficiency
16 variable in there, which I think is an important
17 variable, also.

18 We haven't done end-use energy
19 forecasting since deregulation. That was about
20 the time we dropped it back in 96 or so. Partly
21 because of cost, the tremendous cost of running
22 it. We had, I think, four people work six months
23 every two years to try and get that out.

24 And at one point my group got so -- I
25 was in a group that had generation and

1 transmission planning. Says, Art, you can't be
2 here any more. You're going over to another
3 group.

4 So I got sold off to another group and
5 we just said we're going to stop doing -- we don't
6 have the staff anymore to do end-use. And it
7 doesn't look like that's our duty anymore.

8 Econometric was looking out short range,
9 and that was our primarily purpose for a few years
10 there in the mid 90s. And since then we've gone
11 back to using econometric long range, along with
12 Andrea's end use.

13 There were a few things we would take
14 into account in end use, and that would be like
15 the mid-90s, fluorescent lighting upgrades, where
16 all commercial buildings got upgraded within two
17 years. We put that in as a step function because
18 that was something that happened to all buildings
19 at once.

20 Whereas the other building standards we
21 basically do the same as PG&E and assume that
22 they're coming in affecting just the new
23 buildings, slowly over time.

24 I can remember a time back, it's
25 probably been 15 years, where one of the

1 Commissioners said our goal is to increase the
2 standards by 5 percent every three years, or 3
3 percent every five years, I've forgotten which.

4 But in any case, it certainly gave the
5 goal that this is something that's going to
6 increment slowly. And in doing some research we
7 found an EIA publication that looked at the U.S.
8 ad said, you have building standards impacts come
9 in more or less linearly over time. They're not a
10 big step function.

11 So, in that case I assume that they're
12 in the historical trend of sales, and they'll
13 continue into the future.

14 I think that was about all the questions
15 I remember you asking PG&E and also our approach.

16 DR. JASKE: Art, can you clarify in
17 adding back estimated energy efficiency savings
18 before you do your econometric estimation, what is
19 the source of those historic EE estimates?

20 MR. CANNING: The source would be what
21 we call our March 31st reports to the PUC which
22 says what net energy savings was there by customer
23 class. Which should be coincident with what
24 Andrea's forecasting.

25 Now, the tricky part, and it's mentioned

1 in your report, is how doe that decay over time.
2 What happens. So I got a rebate in 1985 for
3 buying a high efficiency refrigerator. What
4 happens to that savings when I buy a new one.

5 And we decay in the forecast about half
6 of the accumulative energy efficiency programs at
7 their predicted lifetime.

8 I don't think it's the best way, I don't
9 think it's the worst way, I just don't have a
10 better method yet. And I think it's something
11 that end use will give us a better explanation of.

12 DR. JASKE: Are there kinds of programs
13 that you could use as part of the adding back, in
14 addition to the utility ones that are in the March
15 31st report if you actually had that kind of
16 annual first-year savings data for them?

17 MR. CANNING: When we've looked back at
18 like the building standards, the number of savings
19 from the building standards gets so large. My
20 concern is it will now overcome almost -- it'll be
21 almost equal of half of sales, and the econometric
22 model is liable to be driven more by building
23 standards than by actual sales.

24 So, that's the reason we haven't
25 actually added that, like your estimates of what

1 building standards have done. Edison programs we
2 know a little bit more about, and we've handled
3 that because we want to be able to tell the PUC,
4 here's what we've done in the forecast.

5 ASSOCIATE MEMBER PFANNENSTIEL: Well,
6 then I really don't think I'm -- how do you handle
7 building standards? You just have a factor in
8 there that is some gradual --

9 MR. CANNING: There isn't even a
10 specific factor. When we forecast residential
11 uses per customer we'll make it function of
12 personal income per household of temperature and
13 price. And it'll be picked up in the econometric
14 model because the trend is already built into the
15 trend of usage per household.

16 ASSOCIATE MEMBER PFANNENSTIEL: So it's
17 a historical trend, whatever that is, you assume
18 that goes forward?

19 MR. CANNING: It just picks it up into
20 the future, too.

21 ASSOCIATE MEMBER PFANNENSTIEL: And so
22 if we were to make some enormous changes in the
23 way we do building standards, you would have to
24 make some adjustment for that?

25 MR. CANNING: I'd have to make some

1 adjustments, that's -- and Rick just mentioned
2 about his own energy efficiency standards are
3 going up by so much that he really wants to
4 account for them. That's one thing I feel, too.

5 If you were to pass, especially a one-
6 time shot, where you're going to re-lamp all the
7 buildings again, we definitely would take that
8 into account.

9 Otherwise you're going to have to do
10 something really to increase the building
11 standards for us to say, okay, this is a change in
12 trend. And we've tried to do something about it,
13 like what Rick did; the incremental effect of
14 that.

15 ASSOCIATE MEMBER PFANNENSTIEL: But
16 generally, and I think it's true for the
17 econometric models by definition, you really don't
18 assume there will be any change in either
19 regulation or the market in the future from what
20 you've seen in the past?

21 MR. CANNING: Exactly. No change in the
22 rate of change than what's happened in the past.
23 Correct.

24 MR. ASLIN: Well, can I comment on that,
25 though, because we don't really use the -- the

1 econometric model does not produce the forecast.
2 The forecast is produced by a team of people, and
3 the econometric model is a tool that, you know,
4 forms the basis of the forecast. But it's really
5 the adjustments to that forecast and the
6 discussion around that, and the interaction with
7 other people that is what really produces the
8 forecast that we use.

9 It's not really produced by the
10 econometric model, per se. It's a big help, but
11 it doesn't do the whole thing.

12 MR. TUTT: I was going to ask were there
13 any -- it sounded like PG&E did something slightly
14 differently. Does PG&E add back in the historical
15 estimates of energy efficiency, and then do the
16 econometric equation on that series?

17 MR. ASLIN: No. We don't do that. And
18 that's why at the end of the process we only
19 subtract off the increment between the historic
20 and the forecast. But essentially they are the
21 same process.

22 DR. JASKE: Okay. San Diego.

23 MS. BESA: I'm Athena Besa, SDG&E. I'm
24 on the energy efficiency side and our role is to
25 actually take the PUC's given goals and design and

1 determine programs and budgets.

2 So what we do is we have tools like the
3 potential study, the saturation studies. And what
4 we do is we look at the goal. We look at where
5 the potential, what sectors, what end uses. And
6 we make allocations based on that.

7 We calibrate it against saturation and
8 past program performance, and possibly known
9 customer behavior, wherever it might impact.

10 For example, at one point in time we
11 determined that we had so many pools in San Diego,
12 and that if we actually installed some time device
13 and made everybody shift to some period in time
14 and actually save energy, that we would actually
15 achieve a lot of demand savings and energy
16 savings.

17 Unfortunately, people don't really want
18 to turn off their pool pumps when we want them to.
19 And therefore, we had to back out those types of
20 behavior in terms of determining what types of
21 programs we were going to be doing in the future.

22 So then we also take those savings, once
23 we've determined the annual savings that meets the
24 goal, we also have measure lives built in that are
25 provided in here, and we streamline that savings.

1 So that when we provide it to the long-term
2 forecasting folks, they actually have a stream of
3 savings that lasts through, say, on the average,
4 15 to 20 years.

5 We also gross up our savings because the
6 current goals, at least right now, for 06 to 08,
7 and in the past were met, so we provide a gross up
8 of these savings using the net-to-gross ratio as a
9 substitute for naturally occurring.

10 After we've done that we provide this to
11 the long-term forecasters to use in calibrating
12 their econometric models.

13 Now, Commissioner, you asked about
14 truing up. And as we go through the different
15 IEPR cycles and long-term procurement cycles with
16 the PUC, we actually update historically based on
17 what we actually achieved.

18 So, for example, once we're done with
19 the 06-08 cycle sometime in 2010 we will provide
20 to the long-term forecasters exactly what we
21 installed.

22 We talked about EM&V results. And
23 historically there's not been a procedure with the
24 PUC on how to incorporate all these adjustments
25 back since 1994 to -- since actually 2005. And so

1 although these adjustments exist based on EM&V
2 results, they've not been explicitly incorporated.

3 But moving forward we'll probably have
4 to develop some process with the PUC on how we
5 actually update the results of the forecast so
6 that the historical trend is sort of trued up at
7 that point in time.

8 We don't do end-use forecasting on the
9 energy efficiency side. We used to do air
10 conditioning for both commercial buildings and
11 residential back when we had to do Title 20 before
12 deregulation. And so we collected end-use data
13 for that. We calibrated models so we could have a
14 forecast. But since deregulation we haven't
15 really focused on that type of activity for that
16 particular end use since typically that is the
17 more variable load as compared to the lighting
18 load.

19 And so once we're done with that, we
20 hand it off to the forecasting group.

21 MR. VONDER: At SDG&E in our forecasting
22 area we do our long-term forecasting just about a
23 carbon copy of what PG&E does. Our models are
24 econometric and everything with regard to
25 standards and energy efficiency is contained

1 within the history. So, it's in there.

2 And then we do the same thing that they
3 do. After we produce our forecast we take a look
4 at the historical data that we get from our
5 measurement people on our actual impacts as
6 they're measured and refined. And then we take a
7 look at that trend and the difference that we see
8 in the future from the forecast in the EE trend.

9 We take a look at the goals that we're
10 supposed to shoot for and that incremental. Our
11 forecast then would be adjusted by that
12 incremental.

13 In regard to end-use forecasting when
14 deregulation happened we stopped doing end-use
15 forecasting for the same reasons as others have
16 said. End-use forecasting is extremely labor
17 intensive. It required that we would have to
18 actually add to our staff rather than, you know,
19 maintain. So we didn't have the manpower to
20 continue doing end-use forecasting.

21 The need to do it wasn't there. We were
22 interested in bottomline forecast and that was
23 taking care of our business needs. We do have a
24 simple abbreviated end-use model that we run
25 occasionally when we need to do analysis. Maybe

1 Mary can speak to that.

2 MS. ANDERSON: So our end-use models are
3 just as Tim said, extraordinarily simple. And
4 they're used to create some variables to use in
5 our econometric models. They're also used as kind
6 of a true-up to make sure that the results that
7 we're getting from our econometric models makes
8 sense, and that they are, you know, fairly
9 correct, or fairly accurate.

10 The last few times the end-use models
11 have corroborated what the econometric models have
12 shown. And it's just been a very abbreviated
13 thing. Our end-use models are not very flexible
14 because just they haven't needed to be. We've
15 just used what we could and gotten them through.

16 MR. VONDER: They're very simple.

17 MS. ANDERSON: Extraordinarily simple.

18 DR. JASKE: Tim, could you clarify what
19 I thought I heard Athena say, is that she gives to
20 you both an annual stream of net and gross
21 savings. And then you said you added to that by
22 saying that you used a method like PG&E where you
23 were using the increment of net savings as the
24 delta to your forecast. Did I get that right?

25 MR. VONDER: That's right. We use the

1 increment of net savings and the information that
2 she passes on to us we use to true up our history.

3 DR. JASKE: So, can you explain how you
4 would make use of that.

5 MR. VONDER: Well, there's decay in
6 there, and so we keep track on a cumulative basis
7 what our energy efficiency impacts, which she
8 measures, with the decay included. So that we
9 know, over time, how much should be contained
10 within our -- well, an estimate of what's
11 contained within our history. From our --

12 DR. JASKE: So, if there was a shift
13 over time from long-lived measures to short-lived
14 measures, you would actually -- and there was no
15 accommodation of that in the going forward energy
16 efficiency programs, you'd actually get a kick-up
17 in the growth rate of the load forecast?

18 MR. VONDER: I guess if there was a
19 change, but I haven't seen much of a change over
20 the years in terms of lives.

21 DR. JASKE: Well, there have, in recent
22 years, been major shifts to CFLs, which obviously
23 have much shorter lives than air conditioner
24 measures --

25 MR. VONDER: That's true, too.

1 DR. JASKE: -- or refrigerators. So
2 we're about at the point where short-lived CFLs
3 are going to start all burning out. So, unless
4 there's a program or some kind of assumption about
5 them being replaced, seems like your method would
6 cause there to be an acceleration of the
7 bottomline forecast growth.

8 MS. BESA: If I may, I think the
9 adjustment to the measure life in CFLs has only
10 been in the last couple of years. I mean it was a
11 big issue of debate with us. And so in the next
12 cycle, when we update the forecast and we update
13 the results of 04/05, 06 and 08, we will adjust
14 based on whatever the PUC direction is to adjust
15 the measure life of CFLs, which is a big portion
16 of the savings.

17 And so it will show in the stream of
18 savings that we provide to the forecasting group
19 so that they can recalibrate whatever's going on.

20 And since the utilities have not only an
21 annual goal, but a cumulative goal, we are
22 expected to replace any short-term losses.

23 So, as Mike was defining cumulative
24 savings, currently it's a span of ten years. If
25 the CFLs are three years worth only, then the

1 utilities, at every point in time, will be
2 expected to always meet the cumulative goal at
3 that point.

4 So we would have to replace either
5 however way CFLs are embedded into the programs,
6 or find new measures to replace those.

7 So, from a savings perspective relative
8 to the annual goal and the cumulative goal of the
9 Commission the utilities are expected to continue
10 to maintain the level of savings. From that
11 perspective, the forecasting could be indifferent
12 to the specific measures that are going into the
13 forecast from the program perspective.

14 MR. TOYAMA: If I could just clarify one
15 thing on that, Athena. So, in a way, decay
16 doesn't matter very much. And when you say you
17 can replace, that could also be going on the
18 market to do that replacement as well, right?

19 MS. BESA: Well, the way the goals are
20 currently set, unless the Commission changes over
21 time, we are expected to replace them with our
22 programs. So, up until they actually adopt a new
23 perspective on goals for the utility specific,
24 currently we're on the hook to actually replace
25 all the savings that we have lost because we used

1 short-term measures.

2 And to the extent that we can't take
3 advantage of participant spillover or
4 nonparticipant spillover at this point in time,
5 then we can't take advantage of other things that
6 happen indirectly as a result of our programs.

7 MR. TUTT: Even if it's a standard that
8 causes the savings to continue?

9 MS. BESA: Well, the interesting thing
10 about codes and standards is the Commission has
11 allowed the utilities to take some portion or
12 credit of it, which I think complicates to some
13 extent if you're at the end-use level, the
14 attribution of savings. Because if the
15 econometric models automatically pick up the
16 linear change in codes and standards, but now the
17 goals that the utilities have and are allowed to
18 take as part of their credit, some portion of it,
19 and I think moving into 2009 to '10 we might be
20 able to take credit for the entire codes and
21 standards. There would be double-counting
22 resulting from that that we would have to adjust
23 for.

24 DR. JASKE: And did I understand you
25 earlier to say that that kind of adjustment hasn't

1 yet been thought through in the PUC process?

2 MS. BESA: You mean the codes and
3 standards portion?

4 DR. JASKE: No, how to do that -- the
5 elimination of that double-counting that you just
6 mentioned. That's a process to be invented going
7 forward?

8 MS. BESA: From the perspective of
9 probably inputting into the forecast we would have
10 to explicitly have that discussion with our
11 forecasting group to make sure that if there's a
12 built-in way to forecast the impacts of codes and
13 standards, that we've somehow made sure that we
14 didn't double count. Because now the goals are
15 explicitly including codes and standards.

16 Before it was like an automatic given
17 part of naturally occurring. But if it's now part
18 of the goal, then potentially you could be double-
19 counting if you don't adjust for it.

20 DR. JASKE: Nate?

21 MR. TOYAMA: Well, at SMUD we use very
22 similar model as all the other utilities have
23 discussed. We use an econometric to derive a base
24 forecast. But we make several modifications to
25 the base forecast to make changes that we think

1 are important for future forecast.

2 One, we try to incorporate new standards
3 into the forecast in two ways. One is by looking
4 at the existing customers and developing an
5 indices of how appliances and fixtures change
6 over, and how that affects this index. It's
7 similar to an SAE model which is developed by
8 Itron, the statistical adjusted end-use model.

9 But this index basically tracks the
10 changes in appliance standards and building
11 standards. And so that gives us some idea of what
12 the existing customers will look like in the
13 future.

14 For new homes we have a new home
15 construction model that we have. And we did this
16 primarily because in the last four or five years
17 we saw that the new construction in Sacramento was
18 very very different from the previous years. The
19 new developments in the suburbs and in some of the
20 unincorporated cities and cities that are now
21 incorporated, we saw were much larger than our
22 typical home. Usually about 2400 or 2500 square
23 feet versus an average of about 1800 square feet.

24 The sales are about the same because
25 they're very efficient homes, but we noticed that

1 the loads on these homes were very different from
2 older homes. So we had to make some changes.

3 And so we have a new construction model
4 which is developed using data from the post-2005
5 standards that went into effect primarily in 2006
6 and 2007.

7 And a third modification we made to the
8 base model is that we then degrade historic energy
9 efficiency over time. And that becomes what we
10 feel is our unmanaged forecast. Now, it's
11 unmanaged with respect to the way that SMUD
12 implements its programs. It still has energy
13 efficiency because we know that homes do retrofit
14 and put in things that are beyond our control, or
15 beyond what we account for in our energy
16 efficiency.

17 And so we realize that there is still
18 energy efficiency going on, especially with
19 retrofits. But we hope that the SAE index
20 provides us with some idea of what way that index
21 would be going.

22 And then the third step we have to come
23 up with our forecast is to then put in new energy
24 efficiency savings from our programs. We don't
25 have an end-use model inhouse. We do have a -- we

1 use the ASSET model from Itron to come up with the
2 bulk of our savings. And that's primarily for our
3 existing customers.

4 And so we actually separate savings into
5 two measures. One resulting from Title 24, and
6 the other, which are above Title 24, which we can
7 attribute to SMUD's energy efficiency programs.

8 And this is primarily in the residential
9 sector. We don't do much in the nonresidential
10 sector, pretty much just extrapolate what it looks
11 like based on the most recent trends in commercial
12 and industrial customer usage patterns.

13 We may, in the future, do that, but like
14 others, we have a very small staff. And so we
15 tend to do things incrementally. And the
16 increment that we're trying to focus on now is
17 residential energy efficiency, because that is a
18 very important part of SMUD's overall strategy.
19 And it's one that's very well defined in terms of
20 program participation and in our future portfolio
21 for energy efficiency savings over time.

22 We're primarily focusing on 2010 because
23 that's when the bulk of SMUD's programs become --
24 is when we start to ratchet up our programs to
25 meet our goals, which are fairly ambitious.

1 They're 1.5 percent per year over time. So, it's
2 quite a bit. And we're ramping that energy
3 efficiency up now, 2008, but it won't become
4 really full until 2009, 2010, where we look at our
5 1.5 as being a very -- as being our goal on which
6 we try for energy sales and load forecast.

7 And so, anyway, we -- well, let me just
8 try to answer your question.

9 So that's basically how we modeled it.
10 All the models are not integrated. They're, at
11 best, ad hoc. We tend to use our base forecast,
12 add, subtract and out comes our forecast.

13 We're considering an end-use forecast
14 next year. We just finished our RAS survey, and
15 so it may give us enough information to implement
16 the end-use model.

17 We had an end-use model several years
18 ago prior to the deregulation of the market. But
19 unlike the other utilities, we decided to change
20 because we lost our forecasters to the ISO. And
21 rather than reinventing the forecast with new
22 assumptions and parameters, we decided to go the
23 econometric route which, for us and for our
24 business purposes, satisfied much of our needs
25 primarily for looking at load-serving capability,

1 load management, as well as risk management, as
2 well.

3 That's sort of how we got to where we
4 are.

5 DR. JASKE: In your analysis of new
6 construction, residential new construction, and
7 you're finding that the houses are using about the
8 same, even though they're larger, therefore
9 they're more energy efficient per square foot, are
10 you seeing a difference between that phenomenon as
11 annual electricity versus impact on peak load?

12 MR. TOYAMA: It's something we suspect.
13 Well, let's go for energy sales first. For energy
14 sales, even though the homes are larger, because
15 of energy efficiency we found that energy use per
16 square foot is about half of what the homes built
17 in the 1980s, '70s and '80s, or the Title 24 was
18 in '78, I believe, so those homes were about 1800
19 square feet. The newer homes are about 2400. But
20 the energy use is approximately the same.

21 But we also realized that on the load
22 side people were installing very large air
23 conditioners to handle the heat in the summer.
24 And so we found that over the last couple of years
25 that our load has been increasing relatively fast,

1 faster than what we would expect to occur just
2 from customer growth.

3 And so what we think it is is that the
4 newer homes, which over the last four or five
5 years, there's about 50,000, 60,000 new homes in
6 Sacramento, that those homes are contributing to a
7 faster than expected load growth.

8 And that's why we're having the new --
9 the new construction sample does two things. It
10 allows us to examine the new standards on homes,
11 at least the most recent standards. So going
12 forward, the marginal loads will at least can take
13 that into consideration.

14 The other aspect of the new home
15 construction was we expect that the distribution
16 of new homes will be different in the future.
17 Primarily move towards a smaller single-family
18 homes, and maybe attached single-family homes.

19 It follows SACOG's blueprint plan where
20 the new home development will be along major
21 corridors. And the housing will be single family,
22 but it will reduce from about 70 percent single
23 family down to about 40 percent, with the
24 remainder being single family, but smaller single
25 family.

1 For example, I believe they assume that
2 the new single-family homes are about 2800 square
3 feet; and the newer infill development, mixed
4 residential/commercial development, single-family
5 homes will probably be about 1500 to 1600 square
6 feet.

7 And so that type of distribution would
8 require us to really look at the energy use of new
9 homes. And specifically because they're so energy
10 efficient that if we do see this trend in smaller
11 single-family homes and more attached homes,
12 multifamily homes, we might even see a marginal, a
13 lowering of our load growth in the future. We're
14 looking maybe 2020 to 2030 when we expect that to
15 occur.

16 So, anyway, that would give us quite a
17 bit of time to see if these developments actually
18 occur. The blueprint for those who are
19 interested, in Sacramento, is a multi-county plan,
20 which to, one, minimize transportation travel as
21 well as manage our water better in the Sacramento
22 area.

23 And so much of the development will tend
24 to be along major corridors to reduce traffic
25 commute times. And a lot of the emphasis will be

1 on infill commercial/residential development.
2 Much like you see in downtown, midtown Sacramento.
3 And so that will really alter the future
4 load growth of Sacramento if we see that mixed
5 commercial/residential development develop more
6 fully.

7 And so the emphasis on new construction
8 was both to look at how the standards affect new
9 homes, the distribution of new homes and what that
10 will look like. And also, finally, it would allow
11 us to look at the solar homes.

12 In Sacramento we expect solar homes to
13 be about maybe 50,000 new homes in the future,
14 which would be a substantial amount of our load or
15 our new growth. We're figuring about a third of
16 our new growth over a 10- to 15-year period. And
17 that will have a dramatic effect on our energy
18 use, or the energy use for new homes. And put an
19 interesting peak load on our system, as well.

20 And so that's the emphasis on new
21 construction.

22 DR. JASKE: Thank you. Mike?

23 MR. COCKAYNE: Yes, I'm, like the
24 others, that we've gone to econometric models. At
25 LADWP, I'm basically the forecaster, so I work on

1 it about six months a year.

2 I think what is different from what
3 you've heard so far compared to what we're doing
4 is that we lack the data on the efficiency side to
5 really do much.

6 Our measurement and evaluation systems
7 are just being developed. They're getting better
8 fairly rapidly. We've devoting a lot more staff
9 in those areas, but I just don't have much data to
10 do the types of things that you're hearing here,
11 to really integrate it into my forecast. So, I
12 think we're going to improve it in the future.

13 I think what the CEC does in terms of
14 their end-use models and analysis they do on the
15 savings is actually what I use to check my -- even
16 though I don't specifically integrate energy
17 efficiency into my model, it's basically assuming
18 what has gone in the past is going to go forward,
19 I do look at the data analysis in the CEC forecast
20 in this area to check what I'm doing.

21 I've also tried statistically adjusted
22 engineering models from Itron. So I have those
23 inhouse. The problem, again, for me is a data
24 issue that a lot of the forecasts and the indexes
25 come from Energy Information, EIA. And there are

1 three-state models so I have to use, what is it,
2 California, Oregon and Washington forecasts for
3 L.A. It doesn't make sense to me.

4 One thing that I think can come out of
5 this process, I think it's a question further
6 down, is better data.

7 DR. JASKE: Okay, thank you.

8 MR. ZETTEL: Nick Zettel with the City
9 of Redding. Surprisingly, we use the same methods
10 as most other utilities. We use an econometric
11 long-term forecast model that I believe we
12 contracted with a consultant firm, Economic
13 Sciences Corporation, back in 1987 or so. 1986.
14 So we've got 20-plus years of econometric modeling
15 which anytime you have that much data for that
16 long a timeframe on a regression type model, it's
17 actually pretty accurate on an energy basis.

18 And with the recent energy efficiency
19 focus in California we've staffed up to look on an
20 end-use basis at what energy efficiency programs
21 work in Redding and what doesn't work in Redding.

22 You know, Redding's a real hot place in
23 the summer and it's a real cold place in the
24 winter. And so certain things work and certain
25 things don't work.

1 And what we've tried to do is, in
2 resource planning we try to coordinate the end-use
3 type structural energy efficiency modeling with
4 the econometric long-term forecasting modeling and
5 insure that one, we're not double-counting, and
6 that we're only focusing on the incremental
7 improvement or decrease in energy use.

8 In resource planning what we tend to do
9 is look back at the historical numbers through
10 load duration analysis and some other things, and
11 see what is happening, what are these programs
12 doing in the load profile.

13 And for example, a few years back we
14 initiated a pretty heavy AC or aging AC rebate
15 program that was focused on SEER, seasonal energy
16 efficiency ratio. And what, in resource planning,
17 we started to notice was the energy consumption
18 was falling, but peak demand was increasing.

19 And in Redding it's so hot that on the
20 hottest peak day it doesn't matter what the SEER
21 is of the air conditioner, it's just as bad as any
22 other air conditioner. And so the peak demand was
23 still there, but the shoulder, so to speak, on the
24 load duration curve following it.

25 So what we did is we went back to the

1 energy efficiency folks and said, what is
2 happening, what are you doing. And since then
3 they've revised the rebate program to focus on the
4 EER, the energy efficiency ratio, while
5 encouraging a high SEER along with that.

6 And so by doing this kind of backcasting
7 and coordinating between the econometric model and
8 the energy efficiency model we're trying to home
9 in, although it's still pretty -- at this point.
10 We're trying to home in on what works best.

11 And through the AB-2021 process we hired
12 a consulting firm, Nexant, to kind of do a
13 structural review of our programs. And one of the
14 outcomes of their work was we needed to focus more
15 on light retrofits. And we're just now trying to
16 understand the impacts of our new lighting program
17 that we initiated, CFLs and so, working with our
18 commercial customers. How is that going to impact
19 the econometric model and exactly how much can we
20 net off, net the model down to.

21 So, this is some new stuff for Redding,
22 and probably for everybody else. But basically
23 that's our process.

24 DR. JASKE: Thank you.

25 MR. RUFO: Nick, I had a question for

1 SMUD. The 1.5 percent reduction per year goal,
2 are you planning around that? Is that basically a
3 given?

4 MR. TOYAMA: I'm sorry, what was that
5 question?

6 MR. RUFO: The 1.5 percent efficiency
7 improvement goal. Are you planning around that?
8 Is that pretty much taken off the procurement --

9 MR. TOYAMA: We're still gearing up
10 towards that. In the past our energy efficiency
11 has been about .6 percent. I think last year I
12 believe it was about 1 percent. This year it'll
13 be about 1.2 percent.

14 I believe 2009 is when we get to the --
15 it'll actually be 1.6 percent.

16 MR. RUFO: Yeah, I guess from a
17 forecasting point of view, you pretty much take
18 that as we're going --

19 MR. TOYAMA: We take -- we --

20 MR. RUFO: -- to do that and plan
21 resources around that?

22 MR. TOYAMA: Well, what we do is we do
23 two things, of course. We look at our base
24 forecast; make our adjustments; degrade historical
25 energy efficiency; and then add in the new energy

1 efficiency. And that becomes our forecast.

2 MR. RUFO: But you don't derate it or
3 anything?

4 MR. TOYAMA: I'm sorry?

5 MR. RUFO: You don't derate it for
6 probability of achievement or anything like that.
7 You pretty much take it --

8 MR. TOYAMA: No. No.

9 MR. RUFO: -- as good.

10 MR. TOYAMA: Because, well, you know,
11 basically the question is more like what is the
12 use of our forecast. And when we develop that
13 particular forecast we use that for future growth
14 for our sales and revenue forecast.

15 But it's one of maybe two or three
16 different types of forecasts that we use for
17 planning purposes.

18 And so we have our base forecast which
19 would basically say if we -- if none of our
20 programs are effective then it resorts to our base
21 forecast. And then we have our unmanaged
22 forecast, that is if we were to stop all together.
23 We have that forecast.

24 But in terms of the one with energy
25 efficiency, it's the one that we use for our

1 planning purposes, at least for programs, for
2 energy sales, revenues. And that's how that
3 forecast is used.

4 We use it all until we know that that
5 number's going to change.

6 DR. JASKE: Let me take an attempt to
7 summarize what we've heard on this question. And
8 I would say it's that there's no utility using an
9 end-use model directly. There's some smattering
10 of use of end-use models or end-use-like tools
11 like ASSET to do some kinds of quantification
12 external to the main forecast as a basis for a
13 couple of things.

14 Sometimes direct adjustments to the
15 econometric forecasts, sometimes as guides to
16 development of programs by taking end-use and
17 other elements of the end-use model into account.

18 Quite a variety of how those adjustments
19 are made, and quite a variety in how building
20 standards are adjusted, also from things fairly
21 directly, dealing with the effect of standards
22 like SMUD has been telling us, to I guess the
23 whole discussion we had with Art, you know. Not
24 really a direct reflection of the standards at
25 all, at this point anyway.

1 And somewhat a complicated set of
2 different mission, lesser resources, not enough
3 data to really be carrying the end-use models
4 along, that people did use or some of the
5 utilities did use, you know, back in the mid '90s.

6 That's maybe what I heard as high
7 points.

8 PRESIDING MEMBER BYRON: Agreed. And I
9 very much appreciate all of the utilities being
10 here. And, by the way, Mr. Zettel, we're not in
11 any kind of order here, certainly not --

12 MR. ZETTEL: That's okay.

13 PRESIDING MEMBER BYRON: -- in order of
14 importance.

15 MR. ZETTEL: That's okay.

16 PRESIDING MEMBER BYRON: But we have a
17 number of other questions, Mike. And I'd like to
18 ask the two of you to go ahead and see if we can
19 pick up the pace a little bit, drill down on some
20 of the questions that you think are key that we
21 need to address here in our workshop. So, go
22 right ahead.

23 DR. JASKE: I think in category two, the
24 one part of its sub-questions that's different
25 than what we've talked about so far is the part in

1 2.b. that has to do with what would happen if we
2 had significant customer price increases, rate
3 increases. We haven't had that in the past,
4 although somewhat complicated in how you measure
5 that and, you know, the AB-1X limitation.

6 But there are estimates like, if I
7 understand it correctly, when E3 did their GHG
8 analysis, they had about a 30 percent increase in
9 rates as a result of various phenomenon. And one
10 of the criticisms of their analysis is they didn't
11 have an elasticity that would fold that back into
12 some adjustment of the load forecast.

13 So, if it did have an increase in rates
14 of that kind of magnitude, how would that be taken
15 into account in people's forecasting models.
16 Maybe this time we'll put staff on the spot, ask
17 them to say something.

18 MR. KAVALEC: Well, that is a very good
19 question because the models that we have are not
20 as price responsive possibly as they should be.
21 Specifically the residential model and the
22 industrial model.

23 So I guess my answer to that would be to
24 incorporate large changes in the market, we would
25 need to do some additional work on our models to

1 incorporate that.

2 MR. GORIN: I think one thing with AB-1X
3 we'd have to figure out is how many people are
4 actually impacted by the pricing increase. If you
5 have a 30 percent rate increase for residential
6 and you freeze essentially 60 to 70 percent of the
7 customers, that would at least double the rate for
8 the remaining customers. And that's going to have
9 a differential impact.

10 So, first thing I'd like to do is
11 collect the information on how many customers are
12 actually impacted in both the first two rate
13 (inaudible). And, you're right, we'd have to go
14 back and look at other -- I'm not sure there's
15 actually any other studies with that kind of rate
16 increase further than 2001. And that was kind of
17 confounded by no energy.

18 So, we'd have to think that through a
19 little bit more.

20 MR. ASLIN: Well, speaking for PG&E, in
21 the econometric model prices is one of the
22 variables in the model, so it's modeled
23 explicitly. And the price that we currently use
24 is the marginal price, so it's the -- historically
25 it was our tier two price. And now I'm not sure

1 whether it's tier two or tier three, but it's
2 basically the marginal price on the theory that
3 that's the price that people are trying to avoid
4 in the main. And so that's what we use in the
5 model.

6 And we get a price elasticity estimate
7 that is very close to negative 0.8, which is
8 pretty consistent with the literature on price
9 elasticity for energy demand. So we feel pretty
10 comfortable with that as a elasticity. That's the
11 short-term elasticity, so if prices are maintained
12 at a high level for a long period of time that
13 elasticity gets larger and larger. But that's the
14 kind of elasticity that we get in our model, and
15 that's the price term that we're using currently
16 in the model.

17 But I do think it's a legitimate
18 question as to, you know, what is the best
19 representation of price. We could use bills or
20 something like that, which might be really a
21 better indicator because of all the tiering in the
22 prices. Or you could use multiple prices. But I
23 think there you might not get very good results.
24 That's what we do currently.

25 MS. HORWATT: I would just like to say

1 one thing about the potential impacts of rate
2 increases on energy efficiency and then turn it
3 over to Art for him to speak more broadly.

4 Not really prepared to talk about AB-1X
5 kind of effects associated with rate increases.
6 But one thing I'd really like to reinforce from an
7 energy efficiency perspective in terms of
8 increasing the level of achievable energy
9 efficiency, this is, you know, really the key
10 thing that would increase that level of achievable
11 potential.

12 Everybody always looks to things like
13 natural gas price increases or GHG adders. Those
14 might increase the level of economic potential.
15 But until those filter back through the system as
16 a rate increase, they really don't do much to
17 drive the level of achievable potential, which
18 requires customers to take action.

19 And I'll rely on Mike Rufo to keep me
20 honest here, but one would expect to see greater
21 levels of achievable energy efficiency if we do
22 have higher rates going forward.

23 MR. CANNING: In the econometric
24 forecast model we use average rates which tend not
25 to pick up what Rick was talking about. And we've

1 been experimenting on looking at just those
2 customers who are above the 133 percent of
3 baseline, as well as looking at different
4 subgroups of customers to see how they'll be
5 affected because the rate increase is coming. How
6 big it will be, I'm not sure. But we've asked for
7 as much as 30 percent. And as you said, that's
8 going to hit the top tiers.

9 Now, I think we've also asked to put in
10 a slightly bigger customer charge to spread it
11 among all customers, not knowing if that'll pass
12 through AB-1X or not.

13 But it certainly is a big issue of
14 concern on load management. How do you spread
15 that big dollar increase among a fairly small
16 group of users. But they're the high-end users.

17 So, we're looking at ways to try and get
18 a price elasticity for that group, breaking those
19 customers out. I don't have it yet, but we've
20 been working on it for several months now.

21 ASSOCIATE MEMBER PFANNENSTIEL: Art, I
22 thought you said earlier that the price elasticity
23 you used is a negative .15, --

24 MR. CANNING: Yes.

25 ASSOCIATE MEMBER PFANNENSTIEL: -- is

1 that long term?

2 MR. CANNING: Yes. That's on the
3 average price over all customers.

4 ASSOCIATE MEMBER PFANNENSTIEL: Okay.

5 MS. BESA: I just wanted to make one
6 comment. If price, if the rates actually go up,
7 and we're trying to disaggregate the effects of
8 energy efficiency versus conservation, then part
9 of the price increase could also result in
10 significant conservation that's not energy
11 efficiency based on the definition we stated.

12 So, that you could see decline in sales
13 in the short term or long term, depending on the
14 effect. But that trying to disaggregate the
15 attribution could be a little more difficult at
16 that point in time.

17 ASSOCIATE MEMBER PFANNENSTIEL: And from
18 your standpoint, and from the energy efficiency
19 measuring people here, that would matter. But I
20 would think from the demand forecast people that
21 distinction, it doesn't matter, is that correct?

22 MS. BESA: From an energy efficiency
23 perspective, since we don't take credit for
24 conservation measures, --

25 ASSOCIATE MEMBER PFANNENSTIEL: Right,

1 doesn't really matter, --

2 MS. BESA: -- it doesn't make a
3 difference.

4 ASSOCIATE MEMBER PFANNENSTIEL: -- but,
5 I mean, in terms of doing the overall --

6 MS. BESA: Yeah, it doesn't matter,
7 right.

8 ASSOCIATE MEMBER PFANNENSTIEL: --
9 demand forecast, it doesn't matter.

10 MS. BESA: Right. Only if you cared
11 about attribution.

12 MR. VONDER: We haven't studied price
13 elasticity in a while. But I can say that back
14 prior to AB-1X when we were allowed to raise our
15 rates at one time, and they went up quite high,
16 there was quite a dramatic response to that.

17 But it needs to be looked at.

18 MR. TOYAMA: Well, in regards to our
19 modeling efforts, we had a short-term impact --
20 well, first of all, we don't have a price
21 elasticity in our main model because we've never
22 been able to come up with a number that seemed
23 reasonable.

24 And if you believe real prices, and real
25 prices have been falling over time, so you might

1 expect load to increase or sales to increase,
2 which we haven't seen, either. So, there's just
3 too much stuff going on for us to pick up a price
4 impact.

5 So, in the short term we probably
6 wouldn't pick it up. In the long term, like
7 everyone else is saying, we would expect the
8 portfolio of appliances to change dramatically
9 with 30 percent or even a 10 percent price
10 increase. Just because now conservation and
11 energy efficiency looks like a very reasonable
12 alternative.

13 We would probably pick that up in one,
14 our ASSET model results; and if we do happen to
15 use an end-use model, we might see it there, as
16 well.

17 But if we do see a trend in energy use
18 declining when we do have a price impact like
19 that, that would be incorporated into our most
20 recent trend model. And so that's how we would
21 capture it.

22 But, you know, a short-term trend,
23 short-term impact is hard to quantify because we
24 don't think they'll last. And if they do last,
25 they'll be incorporated into a portfolio change in

1 the household and we'll pick it up there.

2 So, on the short term or the short run
3 we won't see it. Long term we'll definitely pick
4 it up if that trend continues over time.

5 DR. JASKE: Okay, thank you.

6 MR. COCKAYNE: Our price elasticity in
7 the econometric models run near what Edison's
8 (inaudible) and I also have a problem where our
9 real rates have gone down over the last ten years.
10 So we do a -- in the future, but I'm not so
11 certain that what we measured in the past is going
12 to be relevant to these real price increases in
13 the future, even though we had to claim price --
14 for the last ten years.

15 MR. ZETTEL: In the model there's many
16 metrics and so you'd have to also look at income,
17 per capita income, the ability to pay which would
18 reflect the ability, the elasticity of the
19 product. I suppose if it was a continuing trend
20 for a multiyear trend you would falter the
21 expected elasticity in the econometric model.

22 But if we could have this meeting a year
23 from now, and if gasoline prices continue on their
24 way that they're at, then I think we'll have a
25 better idea of conservation versus the long-term

1 shift in demand.

2 PRESIDING MEMBER BYRON: Mike, if I may,
3 I haven't had a chance to ask staff this question,
4 and maybe it's more of an observation, but as I
5 recall there's still about 2000 utilities across
6 this country, and we've got a lot of expertise
7 here at the table with regard to these forecasting
8 and modeling approaches, and I'm not a modeling
9 expert or an economist, but I'm struck by the fact
10 that basically for the most part these models
11 seems to be home-grown, is that correct? I've
12 heard Itron mentioned a few times, but it sounds
13 like your own individual models, is that correct?

14 MR. ASLIN: Yes.

15 PRESIDING MEMBER BYRON: Getting a sense
16 of yes. And, so obviously the benchmarking is an
17 issue that you do primarily based on historical
18 basis, it sounds like.

19 Are there any kinds of forums or
20 discussion groups for these kinds of forecasts
21 amongst the utilities? Or is it something that
22 you all do on your own?

23 I mean there's always forecasting and
24 modeling forums in the oil and gas industry and
25 elsewhere. So my sense is that pretty much

1 everybody operates on their own here. Is that
2 correct? Tell me if I'm wrong.

3 MR. ASLIN: There actually are a few
4 industry groups out there.

5 PRESIDING MEMBER BYRON: And you're a
6 large utility. Do you participate in those?

7 MR. ASLIN: We participate rarely in
8 those. But the main forum we have for vetting the
9 forecasts are the various CPUC proceedings in
10 which the forecasts are presented, and then all of
11 the intervening parties get a chance to tell us
12 exactly what they think of our forecasts.

13 And also I think that's been a big, big
14 benefit of the first the ER process, and even more
15 so with the IEPR process, is that's allowed
16 various parties to get together to talk about
17 things in a much more collegial way. So that's
18 been very important.

19 And I think the whole workshop process
20 has been really important, also. And not just in
21 terms of the IEPR, but in terms of the other
22 initiatives both at the PUC and the CEC where the
23 forum has been workshops and people have been able
24 to get together.

25 I mean I've worked much more closely

1 with Art and Tim and other people in the last
2 couple of years than I ever did in the previous
3 ten years. So that's been a really big benefit.
4 I'm hoping that that will continue.

5 PRESIDING MEMBER BYRON: So at least at
6 the statewide level these provide some sort of
7 forum, these workshops provide some forum for
8 sharing the approaches that you all take.

9 MR. ASLIN: Um-hum.

10 PRESIDING MEMBER BYRON: Okay, thank
11 you.

12 Gentlemen, go right ahead.

13 DR. JASKE: I am going to let Mike ask a
14 particular question. Go ahead.

15 MR. RUFO: Okay, and then if we have
16 time, I wonder if they can comment on the
17 Commissioner's question.

18 But, let's go on to -- I just wanted to
19 ask on the issue of uncertainty and attribution,
20 how important or not it is to the utilities to
21 have some general agreement about the both
22 historic savings that go into some of these sub-
23 buckets that Tom and I were talking about this
24 morning between codes and programs and price, both
25 backwards for the last 10 or 15 years, and

1 forwards in the forecast.

2 Does it matter to folks whether or not
3 the CEC produces an analysis with 5000 gigawatt
4 hours of utility program savings versus your
5 tracking systems showing 15,000, for example. I
6 don't know what the numbers are that made that up.

7 So I guess what I'm trying to get at is
8 where you see the importance or not of truing up
9 some of this, first backward and then the forward
10 side of this attribution. Or do you see it as
11 really not that important?

12 DR. ANSAR: Let me start with some -- I
13 mean I think from the utility's perspective one of
14 the most important thing is that the, I'll call
15 them the measurement and evaluation protocols, at
16 the planning stage be consistent with those
17 adopted ex ante and ex post at the evaluation
18 stage.

19 Because, although, you know, from the
20 utility's perspective you're basically operating
21 under a set of measurement rules which change on
22 you mid-course, so you can never really keep track
23 of where you're going.

24 I think with regard to your second
25 question, I think there is a need at a statewide

1 level for consistency in terms of measurement and
2 evaluation protocols, both ex ante and ex post,
3 especially in the context of AB-32 and in terms of
4 state planning goals for things like greenhouse
5 gases and our targets.

6 MR. CANNING: It came up most recently
7 in the LTPP where we ended up with this overlap
8 factor which was, I would say, a temporary
9 solution. I knew it wouldn't last. But it got us
10 through the process right then.

11 And the issue was the uncommitted. You
12 know, it was too big or too small or something
13 like that. And I think that has to be
14 straightened out to get these two Commissions
15 together. I think that's really a big issue, I
16 think that's what really started this.

17 So, that uncommitted part, I think, is a
18 very important bucket to have, get us an agreement
19 on that we can get a procurement plan that has an
20 agreeable amount of uncommitted in there. And the
21 committed is really, you know, it's almost in the
22 past at that point. So it's the uncommitted, to
23 me, that's very important. Especially in the
24 LTPP. And that's been one of my focuses of the
25 last year.

1 MR. TUTT: Art, just to follow up a
2 little bit on that. It's not so much the amount
3 of uncommitted and various estimates of the amount
4 of it, that's important, I think, but how it's
5 attributed in the demand forecasts.

6 MR. CANNING: Well, uncommitted, a long
7 time ago used to be considered on the supply side.
8 And then we said, you know, it really ought to be
9 on the demand side. It's going to be a slower
10 meter read where it's going to show up.

11 And I can't remember the exact, how we
12 went through this in the LTPP how many times, but
13 we brought it up, I think, to the demand side.

14 But then we saw this doesn't work very
15 well because using it with the CEC forecast, all
16 of a sudden the forecast was down at a half
17 percent growth rate. We said we don't believe
18 that.

19 And that's where the overlap factor came
20 in. At that point in time, let's leave it back
21 down in the supply side. I mean this is a pretty
22 messy way of handling it.

23 So, I think we need to get out of this
24 mess. And so in answer to Mike's question, yeah,
25 we need to get that bucket cleaned up. And that

1 spreads all over everything you've got in these
2 other questions.

3 So, it is how much, also. It's very
4 much how much. And really whether it's on the
5 demand or supply side, probably doesn't matter.
6 That can be handled. But it's how much in
7 addition to what's already in the CEC forecast.

8 MS. BESA: I think the reason why you'd
9 like to know attribution depends on the purpose
10 for it. So, for example, for as long as there's a
11 shareholder incentive mechanism that defines what
12 achievement means, then attribution's important.

13 From a forecasting perspective, if you
14 want to know what the load growth is going to be,
15 and based on everyone's discussion there is
16 embedded enough variables in there to accommodate
17 a lot of the things that happen, then it's not so
18 important to know attribution at that point.

19 But if you want to know what the free-
20 riders are, for whatever purpose like designing
21 programs and so forth, then it's important from
22 that perspective.

23 So, I think the policy behind wanting to
24 know what attribution is for needs to be set first
25 before you decide whether models need to be

1 changed to start delineating what attributions are
2 and what buckets are supposed to be out there.

3 Like you said, Mike, even when we're
4 going through the definitions there's a lot of
5 questions about whether the definition is adequate
6 or not. And until you get there, trying to figure
7 out what the buckets are is not going to be --
8 we'll still always have some type of discussion
9 that goes on, and some accommodating way to let us
10 get through some LTPP process or IEPR process
11 until the next time when we get around to refining
12 it.

13 MS. ANDERSON: I think the most
14 important thing is, I guess, says that we
15 understand what's already in there so we're not
16 subtracting additional uncommitted amounts or
17 additional goals out of it, so we, you know,
18 artificially lowered the forecast to the point
19 where it's unusable.

20 MR. VONDER: Right. From an attribution
21 perspective, if uncommitted is included in the
22 forecast then there's less of a need to understand
23 the attribution of all of the parts.

24 But if it is excluded from the forecast
25 then we need to know exactly what is in and what

1 is not in. So it makes it more important at that
2 point. Just like you said.

3 MR. TOYAMA: We don't really make that
4 distinction in our forecast between committed and
5 uncommitted. Ours are more goals. And if we meet
6 our goals this is what our load will look like.
7 And so, it's -- and when we are doing our
8 forecast, whether it be short term or long term,
9 the ultimate impact is to see what type of impact
10 it will have on our load growth.

11 And currently if our plans and our goals
12 are met, then it will be a pretty flat load growth
13 over the next 20 years. And so as far as
14 committed and uncommitted, I think that's a
15 budgetary term, isn't it? As far as I know it's a
16 budgetary term. And so it doesn't have much
17 relevance to our forecast.

18 MR. COCKAYNE: I have no comment on
19 attribution.

20 MR. ZETTEL: As a small utility, it's
21 very important that we attribute savings to a
22 particular program because we have limited funds.
23 It's our customers' money. We want the best bang
24 for the buck. And we need to understand if this
25 program isn't working then we need to adjust it or

1 get a new program.

2 And so we don't have, obviously don't
3 have the staff, and really don't have the money to
4 kind of blindly move forward with the program and
5 look at results and wonder what happened without
6 attributing, or at least hoping to attribute.

7 MR. TUTT: Is understanding the
8 attribution of savings more important the longer
9 your forecast goes? Or does that matter?

10 I heard SMUD talk about 2030, and you
11 know, what long-term forecasting means for
12 everybody.

13 MR. ASLIN: Well, for me I think it
14 really just boils down to whatever targets are out
15 there for the future that we understand what they
16 are. And they're comparable to the historical
17 data that we have in the past.

18 So, if the targets are set up into small
19 buckets, and that's the way the programs are
20 supposed to be run, then I guess we would need to
21 spend some time and try to figure out in the
22 historic period what buckets all those savings
23 were in so that we could line them up going
24 forward.

25 So from a forecasting perspective it's

1 really just a matter of understanding what
2 occurred in the past, and then what's likely to
3 occur in the future, and how they're different.

4 But I completely agree that from a
5 program design point of view, and trying to
6 understand how effective your programs were,
7 attribution is key, it's critical.

8 So, again, it's just a matter of what
9 your purpose is. But for forecasting I don't
10 think it's really that critical. But for program
11 design and evaluation, it's very critical. That's
12 my point of view.

13 But I -- could I just -- I think what I
14 heard as we went around the table is this is kind
15 of a change in what attribution kind of was
16 defined as.

17 So, I think what Art and Tim were
18 talking about, in particular, was more this next
19 question about what is this business-as-usual
20 case. So were you intending on asking that
21 question?

22 MR. RUFO: Great segue.

23 DR. JASKE: I'm actually trying to
24 figure out how to pick out just a subset of these
25 remaining topics so that we can focus on that.

1 I guess one thing that intrigued me is
2 the comment that Tim made about whether -- about
3 the distinction between committed and uncommitted.
4 And if, you know, you didn't have that distinction
5 then none of these things would even be visible.
6 They'd all, in effect, be buried in the load
7 forecast and no one would be -- we wouldn't even
8 be having this discussion, I guess, is one
9 potential consequence of that.

10 Seems as though that, in fact, is a
11 confirmation that this paradigm of committed
12 versus uncommitted does put some degree of
13 sunshine on the uncommitted. In some respects
14 that's the whole purpose of that construct, going
15 way back, oh, I don't know, 15, 20 years ago, is
16 that there was a concern that goals would be
17 established that weren't, in fact, reasonable.
18 And just buried in the load forecast. No one
19 would ever know about it or have a forum in which
20 to talk about it.

21 Whereas creating this committed/
22 uncommitted, and having a sort of a tight
23 threshold or definition of what was committed, you
24 know, allowed those sorts of things to be in the
25 forecast. And it then set up, in effect, a

1 process whereby the uncommitted, or at least you
2 can, with that line people could debate what that
3 line was conceptually, numerically. You know,
4 what kind of proof was needed in order to
5 delineate that in any particular cycle.

6 Maybe that's less useful when we now are
7 in an era where there's this massive orientation
8 to high goals. But it does seem, if we were to go
9 that route it does seem to say those goals better
10 be set right in whatever forum they're set. Or
11 otherwise we're never going to have a chance to
12 really, you know, talk about it and discern
13 whether we're going to be successful in achieving
14 that or not.

15 Any reaction to that?

16 MS. HORWATT: I'd jus like to say I
17 think we are living in a different world now than
18 when, you know, back in an ER-96 era when there
19 was greater policy uncertainty from, you know, one
20 two-year period to the next in terms of what role
21 energy efficiency would serve.

22 Now we're in a world where energy
23 efficiency is either going to be at current levels
24 or get larger in the future. Maintaining this
25 artificial distinction, treating them differently,

1 it's not clear that it's as productive as it was
2 in the past. And there may be greater value in,
3 you know, particularly since we're living in a
4 world of long-term EE goals, to really focus
5 attention on that goal-setting process and not
6 maintain this distinction of committed and
7 uncommitted going forward.

8 MR. ASLIN: Yeah, I think PG&E would
9 concur with that completely, that it's our point
10 of view that we're committed to the goals. That's
11 what's going to be in the forecast and that's the
12 business-as-usual case as far as we're concerned.

13 There might be some, you know, modeling
14 issues around that, but in terms of what should be
15 in the business-as-usual case, the basecase, our
16 point of view is that it should incorporate 100
17 percent of the current targets that are out there,
18 throughout the forecast horizon.

19 ASSOCIATE MEMBER PFANNENSTIEL: When you
20 say the target is what is determined at the PUC to
21 be the goal --

22 MR. ASLIN: Yes.

23 ASSOCIATE MEMBER PFANNENSTIEL: -- in a
24 given forecast period?

25 MR. ASLIN: Yes.

1 ASSOCIATE MEMBER PFANNENSTIEL: And
2 those goals are derived through some interactive
3 and public process at the PUC?

4 MR. ASLIN: Yes, that's correct.

5 MS. BESA: And I would agree with PG&E
6 and Edison, particularly when the Commission
7 directs the utilities to include the goals that
8 have been set for ten years and so forth into any
9 type of long-term planning process. Whether we're
10 building a transmission line or anything like
11 that, we have to account for those numbers.

12 So, from that perspective, you could
13 almost say the same thing which Andrea was saying
14 is that there is some commitment towards that
15 number. But the definition that's sort of
16 revolving around what uncommitted savings are is
17 whether there's a budget assigned to it.

18 But other than that, it seems like the
19 Commission, once they set their long-term savings
20 goals, they are committed until --

21 ASSOCIATE MEMBER PFANNENSTIEL: The
22 Commission being the Public Utilities Commission?

23 MS. BESA: Oh, yes, I'm sorry, the
24 Public Utilities Commission, until such time as
25 they update those goals.

1 DR. JASKE: Well, so I thought maybe I'm
2 hearing things incorrectly, but, Athena, the way
3 you just described it, it sounded like you weren't
4 opposed to continuation of the committed/
5 uncommitted paradigm. It's just that you were
6 wanting the goals to be considered committed?

7 And there can well be energy efficiency
8 potential beyond the goals that you would
9 recognize as uncommitted. Maybe at some point the
10 goal will be changed to get up to that yet higher
11 level.

12 You don't want the goal, itself, to be
13 considered uncommitted; that leads to too much
14 policy confusion, in your mind? Am I putting too
15 many words in your mouth?

16 MS. BESA: I think that's probably what
17 I said.

18 (Laughter.)

19 MS. BESA: To the extent that -- I mean
20 the PUC is committed to that goal. We are, in a
21 sense, committed from the perspective of any time
22 we do some type of planning we have to build those
23 numbers in.

24 So there is a level of commitment
25 already at that point. That's not to say that

1 there is no other type of uncommitted savings out
2 there that could be due to naturally occurring or
3 market transformation or whatever that's out
4 there.

5 But I think that becomes a lot more
6 nebulous than just whether or not the Commission's
7 goals, absent the budget authorization, is
8 committed or uncommitted.

9 MR. GORIN: So, I'm a little bit
10 confused, but that's nothing new. Then the
11 remaining question is whether or not those goals
12 are or not included in the Energy Commission
13 forecast, right?

14 MR. CANNING: That's right. That's why
15 we're here.

16 MR. GORIN: That's why you're here.

17 (Laughter.)

18 MR. GORIN: And that is left to the
19 Commission Staff and Itron and other stakeholders
20 to work out in the future, is that a correct
21 assumption?

22 DR. JASKE: I think it's safe to say
23 goals are not reflected in the Commission's
24 forecast intentionally at this time. Perhaps
25 that'll change.

1 MR. GORIN: I was wondering what would
2 happen if the PUC decided to double their goals.
3 Just automatically assume they're -- achievable?

4 MR. CANNING: In the last two or three
5 years I think that's what they've done. Pretty
6 much that. So, we've gone from 90 million three
7 or four years ago per year to \$250 million a year
8 now.

9 So, they have doubled it in the course
10 of, I guess four years or something like that.

11 MR. GORIN: So you use a constant
12 savings per dollar spent?

13 MR. CANNING: No, but I just use the
14 dollars because I can remember the dollars. It's
15 a big number.

16 MR. GORIN: I would assume that as you
17 go down the line savings would be harder and more
18 expensive to achieve. And, you know, it's up to
19 us to figure out whether they're achievable or
20 not.

21 MS. HORWATT: Intuitively that's what
22 one would believe. But there are counter-
23 arguments that have been made by various parties
24 at the PUC that hypothesize that it would get less
25 expensive to do it.

1 One of the things to bear in mind, you
2 know, you raise an interesting hypothetical in
3 terms of doubling the goals, should they
4 automatically be incorporated.

5 The thing that I will give energy
6 division great credit on, and I don't know if
7 Michael Wheeler is still here, but they did take a
8 very principled approach to the most recent round
9 of goal-setting in working with Itron to use
10 potential studies to guide where the goal should
11 be set.

12 And I think if we go through that kind
13 of very rigorous and principled approach, that is
14 a reasonable basis for, you know, setting goals
15 and then incorporating those goals into demand
16 forecasts going forward, or sales forecasts going
17 forward.

18 It's not being done in a vacuum, it's
19 being done in a very rigorous way.

20 MR. VONDER: I'd like to add one other
21 thing in regard to Tom's comment. If the goals
22 were doubled and it was considered they're the
23 goals and they're also considered uncommitted,
24 right now that issue would have to be dealt with
25 in the resource planning arena if it wasn't

1 addressed in the forecasting arena.

2 And I think it would probably be much
3 more efficient to deal with everything, all
4 aspects of it, in the forecasting arena rather
5 than split it between forecasting and resource
6 planning. So just bring it back under one tent,
7 so to speak.

8 DR. JASKE: Do the POUs want to add
9 anything on this committed/uncommitted issue?

10 Okay.

11 I think that we have actually already
12 talked about item 4 to some extent, particularly
13 where Athena identified, you know, that there are
14 some valid alternative perspectives, and that we
15 do need to keep things kept track of, particularly
16 where there's incentive mechanisms that cause
17 things to count or not count and so forth.

18 So, in the interest of moving along,
19 perhaps we've sort of really reached the end of
20 these questions.

21 PRESIDING MEMBER BYRON: Gentlemen,
22 thank you, and thank the panel. Is the panel
23 going to stay for the next item, as well. It says
24 it's open to all interested parties, I think.

25 Anyhow, let's go ahead and take a break

1 for about ten minutes. Thank you very much. And
2 we'll reconvene here in just about ten minutes for
3 item 7, framework for future conservation
4 quantification progress, and then public comment.

5 (Brief recess.)

6 PRESIDING MEMBER BYRON: We'll go ahead
7 and get started again. Mike, go ahead.

8 DR. JASKE: So, we're in agenda item 7,
9 first bullet. I'm going to very briefly describe
10 this conceptual project plan that was posted on
11 the website the later part of last week. Copies
12 out on the table.

13 As I indicated this morning, this was
14 the result of several iterations of discussion
15 among staff with Committee, with the PUC Energy
16 Division Staff, actually even with Itron once we
17 got the sort of informal go-ahead from the PUC
18 that they would be funding Itron.

19 And so this document, whatever it is,
20 10, 11 pages, something like that, is our roadmap
21 for the moment going into this workshop about how
22 to both describe the work that we see in front of
23 us, and somewhat descriptive of several phases of
24 it, the timelines of those phases, the products as
25 they interface with the 2009 IEPR process.

1 And perhaps most importantly for this
2 item on our agenda is the beginnings of trying to
3 identify what entities actually contribute to
4 working on various elements.

5 So, certainly this workshop will help us
6 to refine this document. Our discussion with
7 Itron has helped that a bit already. In a minute
8 Mr. Rufo will sort of lay out some dimensions of
9 the work that the PUC is going to be funding them
10 to do.

11 And then it sort of turns to this
12 question of how can other interested parties
13 collaborate.

14 So, really the meat of item 7 is
15 starting from this conceptual project plan
16 document; evolving it through some further
17 discussions with a larger group of folks than has
18 participated so far.

19 And then sort of buckling down and sort
20 of getting to work on about the schedule that I
21 identified this morning, aiming for a preliminary
22 forecast just after the first of the year. Some
23 sort of review of that preliminary forecast in
24 front of this Committee, some direction on review,
25 perhaps some bringing in a few additional elements

1 that a few more months can allow us.

2 And producing a revised forecast in the
3 May timeframe. And then potentially actually
4 bringing that forward to the Commission for the
5 Commission to act on so that it can then become
6 the basis of the 2010 LTPP proceedings that the
7 PUC is intending to issue next spring.

8 So, that's the basic message I wanted to
9 communicate about this. I don't have any
10 PowerPoints; I'm not going to run through all its
11 pieces. Perhaps just the one thing worth looking
12 at is the table that's on page 2 of the document.

13 Sort of broke things into four broad
14 categories, sort of the planning elements of which
15 this workshop is a part. The work of doing a
16 demand forecast. The work of preparing these
17 incremental EE program impacts. And how, you
18 know, the result of this workshop, talking about
19 including goals in there; clearly need to be some
20 refining of that.

21 And then finally, the very last category
22 is long-term energy efficiency potential impacts.
23 And in this document that's the least well-
24 specified of any of the pieces, and has sort of a
25 wide range of possible approaches, all the way

1 from just using Itron's asset model directly,
2 perhaps with some slightly different assumptions
3 than they have been using heretofore, all the way
4 through the Energy Commission deciding it wants
5 some kind of potential analysis capability of its
6 own.

7 And that all remains, I think, sort of
8 lower priority in the sense of doing things for
9 the 2009 IEPR simply because no one, apparently
10 staff doesn't imagine we can do, you know, all of
11 these things in parallel. And that's the least
12 important one from the 09 IEPR. And delivering
13 some useful product to the PUC on time.

14 So, drawing people's attention to this
15 as the framework that we're using for this entire
16 project, getting point of departure for Mike Rufo
17 to make a few comments about their specific
18 activities as we've outlined them to date. And
19 then soliciting the involvement of these folks
20 here today and others who haven't yet spoken is
21 really what I wanted to say right now.

22 Are there any questions, general or
23 particular? All right, thank you. Mike.

24 MR. RUFO: All right. Thanks, Mike. So
25 I'm going to just talk a couple minutes about the

1 initial plan for Itron's portion of the overall
2 plan that the CEC has laid out.

3 So our main objectives are to work with
4 the CEC and the PUC and the other stakeholders to
5 improve the accuracy of the savings estimates
6 including both the base and the uncommitted
7 estimates, improve the transparency level of these
8 estimates, and develop better understanding of
9 what the underlying drivers are.

10 And we're going to go through four
11 phases of this work. The first is working on the
12 definitions and the concepts and the overall
13 approach. And we started a little bit of that
14 today, and we're looking forward to getting
15 comments on the initial set of terms that have
16 been used to date.

17 But even more importantly, as I said
18 earlier, we would like input on improvements to
19 some of these terms or proposals for new terms and
20 concepts to be included in this work. And then we
21 will be developing some of those ourselves.

22 We'll be going to more detail reviewing
23 the methods and the data inputs in the CEC's
24 forecast models, as well as explaining those same
25 things with respect to the models that we've

1 developed on stand-alone energy efficiency
2 potential forecasting.

3 So our staff will be sitting down with
4 the CEC Staff and exchanging data and information
5 to make sure that we understand where what we've
6 been working with and each other's processes.

7 Then we will start to look at comparing
8 the results from those different sets of data and
9 analyses. And then comparing the outputs as well
10 as the inputs. And from that, come together, we
11 hope, on some agreed-upon improvements in data,
12 methods and explanation or the transparency in the
13 CEC forecast with respect to the stand-alone
14 estimates of efficiency that have been developed.

15 So I think we already talked about these
16 terms and definitions. So I don't want to spend
17 much time on that. I want to just get right to
18 this, because I know we're nearing the end of the
19 day and I want to leave time for any final public
20 comment today.

21 As far as the second phase, approving
22 the methods and data inputs, we're going to be
23 really rolling up our sleeves and sharing data
24 information. I think that the Commission Staff
25 have a lot of information that we have used over

1 the years in some of our analyses, and probably
2 some additional information that we could learn
3 from that may be a layer deeper in their analysis.

4 And we hope that, from some of the work
5 that we've been doing, looking a lot at recent
6 saturation data and program evaluation, results
7 that we can provide information back to the
8 Commission Staff on some of our estimates. And
9 work together to start developing some consistent
10 data sets and data sources for calibrating the
11 models at a more detailed end-use level.

12 So from that we'll produce some interim
13 memorandums on what we've learned about each
14 other's methods and where improvements can be
15 made. As well as data sources, what improvements
16 we're seeing from exchanging information on the
17 data that's out there.

18 Out of all of this I think we'll be
19 producing recommendations for where we feel
20 there's a need for improved information for all
21 these kinds of modeling and forecasting efforts.

22 Phase three is the moving to working
23 towards comparison of results and focusing on a
24 few end uses. So, rather than trying to tackle
25 all the end uses and all of the sectors in this

1 process, we're going to pick out a few of the most
2 important ones to really focus on, so that we can
3 do a good job. A couple areas which we think will
4 produce better results from a methodological point
5 of view than trying to capture everything.

6 So I'm going to go on. So I think our
7 plan is that as we share information on the
8 different approaches and the various modeling
9 efforts and the different sources of data, that
10 we'll also be doing some additional work, so that
11 there will be a feedback of information. And
12 there may be analyses that we do, that Itron does,
13 with the ASSET model that we have where we may run
14 different sets of -- make changes in our input
15 data on measure saturations or prices or
16 incremental costs or other key inputs to our
17 analysis based on what we've learned from working
18 with the CEC Staff on some of their assumptions
19 and vice versa, that they may do new analytical
20 work that's informed by the information that we
21 provide, or that we've converged on through this
22 effort.

23 Then we'll kind of compare and contrast
24 the results coming out of the different models and
25 methodologies, and make recommendations for where

1 we think improvements can be made on both fronts
2 with, you know, emphasis on providing transparency
3 and better methodologies, better communication and
4 better sets of results ultimately.

5 In the end I think our charge is to work
6 with staff to come up with the best possible
7 approach that we can to estimating energy
8 efficiency going forward in California. And we
9 haven't, as far as I understand it, predetermined
10 what those approaches are going to be. The extent
11 to which that may result from changes to some of
12 the Commission's forecasting approaches, or
13 perhaps use of other models, stand-alone models,
14 to make certain kinds of estimates or some
15 combination thereof.

16 But at the end of that process we'll
17 have hopefully made a lot of progress with respect
18 to those questions. And be in a position to move
19 forward with an approved set of results for the
20 next IEPR.

21 And schedule-wise, consistent with what
22 the schedule that Mike had put up before, our goal
23 is to focus initially on these terms and
24 approaches from a concept point of view. And we
25 have done a little bit of work so far, just

1 preparing for this workshop, but we actually don't
2 have a contract change-order in place yet. So
3 we're still waiting for that before we can really
4 get going in earnest on even step one.

5 But we're expecting that to happen in
6 the next couple of weeks. And I think we should
7 be fine with staying on that initial schedule for
8 step one. It might bleed over into October some.
9 And we'll accelerate step two a bit, as well.

10 I think we'll make a lot of progress on
11 one and two just by getting our staffs together,
12 in person, rolling up their sleeves and working
13 together for some days and weeks there in
14 September, October.

15 So, the goal is to produce some of these
16 new model runs and calibration results in the
17 December-February timeframe. With final estimates
18 of the uncommitted efficiency methodologies in
19 place for June-July of 09.

20 Any questions on the process or the
21 schedule?

22 PRESIDING MEMBER BYRON: Mr. Rufo, the
23 steps and phases are synonymous, correct? Steps
24 one through four, phase --

25 MR. RUFO: Yes.

1 PRESIDING MEMBER BYRON: -- one through
2 four?

3 MR. RUFO: Yeah, they are.

4 PRESIDING MEMBER BYRON: This looks very
5 good to me. And we discussed this to some extent
6 in previous meetings. I think now, if I
7 understand the agenda, we're looking for some
8 feedback on this approach, is that correct, Mike?

9 DR. JASKE: That's correct, and in
10 particular this notion that Division of Ratepayer
11 Advocates has put forward previously, the working
12 group that allows not only the sort of folks who
13 were around this table earlier this afternoon, but
14 perhaps others, to sort of keep abreast of what
15 we're doing, is sort of now the point or the topic
16 for discussion.

17 PRESIDING MEMBER BYRON: Would it be
18 okay to open this up then, as well, combine
19 essentially this discussion about the working
20 group and the public comment period? Would that
21 be all right to combine these at this point?

22 So, let's do that. I notice we've lost
23 some folks in terms of probably travel plans back
24 to places south. This would be the time that we'd
25 look forward to any feedback from some of our

1 Committee members -- I'm sorry, our panel members
2 this morning.

3 I see that Ms. Ettenson's joined the
4 table. And I'll just open it up, go right ahead.
5 Just let me know if you'd like to speak and we'll
6 get some feedback on this approach to see if it
7 meets all of our needs.

8 Ms. Ettenson, did you want to speak?

9 MS. ETTENSON: My name is Lara Ettenson
10 with the Natural Resources Defense Council. Thank
11 you for the opportunity to speak. I have a few
12 public comments that I'll start by addressing the
13 most recent question.

14 We also agree with the theory that there
15 should be a working group that's open to a larger
16 stakeholder participation group. In particular,
17 we encourage the Commission to reach out to CARB
18 and to have some of their staff members here, as
19 well. And if possible, and it's helpful, to also
20 have some of the modelers that are also involved
21 in the other statewide processes to really get an
22 understanding of what is being discussed and what
23 is needed.

24 So, to that end, I think that this is a
25 fabulous start. And we generally support this

1 process. And actually hope to participate along
2 the way as resources enable us to.

3 In addition, I think that while the plan
4 outlines near-term and long-term considerations of
5 modifying the model, we are also -- NRDC is also
6 concerned that we need something a little more
7 immediate to create some consistency among the
8 assumptions that are being used right now in the
9 CARB business-as-usual forecast, and how they're
10 determining what the greenhouse gas emissions
11 reductions are going to be, as well as the other
12 processes that are going on in the long-term
13 procurement planning, et cetera.

14 So if there's a way to take the demand
15 forecast as is and create some assumptions that
16 all of the agencies agree to use, then we can at
17 least minimize inconsistencies at this time while
18 we're trying to determine how to modify the model.

19 So, those are my comments on that in
20 particular.

21 MR. TISDALE: Thank you. My name is
22 Matthew Tisdale; I'm here on behalf of Division of
23 Ratepayer Advocates. I do appreciate the
24 opportunity to speak.

25 DRA is an independent division within

1 the CPUC. We represent consumers in utility
2 matters, with a mission to obtain the lowest
3 possible rate for utilities' services consistent
4 with safe and reliable service levels.

5 Pursuant to this mission, DRA's
6 obviously a big supporter of energy efficiency.
7 And as you're all aware, Ratepayers have really
8 invested in energy efficiency in the State of
9 California.

10 Given the weight of the investment DRA
11 believes it's imperative to insure that the
12 savings we are earning through these energy
13 efficiency programs offset or defer the need for
14 new procurement.

15 And a crucial first step, as we're all
16 recognizing here today, is to insure that we have
17 accurate quantification of the amount of energy
18 efficiency that is embedded in the CEC load
19 forecast.

20 So, I'm here today to essentially be a
21 source of encouragement, a source of support, to
22 thank all the parties and participants for the
23 work that went into this workshop, and to the
24 plan, that was the conceptual plan that was
25 released. DRA believes they are both excellent

1 examples of the type of progress we need to be
2 making towards solving this little problem.

3 And we want to encourage parties to keep
4 up the dialogue, keep up the process here through
5 the working group as proposed here by Dr. Jaske.
6 Specifically we hope that staff from the Utility
7 Commission, from the Energy Commission, from the
8 utilities, themselves, as well as from Itron can
9 continue to be a part of that process.

10 And the one suggestion that I would make
11 for making sure that the working group is as
12 effective as possible is to increase the
13 transparency of the whole process. There is a
14 great deal of technical issues to the entire
15 process, as we are all seeing today.

16 And we hope that in spite of that rather
17 technical nature, we can still keep this open and
18 really allow some light to shine on the process
19 and let parties be a part of that process, and to
20 provide review and to provide comment on the
21 process.

22 So those are my comments for the
23 afternoon. And I'd be happy to take questions if
24 that would be helpful to anyone.

25 PRESIDING MEMBER BYRON: No, those are

1 good. Those are all good. And we also appreciate
2 the support of the PUC. I don't know if this is
3 through the DRA or not --

4 MR. TISDALE: One big happy family.

5 PRESIDING MEMBER BYRON: -- for the
6 financial support with the contract with Itron, as
7 well. And, of course, it will remain -- all the
8 meetings will remain open and transparent. We're
9 looking for the participation and the consensus
10 among parties here.

11 So, thank you for your comments.

12 MS. ETTENSON: So, if there are no other
13 questions on process might I take a step back and
14 give a few more comments?

15 PRESIDING MEMBER BYRON: Sure, go right
16 ahead.

17 MS. ETTENSON: Okay. So, again, I want
18 to thank everyone for their hard work on this.
19 This issue has been going on for quite awhile and
20 I think that we've made some significant progress
21 at this point.

22 Just before we move on, I would like to
23 step back and just reiterate what the importance
24 of this is from a policy perspective.

25 In particular, while we understand that

1 we cannot predict with certainty, we do think that
2 there is value in creating more consistency and
3 clarity. And to that end, this will allow CARB,
4 as I mentioned, to have a better estimate of the
5 business-as-usual estimation, as well -- forecast,
6 excuse me, as well as the greenhouse gas reduction
7 emissions that we are going to target for AB-32.

8 In addition, this will most also help
9 the IOUs and the POUs, both, in forecasting what
10 they need to procure in the future. And while I
11 appreciate, I believe it was Sempra and PG&E who
12 stated that their goals are committed, and
13 therefore they're used in their planning, actually
14 in their procurement planning, I'm not quite clear
15 if that's the same methodology across all
16 utilities in the state. And I encourage some
17 consistency across that, as well, as set out in
18 the laws, SB-1037 and AB-2021.

19 In addition, I also appreciate Sempra's
20 comment that the attribution is important for
21 various procedures and processes, and that the
22 best way to get to an end goal that is most
23 effective is to discuss what it is that this
24 forecast will be used for.

25 In effect, then we could look at are we

1 using this just to understand the growth effect of
2 what energy efficiency is reducing the demand
3 forecast in general. Are we looking to see if the
4 programs developed are appropriate. What is the
5 distinction between the codes and standards, et
6 cetera, et cetera.

7 And I think by creating this stakeholder
8 working group that we were discussing that we can
9 really address what the end goal is. And from
10 that, modify the model in a way as proposed to be
11 most effective.

12 I also would like to encourage, again,
13 that the assumptions be consistent as soon as
14 possible since the CARB scoping plan is coming,
15 the next iteration is coming out in October. And
16 it is planned to be approved in November, or voted
17 on for approval in November. And to have an
18 understanding of this consistency as soon as
19 possible where it will help inform that process.

20 And, again, as we stated before, while
21 energy efficiency in the electricity sector is
22 extremely important, we also want to reiterate the
23 importance of including this issue to be addressed
24 in the natural gas sector, as well, and the
25 efficiency that's embedded in the demand forecast.

1 And as requested earlier, and supported
2 it seems, by a number of stakeholders, we also
3 encourage other parties to support CEC in these
4 efforts as we know that there are limited
5 resources and this is a big task. And in order to
6 have a timely and effective model, we also
7 encourage that. And NRDC will participate and
8 help along wherever we can.

9 Thank you.

10 MS. HORWATT: This is Andrea Horwatt,
11 Edison. Just a few quick comments. Edison
12 absolutely supports the process that's been
13 proposed here. I personally find this
14 tremendously exciting what we're talking about
15 here today.

16 I've been involved in this activity in
17 some way, shape or form since the CFM days in the
18 early 90s. And the fact that we're taking a step
19 back now and trying to really get this right, I
20 think is really great.

21 From a policy perspective, I think we
22 need to have an understanding of the attribution
23 of all the savings, both from the utility side as
24 well as the PUC and CEC sides, just to understand
25 really where our savings are coming from the

1 dollars that we're spending. It's in everybody's
2 best interest to really understand what's going
3 on.

4 The schedule that's been proposed, very
5 aggressive, to say the least. One thing I'd like
6 to encourage us to do to keep in the forefront as
7 we're executing this, is prioritizing to make sure
8 that we're focused on where we're going to get our
9 biggest bang for our buck. And let's try to do it
10 right, if at all possible.

11 We are certainly willing to roll up our
12 sleeves and be part of any working group or other
13 effort that's required to make this a reality.

14 In terms of a couple specific areas that
15 we would like to encourage to be looked at in the
16 execution of this project, in particular are some
17 of the savings attributable to building and
18 appliance standards. To really get an
19 understanding of the magnitude of those.

20 Possibly doing some EM&B type evaluation
21 to really understand if we're getting the level of
22 savings that we expect. Sylvia and I actually had
23 a discussion about that kind of thing during the
24 break. And certainly seems like it would really
25 help us understand codes and standards, and

1 similarly to the savings that we're getting from
2 IOU programs.

3 And then lastly, one thing I would
4 really encourage us to do is not get stuck in a
5 world of false precision in any of the work that
6 we're doing. Just because you can calculate
7 something to eight decimal places doesn't mean
8 it's real.

9 If it means that we sacrifice precision
10 in some areas to really get a better outcome, I
11 would encourage us to be open to that and really
12 get something that's meaningful rather than super-
13 precise.

14 And if there are no questions, that's
15 it.

16 PRESIDING MEMBER BYRON: Good comments,
17 thank you. Please come forward. Grab a seat.

18 MR. SANSTAD: Alan Sanstad, Lawrence
19 Berkeley Lab. I actually had a series of
20 questions I wanted to pose to the utility
21 panelists, but I think what I really intend to do
22 is pose them to SCE.

23 (Laughter.)

24 MR. SANSTAD: So, very quickly. For
25 you, what is long term? The question was raised

1 before, for the purposes of this discussion.

2 MS. HORWATT: Well, I guess I was -- for
3 purposes of this discussion, I point back to the
4 schedule that's in here. You know, for us, near-
5 term is probably our current three-year program
6 cycle; and long-term is beyond that. The kind of
7 timeframe, ten-year timeframe that you'd use in a
8 procurement plan.

9 MR. SANSTAD: Ten years. Roughly ten
10 years?

11 MS. HORWATT: Typically. But, I'm
12 curious, do you have a specific reason for wanting
13 to clarify --

14 MR. SANSTAD: Yeah, it matters a lot if
15 it's 10 or 20 or more, from a modeling
16 perspective. The problems, as you well know, the
17 problems change, and the technical issues change
18 and everything becomes, you know, more challenging
19 and somewhat different the further out you go.

20 MS. HORWATT: Absolutely, and our
21 primary focus is the long-term procurement
22 planning cycle.

23 MR. SANSTAD: My second question was,
24 I'll ask you and maybe you know for the others, is
25 any technical documentation of your econometric

1 model publicly available?

2 MS. HORWATT: You know, I don't do the
3 end-use forecast -- or the, excuse me, Freudian
4 slip -- the econometric forecast --

5 (Laughter.)

6 MS. HORWATT: -- focused on the EE side.
7 I know that some information available about it as
8 part of the sales forecast that we submit both for
9 our general ratecase, as well as our long-term
10 procurement plan. But I don't know the extent of
11 the specifics.

12 MR. SANSTAD: Thank you. I wanted to
13 make several comments about things that were
14 raised during the day.

15 The first is partially terminology, and
16 it's also suggestion. I think that the
17 terminology of econometric versus end-use might
18 usefully be put in the sort of in the category of
19 things that should be clarified as this proceeding
20 goes forward.

21 The reason is the following.
22 Technically, econometric versus end-use is not all
23 that well grounded a distinction, for the simple
24 reason that there are examples and modeling
25 history of end-use econometric models. And it

1 depends upon exactly what's being meant.

2 The two dimensions that are usually
3 distinguished in this regard are whether the model
4 is estimated, like statistics. Run a regression
5 to come up with the parameters. That's one way of
6 thinking about an econometric model.

7 The other dimension is disaggregation.
8 And the estimation and disaggregation issues are
9 quite different. And I think they are quite
10 relevant for this proceeding.

11 If what is -- if the key difference is
12 the lack of technology-specific detail, that
13 should be emphasized because it has certain
14 implications that are different from, for example,
15 not having econometric or having econometric
16 estimation of the parameters.

17 A question for Mike, actually, Mike
18 Rufo. What do you mean by accuracy? Improving
19 the accuracy of forecasts.

20 MR. RUFO: Did I say that? I think what
21 I'm more concerned with probably is really
22 improving the accuracy of the information going
23 into the forecast, and the transparency of the
24 information going in, and methodologies, than
25 accuracy of the forecast, per se.

1 Because I think there's a lot of
2 uncertainty inherent in these kinds of forecasts.
3 So if I said that, let me retract it and reframe.

4 MR. SANSTAD: Good. A couple other
5 comments. One is on a point that I think was made
6 and seconded and third, about the attribution
7 problem not really affecting the forecasting
8 problem.

9 I think that bears further scrutiny.
10 The reason is as follows. In an environment in
11 which we are sort of anticipating, in which there
12 are price changes, suppose one's doing a forecast
13 and has some kind of elasticity in one's model so
14 there's a price effect. And one correctly
15 forecasts a price change.

16 The value of elasticity will gauge the
17 forecasted effect of the price change. And that
18 obviously will gauge what's in -- that contributes
19 to what will be projected in the forecast as far
20 as the price effect versus anything else that
21 might be included.

22 So, at least by way of clarification
23 going forward, why the attribution question, the
24 issue is not thought of to be important for demand
25 should be clarified.

1 One final point for the representative
2 of NRDC. I agree completely that, you know, full
3 consistency across CARB's analyses of inputs would
4 be very desirable before the scoping plan is
5 completed.

6 I think realistically we have to be --
7 everybody has to be pragmatic. One thing that
8 would be very useful, however, and I think NRDC
9 might have standing to do this, is complete
10 transparency of what is going into the scoping
11 plan.

12 In this case with respect to energy
13 efficiency, I haven't looked at all the
14 documentation thus far. But my recollection of
15 the scoping plan draft appendices is that they
16 gave the answer, the number that they anticipate,
17 one number for their efficiency savings. I'm not
18 sure that they have fully documented and explained
19 the process by which they got it. And the process
20 is at least as important to understand how it
21 interacts or not, or is not consistent or not with
22 other inputs.

23 They obviously can only do so much. So
24 it's by no means a criticism, if, in fact, they
25 haven't produced that documentation. But it's

1 something to think about.

2 Thank you.

3 MS. HORWATT: And I actually got one
4 clarification to the miracle of modern
5 electronics. Our econometric model is available
6 as part of our general ratecase. You can get the
7 details on it.

8 MR. SANSTAD: Great. Do I have to pay?
9 Do I have to come to the ratecase?

10 (Laughter.)

11 PRESIDING MEMBER BYRON: Thank you. Are
12 there any further comments?

13 Dr. Jaske, shall we end this part on the
14 agenda?

15 DR. JASKE: I think we're getting
16 actually very close to ending the whole workshop.

17 PRESIDING MEMBER BYRON: Okay, good.
18 Listen, I found this all very informative. I'd
19 like to thank all of you that were here today and
20 hung in there with us this afternoon.

21 I'm reminded how difficult forecasting
22 is, every year on New Years Eve for the last 28
23 years or so, I've been getting together with
24 friends and we drink wine and we eat a lot of good
25 food, and we grade last year's predictions that

1 we've made.

2 And we actually have a trophy that I
3 think might be appropriate here, as well. The
4 trophy reads: You can eat and you can drink, you
5 can have a good time. You really can't predict
6 the future.

7 So I know this is extremely difficult.
8 And I like the plan that's been laid out. The
9 feedback has been good on it, as well.

10 Before ending, however, I'm going to
11 turn to my Associate Member who's been involved in
12 this particular issue for I believe she said four
13 and a half years, and ask her if she has any other
14 comments.

15 ASSOCIATE MEMBER PFANNENSTIEL: I agree
16 with Commissioner Byron, I think that the plan, as
17 laid out, is a good one, and one that we need. In
18 my four and a half years here we have been
19 struggling with the issue of the forecast, and
20 specifically how to incorporate energy efficiency
21 into forecasts.

22 I think I also said that for something
23 like 20 years I have been struggling with that
24 same problem. So, it's clearly not an easy one to
25 address. And I think it's only getting more

1 difficult as we're putting greater reliance on
2 energy efficiency going forward.

3 So, this is certainly a key time, a
4 critical time to take a look at this. I hope that
5 we are able to use the good -- both the good
6 offices of the PUC working with us to help us
7 retain Itron for this effort.

8 And I think all the good will of the
9 utilities, investor-owned and publicly owned, and
10 the other interest groups like NRDC, coming
11 forward to use this as a moment to figure out how
12 to do this correct. I don't think there's a
13 single right answer, but I do think that if we use
14 our good judgment we can come up with something
15 that's going to be really useful to us in the long
16 term.

17 So, thank you all for your participation
18 today.

19 PRESIDING MEMBER BYRON: Thank you. Ms.
20 Bender, thank you and your staff for putting
21 together a very good workshop, well constructed, a
22 lot of good information.

23 And with that we'll be adjourned.

24 (Whereupon, at 3:59 p.m., the workshop
25 was adjourned.)

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 5th day of September, 2008.

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