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BEFORE THE
CALIFORNIA ENERGY COMMISSION (CEC)

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)
Preparation of the 2011)
Integrated Energy Policy Report)
(2011 IEPR))

Committee Workshop on 2011-2022 Preliminary Staff
Electricity and Natural Gas Demand Forecast

CALIFORNIA ENERGY COMMISSION
HEARING ROOM A
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SACRAMENTO, CALIFORNIA

TUESDAY, AUGUST 30, 2011
10:06 A.M.

Reported by:
Peter Petty

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Eileen Allen, His Advisor

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Public Comment

Sierra Martinez, NRDC
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1

P R O C E E D I N G S

1
2 AUGUST 30, 2011

10:06 A.M.

3 MS. KOROSEC: All right, good morning everyone,
4 let's get started. I'm Suzanne Korosec with the Energy
5 Commission's Integrated Energy Policy Report Unit. And
6 welcome to today's Committee Workshop on the 2012-2022
7 Preliminary Staff Electricity and Natural Gas Demand
8 Forecast.

9 I just need to cover a couple of housekeeping
10 items before I turn it over to the Commissioners for any
11 comments, and then to the staff.

12 For those of you who may not have been here
13 before restrooms are out the double doors and to your
14 left. There's coffee and snacks, a room up on the
15 second floor at the top of the HM stairs, under the
16 white awning.

17 And if there's an emergency and we need to
18 evacuate the building, please follow the staff out of
19 the building to the park that's diagonal to the
20 building, and wait there until we're told that it's safe
21 to return.

22 We plan to break for lunch today between 12:00
23 and 1:00. We have a list of restaurants on the table,
24 outside, that are within walking distance of the
25 building.

1 Today's workshop is being broadcast through our
2 WebEx conferencing system. The parties need to be aware
3 that you are being recorded. We will make a recording
4 available on our website in a couple of days after the
5 workshop and we'll make a written transcript available
6 within about two weeks.

7 We have two public comment periods on the agenda
8 today, one before lunch and one at the end of the day.
9 And during those public comment periods we'll take
10 comments, first, from those of you who are in the room
11 and then from the folks that are listening in on WebEx.

12 For those of you in the room, please use the
13 center podium and speak into the microphone so that we
14 can make sure we capture your comments on the record and
15 also so the WebEx participants can hear you.

16 On the WebEx folks, if you use the chat or
17 raised hand feature and let our WebEx coordinator know
18 you wish to make a comment or have a question, then
19 we'll open the line at the appropriate time.

20 We are also accepting written comments. Those
21 are due September 9th, and the process for submitting
22 those in the notice for today's workshop, which is on
23 the table out in the foyer and also available on our
24 website.

25 So with that I'll turn it over the dais for

1 opening remarks.

2 CHAIRPERSON WEISENMILLER: Good morning. Thank
3 you for your participation in today's workshop. I
4 think, certainly, the demand forecasting is one of the
5 key Energy Commission functions and certainly looking at
6 this preliminary demand forecast is an important step in
7 our IEPR process.

8 Karen?

9 COMMISSIONER DOUGLAS: I'll just join Chairman
10 Weisenmiller in welcoming everyone to the Energy
11 Commission for this workshop.

12 COMMISSIONER PETERMAN: I will -- I'll give you
13 a third welcome. Welcome to the Energy Commission for
14 this workshop, thanks.

15 MS. GREEN: Okay, we thought we'd start with the
16 staff presentation.

17 MR. GORIN: Good morning, Commissioners; my
18 name's Tom Gorin, from the Demand Analysis staff.

19 Chris Kavalec could not be here today to present
20 this results, but has participated in putting together
21 the presentation and, hopefully, I can answer any
22 questions that come up about it.

23 This is our preliminary forecast for electricity
24 and natural gas. The primary purpose of this is going
25 to be to feed into the resource adequacy requirements

1 for summer of 2013 peak. We're planning on making a
2 revised forecast that will come out in January to
3 incorporate comments from this workshop and additional,
4 more recent economic and demographic forecasts to feed
5 into the 2012 LTP proceeding at the Public Utilities
6 Commission.

7 And this will -- this preliminary forecast will
8 be the forecast presented, I believe, in the 2011 IEPR.
9 The final forecast will support the 2012 IEPR update.

10 So the agenda, we're going to present the
11 statewide electricity and natural gas results this
12 morning, along with our conservation efficiency results,
13 and self-generation.

14 And this afternoon we'll present results for the
15 five major planning areas, along with some results for
16 Southern California Gas Company.

17 Key outputs for the forecast, electricity and
18 natural gas consumption, sales and net energy for load,
19 peak demand, energy savings and private supply.

20 We forecast for electricity planning areas, the
21 five major planning areas, the Los Angeles Department of
22 Water and Power, Pacific Gas & Electric, Southern
23 California Edison, San Diego Gas and Electric, and
24 Sacramento Municipal Utility District.

25 We also do forecasts for the Burbank/Glendale

1 planning area, Pasadena and Imperial Irrigation
2 District. We have not included that in our report for
3 those bottom three planning areas. We do have forms on
4 our website for Burbank, Glendale and Pasadena, and
5 we're still in the process of putting together forms for
6 Imperial Irrigation District.

7 Our natural gas planning areas are Pacific Gas &
8 Electric, Southern California Gas, and San Diego Gas and
9 Electric.

10 We still separate Southern California Gas
11 Company and San Diego Gas and Electric because our
12 forecast is essentially done by electric planning area.
13 And we forecast San Diego Gas and Electric gas and
14 electricity all at the same time.

15 We have key inputs, survey data from the RASS
16 and the CEUS surveys that are done through the Energy
17 Commission, which provide UECs, which is unit energy
18 consumption by end use and saturations for end uses.

19 Economic and demographic consumptions, which
20 I'll probably talk about later.

21 Energy prices, our quarterly fuel and energy
22 report sales data is data that we collect on a quarterly
23 basis from LSEs, utilities, generators on energy use.
24 And we also use program-specific efficiency and self-
25 generation data which is reported to us and through the

1 PUC.

2 Methodology; we have individual sector models
3 for residential, commercial, industrial, agriculture and
4 water pumping, transportation communications utilities,
5 which we call the TCU sector in street jargon, and those
6 are aggregated into a summary model, which essentially
7 adds all those up.

8 And then the results of those models are fed
9 into an hourly electric load model which produces a peak
10 for each year.

11 This is kind of a general overview of the flow
12 of the model.

13 For the methodology we used this year in the
14 spring, we have put together -- used an econometric
15 model for updated forecasts that we presented I believe
16 in May. We've integrated some of the results of that
17 econometric model into the end-use model forecasting
18 process in residential, commercial, industrial and peak
19 sectors.

20 We've used a new predictive model for self-
21 generation of photovoltaics and solar water heating as
22 opposed to the trend model we used in the past.

23 And we had Scripps do some climate change
24 analysis for us for this forecast period that we
25 incorporated into the peak model.

1 Changes from last time is we created a -- used
2 the full implementation of the Huffman Bill, which is AB
3 1109, for lighting reduction requirements, and we
4 included the 2010 Title 24 revisions and we put both of
5 those into our committed energy efficiency savings.

6 The Energy Commission forecast has always used
7 the committed and uncommitted paradigm for forecasting.
8 And committed savings are programs that are in effect,
9 and programs that have been funded.

10 Uncommitted programs are programs that have not
11 yet been funded or standards that have not yet been
12 adopted.

13 And we did develop, with the assistance of Itron
14 this year, at the same time as our committed forecast, a
15 managed forecast which includes what we would consider
16 uncommitted savings estimates for the future.

17 So you'll see in the forecast comparisons with
18 the utilities we have comparisons of committed and
19 uncommitted forecasts.

20 We used a previous electric vehicle forecast
21 from the Fuels Office, I believe they just released a
22 new transportation forecast on Friday, that we have not
23 incorporated into this preliminary forecast. We will
24 incorporate it into the revised forecast.

25 A quick explanation of how the integration of

1 the econometric models were included in the end-use
2 models this time around. We have used the price
3 elasticities by end use for the residential sector that
4 were developed, the overall price elasticity that was
5 developed in the econometric model, and also used the
6 industrial price elasticity that was estimated in the
7 econometric model and incorporated those into the end-
8 use models that we have now.

9 We made a commercial weather adjustment
10 consistent with a cooling degree day coefficient and
11 entered that into the commercial weather-sensitive end-
12 use values, so that it reduces the sensitivity of
13 commercial -- I believe it reduces the sensitivity of
14 commercial use to -- requirements.

15 The industrial sector is driven by output,
16 kilowatt hours per unit of output. And from the
17 econometric model it was determined that measured
18 productivity, which is the ratio of employment to output
19 created also had an impact on the kilowatt hour output.

20 So, there's an elasticity from the impact of
21 increasing labor productivity on the manufacturing, on
22 the industrial model, and it's a downward impact because
23 as productivity increases there's less energy used.

24 The peak results from the HELM Model incorporate
25 climate change scenarios, which we can discuss a little

1 bit later. Essentially, it has an addition to peak for
2 the impact of climate change between now and 2022.

3 And for the mining and construction portion of
4 the industrial model we used the econometric forecast
5 instead of the inform model output and, essentially, for
6 mining and construction we used the employment rather
7 than output as an input driver.

8 The results, compared to the econometric model,
9 are relatively similar. The end-use residential model
10 was slightly higher than the econometric model. This is
11 the -- this is a graph showing the -- essentially, the
12 results of the full econometric model and the
13 preliminary forecast end-use results at the total sector
14 level.

15 The peak forecast is slightly higher in the
16 econometric model than the end-use model because of the
17 results for LADWP and PG&E are -- had higher econometric
18 peaks. This is the non-coincident -- the statewide non-
19 coincident peak results.

20 An explanation of the climate change adjustment
21 that we used in the peak model, we had Scripps provide
22 eight temperature scenarios from -- to 2022, which
23 includes daily maximum and minimum temperatures.

24 We went through that data and chose a mid- and a
25 high-temperature increase for the mid- and the high-

1 ranges of the forecast.

2 I should go back and say that this forecast used
3 three scenarios, a high-demand scenario, a mid-demand
4 scenario and a low-demand scenario, which we will talk
5 about a little bit later.

6 The low-demand case included no climate change
7 adjustment. The high-demand case used the high
8 temperature adjustment, and the mid-demand case used a
9 mid-range temperature adjustment from the eight
10 temperature scenarios that Scripps provided.

11 We used the long-term trend, based from 1990 to
12 2020, for the data that was provided to us to calculate
13 an annual max 631 temperature, which is what we used to
14 calculate the peak for the nine weather stations that we
15 use for California.

16 It's currently the current day's -- 60 percent
17 of the current day's maximum temperature, 30 percent of
18 the previous day's maximum temperature and ten percent
19 of the second previous day's maximum temperature to
20 account for heat buildup.

21 And that's used to determine the temperature
22 that drives the daily peak.

23 This analysis produced an increase of about 425
24 megawatts, which is about half a percent in the mid-
25 case, and 650 megawatts, which is about one percent in

1 the high-demand case at the statewide level.

2 An explanation of the three demand scenarios,
3 they're based on April 2011 economic projections, which
4 is kind of the first caveat of this presentation because
5 more recent economic scenarios are not quite as
6 optimistic as we were in April.

7 For the revised forecast I think we're planning
8 on using an October economic projection.

9 So the high-case we used the Global Insight
10 optimistic case. For all these cases we used a mixture
11 of Global Insight projections and Economy.com
12 projections.

13 So, for the high-case that was the highest case
14 we had available at that time. The Global Insight
15 optimistic case, we used low electricity rates, low
16 committed efficiency program and self-generation
17 impacts, so that would give us the highest energy demand
18 forecast.

19 For the mid-case we used Economy.com base case,
20 mid-priced electricity rates, middle ground efficiency
21 program and self-generation impacts.

22 For the low-demand case we used the low economic
23 demographic growth which was, at that time, the
24 protracted slump scenario by Economy.com, high
25 electricity rates, and high-efficiency program and self-

1 generation impacts.

2 So, we felt at that time that that developed,
3 essentially, the widest range of forecasts that we were
4 comfortable using for this preliminary forecast.

5 A summary of the -- a summary of the results is
6 that, to start with, our electricity consumption was
7 three percent lower than we projected in 2009 because of
8 the current economic situation, so we're starting from a
9 three percent lower projection value.

10 We reached the CED 2009-2020 levels by 2018 in
11 the high-demand scenario, and by 2022 in the mid-demand
12 case. So, essentially, this forecast is similar to CED
13 2009, delayed by two years.

14 Peak demand is projected to reach CED 2009
15 levels earlier because there's not as much impact of
16 reduction in demand on peak as there is in sales.

17 And the high-demand scenario reaches the CED
18 2009 level a little later. This is a graph which
19 probably shows it better than the words do. You can see
20 the blue triangular line is essentially -- in '22 is the
21 same level as the CED 2009 forecast was in 2020.

22 And, essentially, it's the same for peak but the
23 high-demand scenario is a little bit higher.

24 Per capita consumption we're still projecting to
25 be relatively -- remain relatively flat. We were

1 projecting a decline. You know, you can maybe say
2 there's a slight increase and that is driven by
3 increases in the later years in manufacturing, and
4 income increases, and also the inclusion of electric
5 vehicle forecast.

6 And this forecast, which was not included in
7 previous forecasts, peak per capita increases slightly
8 but it's essentially the same as we were projecting in
9 2009.

10 We revised our population forecast downward. We
11 have not included in this forecast the updated census
12 numbers that the Department of Finance is now using for
13 2010 and 2011. We essentially used the Department of
14 Finance estimates for 2010 that were available in the
15 spring, which are about a million and a half people more
16 than they're estimating now.

17 We did use the Census growth rates, which is why
18 our preliminary forecast is lower than the CED 2009
19 forecast. We were using -- for that forecast we used
20 long-term population projections by the Department of
21 Finance that were assembled in 2007. As far as I can
22 tell, that's the most recent long-term projection that
23 the Department of Finance has available.

24 But we decided for this forecast to use the
25 Census estimates of population growth which came from

1 Economy.com.

2 For the revised forecast we're planning on
3 incorporating recent revisions made by the Department of
4 Finance to 2010 and 2011 population data and they just
5 released a population series by city and county, which
6 makes 2000 to 2010 consistent with the Census years,
7 which will decrease the growth between 2000 and 2010 for
8 history of population and households it will decrease.
9 The Census estimates were about four percent below their
10 2010 estimates for population and about two percent
11 below for households.

12 Household income is growing faster in all three
13 of the scenarios versus the 2009 forecast. This may
14 seem anomalous given current conditions.

15 The household income is a combination of persons
16 per household and per capita income. And the income
17 projections from April were higher than -- per capita
18 income projections were higher than what was forecast in
19 2009.

20 We also have new commercial floor space
21 projections; they're starting from a lower point. And
22 after 2012 in the mid and high case they're growing at a
23 higher rate than was projected in our previous forecast.
24 Those projections may change for the revised forecast
25 given use of new economic projections, because they're

1 driven by income and employment.

2 The employment projections start from a lower
3 point. The mid-case is essentially the same growth
4 pattern lagged by a year, a year that was -- or two that
5 was projected in 2009.

6 The new -- newer employment estimates probably
7 lag that another year. So, the problem -- Chris had
8 said in the earlier forecast that it's hard to make
9 predictions around turning points in the economy and
10 we're still in the process of evaluating the projections
11 that we get from Global Insight and Economy.com.

12 Some basic overview of the sectors are 2010
13 consumption starting points lower than 2009. We have
14 faster growth; mainly that's coming from the lower
15 starting point. And we have, for the mid- and low-
16 cases, because of the implementation of the lighting
17 standards we have lower consumption growth.

18 We have faster growth in the commercial sector
19 because of the faster floor space growth that I showed
20 before.

21 And the industrial consumption is down because
22 of the -- mainly the productivity adjustment. There's
23 some faster growth assumed in output, but that's
24 overtaken by the productivity adjustment.

25 And the peak follows the history -- I mean

1 follows the consumption pattern.

2 We also produced an end-user natural gas
3 forecast, which does not include gas used for electric
4 generation. This is basically residential, commercial,
5 industrial use of natural gas and it should not include
6 gas used for self-generation. That's done by the three
7 planning areas, PG&E, SDG and San Diego Gas and
8 Electric.

9 It's done in conjunction with the electricity
10 forecast, but we have added natural gas program impacts
11 to the results.

12 The natural gas forecast is slightly higher at
13 the statewide level partly because of a higher starting
14 point and some higher growth in industrial natural gas
15 use.

16 I put these charts in so we could see the
17 comparisons to the previous forecast. PG&E natural gas
18 forecast is -- grows, essentially, at twice the rate in
19 the mid-case that we projected in the 2009 forecast.

20 SoCal gas is less than PG&E and slightly below
21 what we projected before.

22 And San Diego natural gas forecast is
23 essentially -- it's very similar to what we projected in
24 2009.

25 I think that's it for the statewide level. Are

1 there any questions?

2 CHAIRPERSON WEISENMILLER: Yeah, I was trying to
3 figure out in terms of, obviously, with the new
4 econometric model just what have been the major issues
5 with that transition and how comfortable we are with the
6 comparison between that and the end-use model.

7 MR. GORIN: Well, it's not a new econometric
8 model. We used the -- we put together -- Chris put
9 together an econometric model for the May forecast and
10 we used those results to influence the results of the
11 end-use model. I mean we used it to adjust the end-use
12 model results from relationships that he found with the
13 econometric model.

14 So, we're still using -- for this forecast we're
15 still using the end-use model.

16 CHAIRPERSON WEISENMILLER: Okay, but with
17 insights from the econometric model.

18 MR. GORIN: With four or five insights and
19 adjustments that we made from the econometric results.
20 So we're trying to feed end-use -- feed the results of
21 the econometric model into the end-use model.

22 CHAIRPERSON WEISENMILLER: And I guess the other
23 question would be where the major -- what's the largest
24 single uncertainty; the economy?

25 MR. GORIN: The largest single uncertainty?

1 CHAIRPERSON WEISENMILLER: What seems to be
2 driving the result, in terms of the results?

3 MR. GORIN: Probably the economic forecast. The
4 economy is going to recover, we don't know when.

5 CHAIRPERSON WEISENMILLER: Okay.

6 MR. GORIN: There's some uncertainty in
7 population -- well, which leads to uncertainty in the
8 population forecast in a rather -- you know, if there
9 are not as many jobs in California, are people going to
10 come to California to not have a job? You know, so the
11 economic uncertainty would fuel the population forecast
12 uncertainty in my mind.

13 CHAIRPERSON WEISENMILLER: Okay.

14 MR. GORIN: And we're -- you know, hopefully, by
15 using the two economic forecasting, Global Insight and
16 Economy.com, we got really two different looks at the
17 world and, you know, trying to resolve those into a more
18 narrow band of uncertainty may be not quite as easy as
19 we thought.

20 CHAIRPERSON WEISENMILLER: And in terms of the
21 uncertainties are they bigger for the forecasts of sales
22 or peak?

23 MR. GORIN: I would think they would be bigger
24 for the forecast of sales.

25 CHAIRPERSON WEISENMILLER: Okay.

1 MR. GORIN: Because it appears to me that --
2 well, peak is mainly driven by air conditioning and
3 households. You know, there may be some uncertainty in
4 a number of households, but people are still using their
5 air conditioners when it gets really hot. So, that
6 uncertainty's been taken away a little bit.

7 CHAIRPERSON WEISENMILLER: Right. Okay, thank
8 you.

9 MR. GORIN: Okay. Now, we're going to have Nick
10 Fugate present the efficiency and conservation part.

11 MR. FUGATE: Thank you, Tom. Good morning
12 Commissioners and to everyone in the audience, thanks
13 for coming.

14 So, I'm Nick Fugate with the Demand Analysis
15 Office and I'm going to talk a little bit about
16 efficiency and conservation. And despite what it says
17 on my title slide, I'm not going to talk about self-
18 generation. That will be another presentation after
19 this one.

20 So, this forecasting cycle we continued with our
21 practice of distinguishing between two categories of
22 energy efficiency savings, committed savings, which are
23 those savings that either have been implemented already,
24 programs and initiatives that have already been
25 implemented or that have been -- you know, they haven't

1 been implemented, yet, but they are on the horizon, you
2 know, final plans are in place, they've been approved
3 and funding has been allocated to those programs. So
4 that's committed savings.

5 The uncommitted savings are those that we feel
6 are likely to occur over the forecast period but, you
7 know, there are no firm plans yet established for how
8 we're going to achieve them. Either that or funding
9 hasn't been funded, for example, programs that might
10 occur.

11 And, you know, from last forecast period there
12 have been some uncommitted savings that we're now
13 considering committed.

14 So, for example, the AB 1109, the Huffman
15 Lighting Bill, last time around that was considered
16 uncommitted and this time it's been put into the
17 committed portion of the forecast.

18 So here we have a graph of the three savings,
19 the consumption savings scenarios. We've got a high,
20 mid and a low scenario.

21 The high demand actually on the chart appears
22 the lowest, you know, appears on the bottom of the
23 three. That's because the high demand corresponds to,
24 as Tom mentioned, low savings.

25 And, conversely, the low demand corresponds to

1 high savings.

2 In 2010 the committee savings represent about 22
3 percent of consumption. And out in 2022 they represent
4 about between 25 and 31 percent, depending on the
5 scenario.

6 And here we have a similar graph, but this is
7 for peak savings. And all three scenarios are above
8 20,000 megawatts at the end of the forecast period.

9 One thing to note is that, you know, all three
10 scenarios appear relatively similar. Part of that is
11 because, you know, this graph represents a combination
12 of savings from utility programs, building standards,
13 and price effects. And, you know, between the three
14 scenarios the savings from building standards, for
15 example, aren't going to vary that much so, you know,
16 most of the variation comes from the programs and the
17 price effects.

18 And with the programs, the history is the same
19 up to 2010 and then we have two committed years, 2011
20 and 2012, and so all of the variation just comes from
21 differences in how we're treating those two years. So,
22 it ends up not being all that different from scenario to
23 scenario.

24 So, I'm going a little bit about what we did
25 with the utility and public agency programs. Like I

1 said for the IOUs, at least, the committed period covers
2 2011 and 2012 first-year savings. And then those, you
3 know, savings from all implemented programs and all the
4 committed programs, you know, they carry on throughout
5 the forecast period.

6 For the two committed years, 2011 and 2012, the
7 high savings are we just took the total, what was
8 reported by the utilities, the net savings.

9 And for the low savings we were informed by the
10 CPUCs EM&V efforts, and we figured that those were, you
11 know, a good high and a low boundary.

12 And then for the mid case we sort of split the
13 difference.

14 As the savings -- as the first-year savings are
15 predicted across the forecast period we use a logistic
16 to K function, so most of the savings from, you know, a
17 measure that's implemented will carry on for the life of
18 the -- the useful life of that measure. And then it
19 will -- as it approaches the end of its useful life it
20 will decay and then shortly after the useful life it
21 will decay to zero or approach zero, or at least that
22 was how we did it last time.

23 This time around, actually we -- for programs
24 that were installed in 2006 or later, we assumed that 50
25 percent of the decay would be made up from the -- would

1 be made up by the utilities. So, actually, what ends up
2 happening is that rather than decaying to zero, it
3 decays to 50 percent. That's just for programs
4 implemented after 2006.

5 For the publicly-owned utilities we used a
6 similar procedure. So, I'm talking primarily about
7 SMUD, LADWP, Pasadena, Burbank, Glendale, so the
8 utilities that have a distinct planning area in our
9 forecast.

10 We have savings, reported savings consistently
11 back to 2006 and up through 2010. And in 2011 many of
12 the utilities provided a year-ahead projection of
13 program savings, so we had a committed -- 2011 was
14 considered a committed year for the publicly-owned
15 utilities.

16 The realization rates that we used for those
17 programs were also informed by the EM&V efforts at the
18 CPUC, and what we did is we sort of looked at end-use by
19 end-use what sort of realization rate we were seeing
20 with the IOU programs, and applied a similar realization
21 rate to the POU programs by end use.

22 So, now moving into the building and appliance
23 standards, the Energy Commission -- you know, in our
24 forecast we have -- we model impacts of standards going
25 all the way back to 1975 and these have an impact on

1 consumption per household in the residential sector, and
2 in the commercial sector they impact consumption per
3 square foot.

4 And it's done by vintage so, you know, this
5 allows us to estimate the impacts of building and
6 appliance standards in our forecast by, you know,
7 running our models with all of the standards in place
8 and then, you know, standard by standard we strip them
9 out and run our model again and see what the difference
10 in consumption is. And that gives us an estimate of --
11 a net estimate of each individual standard.

12 We also model price effects and this is sort of
13 meant to capture savings that are not -- are not
14 captured by -- by programs or by the standards.

15 You know, it's primarily price effects, so as
16 rates change we have some assumptions about how, you
17 know, people's behavior changes. As rates go up they
18 use less energy and so we actually have that as part of
19 our model.

20 Now that I'm up here, I'm kind of rethinking the
21 title of this slide, "Committed Savings Issues." But I
22 guess they are issues, things we would like to address
23 in the -- you know, maybe for the revised forecast. You
24 know, attribution has been a big question that we've
25 been sort of struggling with, along with a lot of the

1 stakeholders in our forecast.

2 It's a question a lot of people are interested
3 in. You know, I think earlier on I showed you the slide
4 of the total savings but, you know, a natural question
5 is to ask what portion of that total savings was
6 motivated by utility programs; what portion was
7 motivated by standards? And it's a very difficult
8 question to answer and our previous attempts were -- it
9 caused a great deal of concern with a lot of the people
10 who are interested in this topic.

11 And so we're still working through that,
12 particularly in the demand analysis working group, and
13 we hope to at some point, in the near future, arrive at
14 a sort of an acceptable methodology for determining
15 attribution.

16 Television standards; the recent television
17 standards haven't been incorporated, yet. And, also,
18 we're looking at 2013 is not currently a committed
19 program year for the IOUs, so that's something we will
20 probably also look at for the revised forecast.

21 So I mentioned earlier we distinguish between
22 committed and uncommitted savings, so we run our
23 forecast with the committed savings and then we,
24 alongside that, are producing an incremental uncommitted
25 analysis which looks at the impacts, the potential

1 impacts of some of these uncommitted savings.

2 So, these would include uncommitted utility
3 programs. I mean, although we're not modeling them in
4 the base forecast, we expect that the utility programs
5 will continue for the foreseeable future.

6 There will be updates to Title 20 and Title 24,
7 and Federal Compliance Standards, and we're also
8 modeling the Big Bold Energy Efficiency Initiatives,
9 which I think the biggest portion of that is the
10 assumptions about zero net energy homes.

11 So, the incremental uncommitted analysis this
12 time around is based on the one that we did for the 2009
13 IEPR, which is actually I think we put that out in 2010.

14 So, we started with that. We took assumptions
15 about Huffman. So, I mentioned last time around Huffman
16 was considered an uncommitted source of efficiency
17 savings and this time around we actually integrated that
18 into our base forecast.

19 And so we took -- we took those savings out of
20 the incremental analysis.

21 We also made some adjustments for 2010 title 24
22 revision.

23 And the previous analysis only went out to 2020,
24 so we had to extrapolate a couple more years.

25 In order to sort of be more consistent with what

1 the CPUC's doing with their 2010 LTPP we adjusted our
2 assumptions for the Big Bold Energy Efficiency scenario,
3 and that is I think we had higher assumptions in the mid
4 case, previously, so we lowered, but the CPUC was using
5 our low case. So, we replaced the mid case with the low
6 case this time around.

7 And we also made some adjustments to the peak
8 energy ratios for air conditioning.

9 We have an incremental, uncommitted analysis of
10 sorts for the publicly-owned utilities. What we did,
11 essentially, was we took the goals that were in place
12 and for the three scenarios we assumed in the high case
13 that they would achieve those goals; for the low case we
14 assumed that they would achieve about 75 -- or, I'm
15 sorry, about 70 percent of their goals, which at a
16 portfolio level seemed on par with some of the EM&V
17 results that we were seeing. Not necessarily -- in the
18 CPUC arena with the IOU programs.

19 And in the mid case we split the difference at
20 85 percent.

21 The goals did not go out to 2022 so we had to
22 extend them. I think what we did is just took the last
23 year goals and carried it forward at a constant rate.

24 And we also had standards and Big Bold Energy
25 Efficiency impacts were estimated using IOU savings and

1 applied to the POUs as a portion of total consumption.

2 So, for the -- in general, the incremental
3 uncommitted analysis this time around was fairly -- I
4 mean it was simplified somewhat in that we used -- we
5 relied heavily on the previous analysis. I think once
6 we have a new IOU goals study we'll look at doing a --
7 starting from scratch with the incremental analysis and
8 doing a completely new one.

9 So, this is -- this graph looks similar to some
10 of the ones that were in Tom's slide, but what you're
11 actually looking at here is all four of these forecasts
12 are the mid-demand case and then just showing the
13 impacts of the different uncommitted scenarios on that
14 mid case. So, it ends up producing a total consumption
15 in 2022 by between three and six percent.

16 And a similar graph here for peak. In 2022 the
17 total reduction ends up being between five and ten
18 percent, depending on the scenario.

19 And here we're looking at, again, the high-,
20 mid- and low-demand scenarios, along with the
21 uncommitted savings, so the high-demand case is paired
22 with the low uncommitted, the low-demand case is paired
23 with the high uncommitted and that should give you the
24 largest spread.

25 And I'll finish up with a similar graph for the

1 peak savings.

2 And I believe that's it for my presentation so,
3 Commissioners, if you have any questions?

4 CHAIRPERSON WEISENMILLER: Sure, thank you. The
5 first question is what do we assume in terms of
6 noncompliance rates with our standards, our building
7 standards?

8 MR. FUGATE: I know we do have an assumption
9 about noncompliance. I don't know what it is off the
10 top of my head, though. I'm looking to Tom.

11 MR. GORIN: In the past we've had about an 80
12 percent compliance rate. I think in the commercial
13 standards they use 75 percent, 70 or 75 percent.

14 If I remember right, the 2000 building standards
15 got substantial savings from verifying compliance from
16 previous standards.

17 CHAIRPERSON WEISENMILLER: Uh-hum.

18 MR. GORIN: So we've -- we've upped the
19 compliance rate since those levels since the 2000
20 standards.

21 CHAIRPERSON WEISENMILLER: So somewhere around
22 the 70 to 80 percent?

23 MR. GORIN: Yes.

24 CHAIRPERSON WEISENMILLER: Okay. And do we have
25 the assumption for the -- looking at slide five, that 50

1 percent of the IOU decay from 2006 is made up through
2 additional unconditional savings. What's the logic on
3 that, in terms of new programs or what?

4 MR. FUGATE: I believe that was an -- they are
5 directed to do that by the CPUC.

6 CHAIRPERSON WEISENMILLER: But are there
7 programs behind it or is it just a wild guess?

8 MR. FUGATE: Do we have anyone from the CPUC
9 here who can speak to that?

10 CHAIRPERSON WEISENMILLER: Well, again, we can
11 follow up on that.

12 MR. FUGATE: Yeah.

13 CHAIRPERSON WEISENMILLER: But, again, I was
14 trying to just understand the logic on that part.

15 And --

16 MS. MACKIN: Hello?

17 CHAIRPERSON WEISENMILLER: Yeah, great.

18 MS. MACKIN: Hi, this is Dina Mackin from the
19 CPUC.

20 MR. FUGATE: Hi, Dina.

21 CHAIRPERSON WEISENMILLER: Hi.

22 MS. MACKIN: Hi. So, I believe that the
23 committed -- the committed savings are related to the
24 actual budget of the portfolio cycle, if I'm not
25 mistaken.

1 Does that answer your question?

2 CHAIRPERSON WEISENMILLER: So you're saying the
3 assumption -- well, presumably, the assumption is as the
4 programs you know are dropping off, what's the impacts
5 of those, that other programs are coming in place to
6 make up at least some of those savings?

7 MS. MACKIN: Yeah. So, yes, there is a decay
8 factor, but the IOUs are responsible for recovering a
9 certain level of -- or there's -- they're responsible
10 for maintaining the level of savings that is expected to
11 drop off due to decay.

12 CHAIRPERSON WEISENMILLER: Okay, so the IOUs
13 have to come up with specific programs to meet this
14 target?

15 MS. MACKIN: Yeah, so if there's a certain -- if
16 they're using a technology that has a two-year decay,
17 then that means that that program is going to have to
18 include achieving goals that include those recovering
19 that rate of decay, if that makes sense.

20 CHAIRPERSON WEISENMILLER: Yeah, okay. The next
21 question is on slide eight we talk about rate -- looking
22 at the impacts of rate changes. So, I guess part of the
23 question is how well do our retail rate forecasts line
24 up the utility retail rate forecast?

25 MS. MACKIN: Well, you know, I haven't done a

1 comparison of it, myself, so that might be something
2 that would be better answered by one of the IOUs.

3 CHAIRPERSON WEISENMILLER: Well, I was going to
4 start with Tom and then, obviously, as the IOUs to chime
5 in.

6 MR. FUGATE: Yes. Thank you, Dina.

7 MS. MACKIN: Okay.

8 MR. GORIN: I'm going to say that our mid-rate
9 forecast is probably a little higher than the utilities.
10 I haven't -- that was something that I didn't look at in
11 great detail. Our high-rate forecast is probably higher
12 than the utilities.

13 I think we're essentially using a 15 percent
14 real increase over the next ten years. If I remember
15 right, PG&E uses a one percent real rate increase over
16 the ten-year period.

17 I'm not exactly sure what Edison is using right
18 at the moment, or San Diego.

19 But I would say our mid and high case are
20 probably higher than those used by the utilities. We
21 can address that when we maybe talk at the individual
22 utility level.

23 CHAIRPERSON WEISENMILLER: That would be good.
24 Also, I'm assuming are forecasts are sort of simplified
25 to some sort of constant level as opposed to, say,

1 looking at the balancing accounts right now and seeing
2 if it's higher or lower in the interim?

3 MR. GORIN: Right. I mean we're using an
4 average, what we would consider an average residential,
5 and commercial, and industrial rate.

6 CHAIRPERSON WEISENMILLER: Okay. But, again, we
7 can pick that up more this afternoon.

8 COMMISSIONER PETERMAN: Tom, just a clarifying
9 question. The consumption graphs that you showed in
10 your presentation, do they incorporate the committed
11 savings identified or the uncommitted savings identified
12 in Nick's presentation?

13 MR. GORIN: Yes, all the consumption graphs that
14 I showed at the statewide level and that we'll show this
15 afternoon, with the exception of the comparison graphs
16 to the utilities, include all the committed savings.
17 The only thing that's subtracted would be the
18 uncommitted -- the only thing that reduces the forecast
19 would be the uncommitted savings portion.

20 CHAIRPERSON WEISENMILLER: Okay, thanks.

21 MR. FUGATE: Thank you.

22 MR. GAUTAM: Good morning, Commissioners and
23 everybody in the audience, thanks for coming to today's
24 workshop.

25 I'll be going over the public supply forecast.

1 So, first I'd like to talk a little bit about the
2 different data sources we used to characterize various
3 DG technologies. A big source of the data comes from
4 various subsidy programs. We have the -- we tracked the
5 ERP program, the CSI, the SGIP program, the New Solar
6 Homes, and PV programs offered by POUs.

7 Another big source of data for us comes from our
8 CC 1304 forms. Under this form we collect on-site
9 generation data from large industrial and commercial
10 customers.

11 The size threshold for reporting under this form
12 is about one megawatt.

13 For this forecast, for the residential sector
14 we're going to be using our new predictive model. I'll
15 talk a little bit about that model later on.

16 For the nonresidential sector we use a simple
17 trend analysis, just like we did in the last cycle.

18 The predictive model for the residential sector
19 is based on work done by NREL. The model that they
20 developed is called the Solar DS model and we're pretty
21 much keeping the same structure.

22 The main output of this model is the -- one of
23 the main outputs of this model is the payback for
24 investing in solar and solar hot water -- solar PV and
25 solar hot water systems.

1 We consider system costs, maintenance costs,
2 incentives and tax credits, along with energy rates.
3 The payback is applied to a Bass Diffusion function to
4 calculate adoption rates.

5 For the residential sector the results were
6 deferred by demand scenarios because of differences in
7 economic and demographic information and rates.

8 For the nonresidential sector there's only
9 one -- one scenario so to speak. Since we do not have a
10 model for the nonresidential sector, we're not able to
11 accommodate the differences in rates, and floor space,
12 and other variables.

13 This is to show the installed cost of PV that
14 we're using for the residential sector. The blue is a
15 capacity-weighted average cost from the CSI program for
16 residential systems up to five kilowatt.

17 The red shows the installed cost that we
18 received from EIA. The cost from EIA declined about 35
19 percent between 2011 and 2022, so that's a big driver
20 for increased adoption, especially in the tail end of
21 the forecast.

22 For the nonresidential sector we calculate the
23 average -- the average growth rate in capacity additions
24 by different programs. For SGIP we used 2006 and 2010,
25 for CSI 2008-2010. The on-site used from 1304 was all

1 constant.

2 Let's see, here are some of the preliminary
3 results. The statewide -- on a statewide basis this is
4 a total on-site generation is higher than CED 2009,
5 after 2020.

6 Just a few more details, in the low case we have
7 17,100 gigawatt hours and the high case bounding it at
8 15,900 gigawatt hours.

9 And just as a reference, in the CED 2009 total
10 PV generation was estimated to be 3,200 gigawatt hours.

11 Let's see, for PG&E we also have all three cases
12 above, the last report after 2020. In the low case we
13 have 7,800 gigawatt hours by 2022 and 7,300 gigawatt
14 hours in the high-demand case.

15 For Edison, let's see, that should be all three
16 cases are above 2020, compared to CED 2009. In the low
17 case we have 6,000 gigawatt hours and in the high case
18 5,500 gigawatt hours.

19 For San Diego all cases are -- that's actually a
20 typo. All cases are above CED 2009. I think we saw an
21 increase in the CSI, in historic CSI adoption for San
22 Diego, which helped drive the results up.

23 In the low case for San Diego we have 1,600
24 gigawatt hours total on-site generation and 1,400
25 gigawatt hours in the high-demand case.

1 Next we have the statewide peak impacts from on-
2 site use. Let's see, low case we estimate 3,400
3 megawatts by 2022 and 3,100 megawatts by 2022 in the
4 high case.

5 For PG&E all cases are above CED 2009 through
6 the entire forecast. In the low case we have 1,600
7 megawatts as a total impact from on-site in 2022, and
8 high case of 1,500 megawatts.

9 For Edison all three cases are above CED 2009 by
10 2022. The low-demand case has 1,175 megawatts and the
11 high case at just about a thousand megawatts.

12 For San Diego, again the higher -- the adoption
13 in recent years, after CED 2009, has pushed our forecast
14 for self-gen above CED 2009 in all cases. In the low
15 case we have -- oh, 1,175 megawatts and just about a
16 thousand megawatts in the -- no.

17 I'm sorry, I was -- for San Diego total impact
18 is 350 megawatts and high case 300 megawatt by 2022.

19 Just an idea of next steps, as I mentioned
20 earlier we don't have a predictive model for the
21 nonresidential sector. We're working on that and hope
22 to have something ready in time for the revised
23 forecast.

24 One of the other projects we're working on is
25 with the PUC on developing a unified database. Around

1 the fall of last year we shared some data on CHP and was
2 kind of surprised to see the differences the two
3 agencies had, so we're trying to reconcile that to get a
4 better idea of what the install base is.

5 And that concludes my presentation, so if there
6 are any questions?

7 CHAIRPERSON WEISENMILLER: Thank you.

8 COMMISSIONER PETERMAN: Hello.

9 MR. GAUTAM: Hi.

10 COMMISSIONER PETERMAN: I just wanted to inquire
11 a bit more about your inclusion of other technology,
12 self-generation technologies in addition to PV.

13 MR. GAUTAM: Yeah.

14 COMMISSIONER PETERMAN: So, as we see, you have
15 the SCHIP program, the ERP, so does that mean that
16 you're forecasting fuel cells, as well as small wind,
17 initially, or --

18 MR. GAUTAM: From the SCHIP we're -- we only
19 looked at the micro turbines, engines and fuel cells.

20 COMMISSIONER PETERMAN: Okay.

21 MR. GAUTAM: And, again, those mainly go in the
22 nonresidential sector, it was just a simple average.
23 I'm just going to --

24 COMMISSIONER PETERMAN: Okay, I just
25 wanted to --

1 MR. GAUTAM: Sure.

2 COMMISSIONER PETERMAN: -- just bring that point
3 out again, because I can appreciate there's lower
4 penetration of those technologies, now, but looking out
5 to 2020 and I've just been visited by a lot of wind
6 people, recently, just bring that point out again,
7 because I can appreciate there's lower penetration of
8 those technologies, now, but looking out to 2020 and
9 I've just been visited by a lot of wind people,
10 recently.

11 MR. GAUTAM: Sure, I understand.

12 COMMISSIONER PETERMAN: And I've been getting
13 warned about the potential in that industry, so just
14 something to keep aware of in terms of next steps.

15 MR. GAUTAM: Okay, thank you.

16 COMMISSIONER PETERMAN: Thank you.

17 MR. GORIN: Yeah, are there comments from the
18 public or the people here in the room? Step to the
19 microphone.

20 MR. MARTINEZ: Sierra Martinez, representing
21 NRDC.

22 MR. GORIN: Hi.

23 MR. MARTINEZ: Thank you for the wonderful
24 presentations.

25 I just had a clarifying question on the energy

1 efficiency presentation, on slide nine it talks about
2 committed savings and it says the television standards
3 are not yet incorporated. And I was just wondering if
4 you plan to incorporate the TV standards in the revised
5 forecast, given that they were adopted here in 2009?

6 MR. GORIN: We're in the process of trying to
7 figure out what portion of those standards are devoted
8 to commercial and what are devoted to residential. And
9 we haven't been able to get that break out, yet. I'm
10 not -- and we may look at some of the assumptions that
11 were made in hours of use in the residential sector, and
12 maybe change some of them a little bit.

13 MR. MARTINEZ: Okay, so you guys are in the
14 process of incorporating it?

15 MR. GORIN: We're trying to figure it out and
16 trying to look at what counter-factual would be. In
17 some sense, when you're modeling demand, the savings
18 would -- some of the savings would be -- they would
19 actually be saving, you know, you could count that as
20 savings but it wouldn't change demand a lot because of
21 the size of the screens getting larger. Which if --
22 but, I mean, we're going to incorporate the savings when
23 we get a break out of commercial and residential
24 changes. I mean market segment.

25 MR. MARTINEZ: Okay, and you guys expect that

1 will be done by the revised forecast?

2 MR. GORIN: Yes.

3 MR. MARTINEZ: Excellent, thank you.

4 MR. TOTH: Hi, my name's Philip Toth, from
5 Southern California Edison, and I wanted to address a
6 little bit the 50 percent of decay question.

7 That was mandated by the CPUC in Decision 09-09-
8 047, where the utility's responsible for making up 50
9 percent of the decay that occurs within their service
10 territory, and that is from our programs and included in
11 our programs.

12 CHAIRPERSON WEISENMILLER: That's good, that's
13 useful. What sort of additional programs do you do, how
14 do you build that in the program design?

15 MR. TOTH: Well, it's not -- picking up decay is
16 not necessarily built into the program designs, it's for
17 decay specifically.

18 The programs are designed to -- to meet or
19 exceed the goals that were put forth by the Commission,
20 but included in that is a portion of the decay that
21 happens within our service territory.

22 CHAIRPERSON WEISENMILLER: Thanks.

23 MR. TOTH: You're welcome.

24 MR. EMMERICH: Good morning, Commissioners. My
25 name's Herb Emmerich, I'm the Demand Forecast Manager

1 for Southern California Gas and San Diego Gas and
2 Electric.

3 I only have comments on the gas side. I don't
4 know if you're going to talk about that more in the
5 afternoon?

6 CHAIRPERSON WEISENMILLER: Well, why don't you
7 go, now and, certainly, you're welcome to dig into more
8 detail in the afternoon.

9 MR. EMMERICH: Okay. Generally, I want to
10 congratulate the staff on really an extensive and
11 outstanding job.

12 I was hoping, though, to see a wider divergence
13 in the forecast between the high and the low. In most
14 cases it's almost the high, and the low and the medium
15 are almost the same going out in time.

16 The forecast overall, we believe, is very
17 optimistic in all cases. We tend to have a more
18 pessimistic view of gas demand in the out years,
19 especially what's happening with the economy right now,
20 and also the energy efficiency variance that we've been
21 able to achieve over time, and we expect to continue.

22 There is some uncertainty on energy efficiency
23 on the gas side, as you know, because some of the funds
24 were diverted to the General Fund through the budget
25 process this year. We're hoping that will be refunded

1 to the utilities in 2013.

2 We do have enough funds to get us through this
3 year and next year because it's a multi-year program.

4 So, also, there is now a big proceeding on the
5 gas side for pipeline safety, which could affect rates
6 quite a bit. And I don't know if that's been taken into
7 account? PG&E, San Diego, and Southern California Gas
8 Company are proposing multi-billion dollar pipeline
9 replacement programs and that will affect rates in the
10 area of five, ten, maybe 15 percent depending on the
11 customer class.

12 Thank you.

13 CHAIRPERSON WEISENMILLER: Thank you.

14 MR. GORIN: Herb, he has submitted a
15 presentation. Did you want to go through that, now, or
16 wait until this afternoon?

17 MR. EMMERICH: That's up to you. I can do it
18 now. What I've done is try to compare what we did in
19 the California Gas Report for 2010 with the preliminary
20 report that you have out now.

21 MR. GORIN: Yeah. We -- we can go through the
22 presentation, now. We do have one more public comment.
23 Are they on the phone? But it's related to natural gas
24 and so if you want to go through --

25 CHAIRPERSON WEISENMILLER: Sure, let's do that.

1 Let's have the other comment and then go through natural
2 gas.

3 MR. GORIN: Okay. The question was for the
4 demand -- the natural gas demand forecast how much will
5 LNG from abroad play a role?

6 And from the demand forecast perspective, as we
7 view it, LNG would be a supply issue. We forecast what
8 we consider natural gas used to be -- I mean what end-
9 user natural gas is going to be used. We're not all
10 that concerned about how it's supplied, so that's more
11 of a supply issue in my mind.

12 MR. EMMERICH: Is that a question to me?

13 MR. GORIN: No, this was a question from
14 somebody on the web.

15 MR. EMMERICH: Well, my reply to that would be
16 any time you have more supply it would tend to drive
17 down gas prices. And with all the shale gas coming
18 online and, actually, somewhat more LNG coming online,
19 we tend to think gas prices in the long term will be
20 lower than were expected just a couple of years ago.

21 And I have a slide in my presentation to address
22 that.

23 COMMISSIONER PETERMAN: And I'll just also add
24 that, for the caller online, the questioner online, that
25 we're having a workshop at the end of the month looking

1 more at natural gas, the natural gas prices, and that
2 gets into some of the more supply concerns that are
3 raised, including some of yours, sir, as well as the
4 price forecast.

5 MR. EMMERICH: Well, I was hoping that workshop
6 was going to be the day after tomorrow, so I don't have
7 to make two trips up here.

8 COMMISSIONER PETERMAN: Well, it will be good
9 things come to those who wait; it will be a good
10 workshop.

11 MR. EMMERICH: Go up there?

12 I just have a quick review of economic outlook
13 that the Cal Gas support, which is done by PG&E's,
14 Southern California Gas Company in San Diego, and see
15 how that compares with the forecast that you have.

16 COMMISSIONER PETERMAN: Excuse me, would you
17 mind tilting up your microphone?

18 MR. EMMERICH: Sorry. The California Gas Report
19 is prepared by the California utilities. We do work
20 with the CEC staff and we use the Electric Demand
21 Forecast as part of forecasting gas demand for the power
22 sector.

23 Our general outlook is that the economy will
24 pick up, but it's picking up slower than we anticipated
25 just two years ago.

1 And housing is lagging very much. And our
2 normal customer hook-up per year would be around 70,000
3 and we're down to about 38,000, so that just gives you
4 an indication of how low it is.

5 This is a Southern California employment
6 projection. We do expect employment to go up and I
7 think that's consistent with what your staff is showing.

8 And industrial employment in California is
9 virtually flat and maybe even declining over time. Most
10 of the big users of gas and also electricity have moved
11 out of state, but we do have commercial job growth that
12 we're expecting.

13 The red stuff up there, I'm sorry about that,
14 that's only because those are changes we made to update
15 what's actually happening at this point.

16 Our forecast of customer growth is 1.3 percent
17 and that's slightly lower than we had just two years
18 ago.

19 Our active meters, 5.4 million for So Cal Gas
20 and about 800,000 for San Diego.

21 And this is an important slide. Just two years
22 ago we were expecting gas prices to be from 5.50 to 6.50
23 during the summer and winter period. And in the
24 meantime, now, prices have fallen more than \$2.00, so
25 the forecast now for the winter is 3.91 and 4.39. And

1 this is because of shale-based and LNG gas supplies have
2 reduced the price outlook significantly.

3 There's shale gas coming online everywhere, in
4 the east, in Canada, and even in Europe. Although you
5 think, well, Europe won't have any impact on us, but it
6 does because it makes more LNG available to be diverted
7 to the United States.

8 So, this is the gas price forecast we had for
9 the 2010 California Gas Report. And the light blue is
10 the EIA forecast, now. And as you can see, it's
11 significantly lower. These are all in constant dollars
12 and as much as 50 percent lower out in time. You're
13 only going to about 2022, I believe, but even then it's
14 about 30 to 40 percent lower than we anticipated just
15 two years ago.

16 And this is what I mean about having a wider
17 range of outlooks. This is just in a two-year period
18 the outlook has changed significantly. And, generally,
19 the forecasts I've seen have been almost the same for
20 the high, medium and low.

21 And I would think it would serve everybody
22 better if you had a more robust look at the future.

23 But I believe, Commissioner, the last time you
24 asked what do I mean by robust? Well, if you're a gas
25 driller, you should assume very low prices to make sure

1 that your enterprise will stay successful.

2 If you are looking on the conservation side, you
3 would expect to look at some of the very high prices and
4 see how more costly energy efficiency projects would
5 work out in that scenario.

6 Our demand forecast showed declines on the gas
7 side, whereas the staff report still shows, even in the
8 low case, gas demand increases.

9 And I'm not saying the forecast the staff has is
10 unreasonable. It is certainly reasonable. But I would
11 like to see a greater divergence of outputs.

12 So, since we have these lower forecasted prices
13 that does not mean it's actually going to happen.
14 Prices could rebound because of a pushing out of coal
15 back east, that the demand for gas in the power sector
16 would increase and prices could come back.

17 But generally, if we have these kinds of lower
18 prices, you could see core demand be four to five
19 percent higher than we forecast in the Cal Gas Report.

20 This is the overall report that we had for
21 Southern California Gas. As you see, it's a decline
22 over time.

23 And the main segment that's declining is the
24 power gen segment, because we're anticipating that 70
25 percent of renewables will be located in our service

1 territory. So, PG&E probably is going to have somewhat
2 an increase in their forecast, and PG&E people are here,
3 but we anticipate decline in power gen and, also, a
4 replacement of old, inefficient plants with the more
5 efficient plants producing gas demand in the power
6 sector.

7 Residential is flat because of energy efficiency
8 and all the great things the Commission has done in
9 setting building standards, and appliance standards, and
10 so on.

11 COMMISSIONER PETERMAN: Hi, a quick question.
12 On the last slide what was non-core EG, what would be
13 examples of that?

14 MR. GAUTAM: That would be the power generators
15 and the large, industrial co-generators.

16 COMMISSIONER PETERMAN: Oh, okay.

17 MR. GAUTAM: Energy efficiency programs, you
18 know, we have goals and targets and we have met those
19 targets on the gas side. And the blue item there is
20 what I added. If the energy efficiency funds are not
21 made available, of course, we will not be able to meet
22 those targets. But we're hoping that by 2013 the budget
23 situation will be better and those funds will be
24 returned to the utilities.

25 That is not an issue, the way I understand it,

1 on the electric side. Those funds were not diverted.
2 And the gas funds for low-income energy efficiency also
3 was not diverted, so those programs go on full force.

4 This is an overall look on energy efficiency.
5 As you can see, the accumulation year after year of
6 energy efficiency is quite large. And, you know, we
7 sort of stop in 2022, but most likely they would
8 continue after that point, but we didn't want to be too
9 optimistic on that. And that's the same thing for San
10 Diego Gas and Electric. Again, this is only the gas
11 side.

12 So you see the accumulation over time. The
13 reddish portion there is the savings and if you add that
14 savings portion, that would have been the demand
15 forecast if we hadn't these energy efficiency programs.

16 I do look at the electric generation gas demand
17 and it's highly uncertain whether or not some of the
18 renewables will be met. There certainly is an intent
19 for the utilities to meet that.

20 There's also the once-through cooling rules and
21 regulations, are they going to be actually implementing,
22 which could take offline all the inefficient power
23 plants and replace them with new, more efficient ones.
24 And if that happens, then the gas demand forecast for
25 the power sector would be decreasing.

1 And this is where we're mentioning it, that the
2 once-through cooling is one of the key items in Southern
3 California which would move out the inefficient power
4 plants.

5 I'll just skip over this, I think you saw the
6 general scenario. The Southern California gas has
7 wholesale customers, San Diego, our affiliate being the
8 largest, but also Long Beach Southwest Gas and the City
9 of Vernon.

10 The City of Vernon has its own distribution
11 system, now, so the gas customers we were serving there
12 are migrating slowly over to the City of Vernon
13 distribution. And they also built a power plant which
14 is generating, and it's a quite large power plant.

15 San Diego's growth is also flat to declining.
16 The significant portion there is the power gen market,
17 again. As you have more efficient plants, you generate
18 more electricity, but you need less gas in order to do
19 it. And also, all of the renewables that are mandated,
20 33 percent by 2020, if they are met then the power gen
21 sector on the gas side will go down.

22 So, overall in Southern California our forecast
23 is a decline in gas demand out in time. Northern
24 California, out of the Cal Gas Report is increasing, but
25 the PG&E people can update that, themselves.

1 So in summary, gas forecast is forecasted to
2 decline because of the housing slump, low employment and
3 aggressive energy efficiency programs.

4 EG demand is expected to remain flat and could
5 decrease based on the enforcement of rules on once-
6 through cooling.

7 And energy efficiency programs will continue to
8 have a significant cumulative gas demand reduction
9 effect over time.

10 Thank you.

11 CHAIRPERSON WEISENMILLER: Thank you very much.

12 A couple questions; the first one was in
13 terms -- are your elasticity numbers comparable to the
14 elasticity numbers in our staff's models?

15 MR. EMMERICH: Ours are .1 for the core market
16 and like .12 for the non-core market. In California,
17 especially in Southern California, we can't burn fuel
18 oil because of air quality regulations. So if you
19 looked at the rest of the country, you would be in the
20 .2 to .3 range for the industrial sector, but we can't
21 do that, so the price of gas doesn't affect demand very
22 much.

23 CHAIRPERSON WEISENMILLER: Okay. Tom, is it
24 similar?

25 MR. GORIN: I think ours are similar. I don't

1 think we have a lot of price elasticity in the natural
2 gas sector. It's used for residential, it's used for
3 space heating, cooking, water heating.

4 CHAIRPERSON WEISENMILLER: Right.

5 MR. GORIN: End uses that are pretty set in
6 their ways and with -- there was -- you know, so I think
7 the .1 range is probably what we have.

8 CHAIRPERSON WEISENMILLER: Okay. And what sort
9 of assumptions do you have about electric vehicle
10 penetration? I know that's really a hot topic in the
11 South Coast and in the San Diego areas, and that can
12 obviously affect UEG loads.

13 MR. EMMERICH: Well, there are people here from
14 San Diego that can talk about the electric side. I just
15 cover the gas side.

16 CHAIRPERSON WEISENMILLER: Okay.

17 MR. EMMERICH: I do want to mention one other
18 item in Southern California; the South Coast Air Quality
19 Management District is pushing electrification of the
20 South Coast Air Basin, which could affect gas demand if
21 it actually is implemented. That includes
22 electrification of gas water heating, and cooking, and
23 drying, and so on.

24 We've done some analysis that that's not cost
25 effective but, you know, air quality sort of goes on its

1 own way in Southern California.

2 CHAIRPERSON WEISENMILLER: Right. Thank you.

3 COMMISSIONER PETERMAN: I just had one quick,
4 follow-up question. You noted that you had a more
5 pessimistic projections around our forecast, around
6 natural gas versus our current ones. Were you speaking
7 specifically about those pertaining to your service
8 territory or just at large for the State?

9 MR. EMMERICH: To our service territory.

10 COMMISSIONER PETERMAN: Okay. And I think that
11 was a good point you made about some of the differences
12 geographically, with the once-through cooling plants,
13 and the renewable penetration. Just encourage staff,
14 again, to be mindful of those differences.

15 Thank you.

16 MR. EMMERICH: Thank you.

17 MS. YUCEL: Hi, this is Zeynep Yucel, PG&E. I
18 lead the forecasting group. So, just a brief item, I
19 would note our feedback on the natural gas. So, there's
20 going to be a workshop at the end of September, I guess,
21 so we're going to be prepared, similar to Herb's
22 presentation.

23 But today I just want to highlight that we are
24 sharing Herb's outlook on our gas forecast, so the core
25 side is pretty much flat or declining a little bit. And

1 the minimal growth is coming from the EG, electric
2 generation.

3 So in the workshop, you know, we can prepare
4 more details as to, you know, the economic outlook, you
5 know, what variables drive the gas demand and how we
6 produce the electric generation demand forecast. So, I
7 just wanted to highlight that very quickly.

8 COMMISSIONER PETERMAN: I'm glad your results
9 make sense together, that's always good to know in
10 advance.

11 MR. YUCEL: Yeah, you know, what Herb states, I
12 share that.

13 MS. GREEN: Do we have any more public comments?
14 Do we have any more from -- no, none from WebEx.

15 Should we adjourn for lunch or --

16 CHAIRPERSON WEISENMILLER: Yes, why don't we
17 adjourn for lunch, now.

18 MS. GREEN: An hour, so we're back at --

19 CHAIRPERSON WEISENMILLER: Why don't we come
20 back at 1:00.

21 MS. GREEN: One o'clock, okay.

22 (Off the record for the lunch break.)

23 CHAIRPERSON WEISENMILLER: Tom needed to run and
24 get a file from SDG&E, which we now have. So, you want
25 to start?

1 MR. GORIN: Okay, welcome back. There was a
2 question from the internet, I guess, while we were gone
3 about why some of our history has changed in some of the
4 historic charts we have for 2000 and 2010.

5 Our -- we feel that our reporting has become
6 more accurate and we have better estimations of self-
7 generation, and that is added to the consumption
8 forecast. So, some of the historic values for
9 consumption in the service territories have changed
10 because it's estimates of self-generation, and some of
11 the peak estimates have changed because of the same
12 reason.

13 We're trying to, you know, hone in on what self-
14 generation actually happened in the past.

15 CHAIRPERSON WEISENMILLER: Great, thanks.

16 MR. GORIN: Okay. We're going to start with the
17 San Diego Planning Area and this comparison -- this is
18 actually the forecast that we put together.

19 Wait a minute, how do I go back?

20 This is an overview of our results. The 2010
21 reported consumption was four percent below what we had
22 forecast in 2009. This is probably going to be a
23 recurring theme for all the utility planning areas.

24 Our forecast, now, is -- has a slightly higher
25 growth rate than 2009 because -- partly because of the

1 lower starting point and there's more optimistic growth
2 in the econ demo forecast this time, than we used
3 previously.

4 And I should note that our economic forecast
5 actually comes from Moody's Analytics, which used to be
6 Economy.com, and I'm old and don't change my ways very
7 well. So, I may use them interchangeably and I
8 apologize for that.

9 The weather-normalized peak, which happened in
10 Southern California, last year, at the end of September,
11 which was not really in the summer, but that's the way
12 the temperature fell. It was three and a half percent
13 below what we forecast.

14 The peak growth rate is similar to what we had
15 in 2009.

16 The load factor, now, at the end of the forecast
17 is projected to increase because we've included electric
18 vehicles in the forecast and we're assuming they're
19 charged off-peak for the most part.

20 Per capita consumption increases slightly due to
21 the higher growth rate in consumption and we have a
22 lower residential peak projection which makes the per
23 capita peak decline.

24 And this is a table from the report. I
25 purposely, for the service area, for planning area

1 forecast put in the 2011 to 2015, '20 and '22 growth
2 rates to eliminate any weather-adjusted -- any weather
3 adjustment that would occur going from actual 2010
4 values, so they're more comparable from forecast to
5 forecast because we forecast what we -- using what we
6 consider normal weather to be.

7 And the historic values are based on actual
8 weather.

9 So, the growth rate in the mid cases, in
10 consumption is slightly higher than what we were
11 forecasting in 2009 and the peak growth rate in mid case
12 is somewhat lower.

13 And these are graphical representations of that
14 and you can see the slope of the red line, which is
15 2009, is lower than any of the other three forecasts.

16 And the peak is more comparable, other than the
17 high case grows at a faster rate. But you can see the
18 difference between the actual peak and the orange dot,
19 which is the weather-normalized peak that we calculated
20 for San Diego.

21 And I believe that's a similar value to the one
22 that San Diego calculated for their weather-normalized
23 peak for 2010.

24 This is a load factor, which is a measure of the
25 peakiness of the system load and it's projected to

1 remain relatively constant at the lower end of the
2 historic value. The historic values are -- vary greatly
3 because of the relationship between the temperature on
4 the peak day and the overall temperature over the year.

5 So, as in the case of last year, you had a
6 really hot weather vent in an overall mild year and
7 you're going to get a low load factor.

8 Per capita consumption since the start of the
9 current economic downturn has taken kind of a nose dive
10 in San Diego. We're projecting that to be relatively
11 constant. We were projecting it to increase slightly
12 more last time, starting from a higher point.

13 And peak -- per capita peak now declines
14 probably due to more residential air conditioning.

15 Residential forecast was four percent below our
16 previous projections. Higher growth rate, higher
17 household growth rate, increased persons per household,
18 similar household income. I went over before how
19 household income was calculated and use per household
20 started at a lower point.

21 A lot of these lines are very closely bunched,
22 but they were -- the high and the low case were designed
23 to try and get as much variation as we could for each of
24 the sectors. It's probably more pronounced in the
25 industrial sector than the residential and commercial

1 sector.

2 This is our housing -- our household forecast.
3 The household forecast grows at a higher rate in San
4 Diego in the future because of projections of population
5 and households.

6 I was asked at the break why there was no
7 population scenarios and Moody's Analytics, or Global
8 Insight, or the Census, to my knowledge, Department of
9 Finance do not forecast population scenarios. They have
10 a population forecast.

11 The Department of Finance population forecast
12 may be different than the Census forecast; but Moody's
13 Analytics varies household formation rates, which varies
14 the number of households and varies persons per
15 household, but their population forecast that they
16 present is derived from Census, with some adjustments,
17 but it's constant in all the scenarios.

18 Persons per household is what we use to make the
19 scenarios of households.

20 These are -- may seem counter intuitive, but the
21 high-demand scenario is the lowest persons per household
22 scenario because it creates the most households,
23 dividing by a constant population, a lower number.

24 And that comes from -- that's a type -- it comes
25 from Moody's Analytics. And it follows a trend that

1 I've seen for the last 20 or 30 years from the national
2 reporting, the national companies, that assumes that
3 California is going to return to the national trend of
4 declining persons per household. And in my tenure at
5 the Energy Commission I haven't seen persons per
6 household in California decline.

7 And the mid and high case -- I mean the mid and
8 low scenarios are derived from two different analyses of
9 historic trends in persons per household. The mid case
10 uses essentially half of the increase in persons per
11 household seen over the last 20 years, and the low case
12 uses an exponential curve-fitting function to that.

13 Household income, excuse me, is somewhat counter
14 intuitive until you think about it a lot. The mid case
15 ends up being the highest household income case.
16 Because in the high-demand case the percentage drop in
17 persons per household is greater than the percentage
18 increase in per capita income. And it took us a while
19 to wrap our heads around that.

20 Use per household only goes up in the back end
21 of the forecast and that corresponds to all the electric
22 vehicle use being put in the residential sector.

23 Commercial building sector was six percent below
24 our 2009 projections. They have a -- it has a higher --
25 the 2011 forecast has a higher growth rate. Excuse me.

1 The floor space projections have a higher growth rate.

2 So we're starting from a lower point and growing
3 at a faster rate and ending up practically at the same
4 point by the end of the forecast.

5 And this is the commercial floor space
6 projections. These are modeled using our current
7 economic projections. These may change from the -- for
8 the revised forecast, using more recent economic
9 projections.

10 Looking at some of the newer projections, it may
11 be that the front end of the forecast is lower, but I
12 think the projections now are indicating the recovery
13 will come back about to the same place, so the steepness
14 of the slope in the out forecast years may be slightly
15 higher.

16 Industrial and mining was eight percent lower.
17 The mid case grows at the same rate as 2009. And the
18 differences in the scenarios here are driven by the
19 different economic output projections that were used.

20 You can see the high case, which is essentially
21 Global Insight high case. They have a different view of
22 industrial output than the two cases that were developed
23 by Moody's Analytics.

24 The other sectors are transportation and
25 communication's utilities, agriculture and water

1 pumping, and street lighting. They comprise about 12
2 percent of the total consumption and they have growth
3 rates that are similar to the 2009 forecast.

4 Our electric vehicle forecast, that we're
5 currently using, is projected to increase total
6 consumption by about two percent by 2022, and mostly in
7 the residential sector, and it's projected to start
8 taking off in the next two years or so.

9 And the peak impacts of that are minimal,
10 between 20 and 25 megawatts, 2022, because of assumed
11 off-peak charging.

12 The committed efficiency savings amounts to 30
13 percent of consumption and 30 percent of peak -- 37
14 percent of peak.

15 The 2009 to 2012 utility program estimates are
16 based on current CPUC filings and Asish described the
17 self-generation forecast, previously.

18 This is a graph of the committed efficiency
19 savings estimates at the service area level and they're
20 similar to what Nick showed, previously, at the
21 statewide level.

22 And these are the peak savings associated with
23 that.

24 This is a table of self-generation and that
25 essentially reduces -- the mid case reduces peak by

1 about six percent in 2022.

2 This is a section on comparisons to the San
3 Diego forecast. I will note, and this is the case for
4 all utilities, that these forecasts were submitted to us
5 in April of this year, so they're based on forecasts
6 that were done early in the year for the utilities,
7 which used economic and demographic assumptions which
8 were prior to the ones we used in April, so they were
9 based on probably late-last-year assumptions.

10 We did compare -- for San Diego we compared both
11 managed and unmanaged forecasts. We took our
12 uncommitted savings estimates that we produced this time
13 and subtracted them from our forecast to create what we
14 would call a managed forecast.

15 The San Diego forecast, that they submitted, is
16 higher than all our scenarios and higher in the
17 residential sector. One of the things that we noticed
18 is that San Diego EV forecast is about 800 gigawatt
19 hours at the end of the forecast and ours is about --
20 Where is it? I went the wrong way. Ours is only about
21 500 to 550.

22 On the other hand, the San Diego peak is lower
23 than our forecast, so there's a differential growth
24 between energy and peak in the San Diego forecast that
25 we're going to work with San Diego to try to understand.

1 This is a comparison. The mid case is the green
2 line. One -- one reason for the differences could be
3 that, in my understanding, San Diego used Global
4 Insight, which is maybe comparable to our high case.
5 And this is a comparison of the managed peak forecast,
6 which is similar -- the results are similar to the
7 unmanaged.

8 And they have more residential growth in the
9 front part of the -- up through 2017. It may change.
10 You know, both of the forecasts may change using more
11 recent economic forecasts.

12 One, with us revising our forecast, you know,
13 maybe using October economic forecast and having a
14 revised forecast presented in the January/February time
15 frame, I'm thinking that the utilities will be in the
16 process of revising their -- their annual forecast at
17 the same time and we're proposing to share information
18 with them on the revisions that they're making, along
19 with our revisions, to maybe come to some closer
20 resolution to some of these differences for the revised
21 forecast.

22 The managed residential forecast for San Diego
23 is higher. And then the commercial/industrial forecast
24 is -- in the mid-forecast period is more comparable to
25 our mid-rate forecast, and falls more within the range

1 of our forecast.

2 And the peak forecast comparison, the San Diego
3 forecast is closer to our low case, so that's a
4 difference that we have to work with them to try and
5 figure out.

6 And the managed forecast is -- you know, through
7 2018 is pretty comparable to our mid case and only grows
8 after that. I think maybe ours declines. The mid and
9 low case in our peak would decline more from zero net
10 energy homes, maybe.

11 So, that's the San Diego presentation and I
12 think San Diego has a presentation they wanted to make.
13 Are there other questions?

14 MR. VONDER: Should I come up here or should I
15 go over there? There's just one, just one.

16 Okay, I'm -- testing. Yeah, okay. I'm Tim
17 Vonder with SDG&E.

18 Tom did a good job on his charts. This is
19 actually the first time I've seen those charts. So, I
20 wasn't planning on putting up a whole set of charts,
21 like Tom did, but I'd like to make a few comments.

22 If we were to look at the information that is in
23 the published preliminary forecast, that 200-and-some-
24 page document that we just got, in there, and Tom put
25 this up as the first chart, you would see total

1 consumption for SCE -- I mean the CEC and SDG&E in those
2 years, in that table. So you can see there, on 2022,
3 under total consumption, gigawatt hours under CEC it's
4 25,005. Well, that's what you saw on that first chart.

5 So, putting SDG&E's numbers next to the CEC's
6 numbers you would see in the next column there, and like
7 Tom said we do exceed, in total consumption forecast we
8 do exceed the CEC's all cases.

9 And we grow from 2010 at a rate of 2.3 percent a
10 year and the CEC is growing at 1.8.

11 Now, there's various parts to that, that
12 forecast, that consumption forecast and I'd like to pull
13 out a couple of them that we have particular interest
14 in, and that we plan on doing a little more
15 investigation as to why we're different. And,
16 hopefully, this will help us understand the differences
17 between us and the CEC.

18 If we take a look at the EV sales, okay, that we
19 have in our forecast and the EV sales that the CEC has
20 in their forecast, you can see that we start off in 2010
21 at -- both at two gigawatt hours, but SDG&E's forecast
22 grows all the way to 1319 gigawatt hours while Energy
23 Commission stays at around 527.

24 So, we're about two and a half times what CEC
25 has in their forecast.

1 Commissioner, I heard you ask the question
2 earlier, to Tom, about the penetration rate of electric
3 vehicles into the service territory or into the State.
4 Our penetration rate goes from about a thousand on the
5 road, electric vehicles in 2010, to about 423,000
6 electric vehicles by 2022. So, it's quite a robust
7 increase.

8 It seems like San Diego's a real hot bed for new
9 technology, especially in that area.

10 Another area --

11 COMMISSIONER PETERMAN: Excuse me, can I just
12 ask you a question about that, since we're on the plug-
13 in vehicle question? In terms of your estimates do you
14 use OEM reports, or customer surveys?

15 MR. VONDER: You know, I can't -- it's a
16 consensus forecast that was used and that was part of
17 the analysis that went in -- or I mean part of the
18 forecast that went into the mix to come up with the
19 consensus forecast, but I really -- I don't have that
20 detail at hand.

21 COMMISSIONER PETERMAN: I was just curious
22 because with our transportation work we've dealt with a
23 number of EV forecasts and this is a particular
24 technology we do see quite a range. And then you
25 realize that people are counting different things in

1 terms of whether in counting hybrids, or pure plug-ins,
2 and so I was just curious to how you resolved this
3 difficulty of having a range of forecasts depending on
4 who you ask?

5 MR. VONDER: Well, I wish our Clean
6 Transportation Group were here to really address that.
7 They could probably talk for a half-hour on just that
8 one issue. But I apologize, I don't have the details.

9 COMMISSIONER PETERMAN: I was just curious,
10 trying to use this forum to get more information for
11 something else I'm working on, so thanks.

12 MR. VONDER: Okay. Well, then moving onto
13 private supply; this is another area that we differed
14 in. And here SDG&E started out a little higher than the
15 CEC, as you can see, 852 versus 750, but the CEC ended
16 up higher than we did, so you can see the growth rates
17 there are different.

18 And I think I heard today that they used more
19 up-to-date information than we did. So, we really want
20 to investigate this and see if we can improve our
21 private supply forecast.

22 Now, if you take both EV sales and private
23 supply out of that total consumption, and then you take
24 a look at the consumption that's left you'll see that we
25 start at the same place, 19,483 and 19,485, and we end

1 up at 22,964 and 24,358, for a growth rate of 1.4
2 percent and 1.9 percent.

3 Now, in light of the present economy and
4 everything some people might say that 1.9 percent's a
5 high growth rate. But in historical terms, in forecasts
6 of -- in other rounds of forecasting that's not at all a
7 high growth rate.

8 Going over to the peak side, I know it's been
9 noted a couple of times that we differ on peak, that
10 Energy Commission's peak is higher than ours.

11 Well, if you take a close look, this is
12 comparing mid case to mid case. We didn't do scenarios,
13 so we just chose the mid case here.

14 We both started at the same place in 2010 and
15 that's a recorded 2,687. And by 2022 CEC ends up at
16 5,183. We end up at 5,139. That's only a difference of
17 about 44 megawatts, which is very, very small.

18 And if you see the -- if you look at the growth
19 rates there, .8 and .8, if we use recorded, and then to
20 the side there I have the weather-normalized peak for
21 2010. And then down below I recomputed those growth
22 rates using a weather-normalized 2010 to 2022, and the
23 growth rates come out 1.6 and 1.5.

24 So, if you look at the sales, at the growth
25 rates that we have over there, CEC has 1.4 and 1.6 and

1 we got 1.9 and 1.5. I really don't think we're that far
2 apart. But there really is a couple of areas that we'd
3 like to investigate further.

4 So, those are my comments on our two forecasts.

5 CHAIRPERSON WEISENMILLER: Thank you. A couple
6 questions; as we've looked at the staff forecast, going
7 from low to highs all pretty -- it seems pretty
8 compressed. I mean does SDG&E, in its forecast, have
9 more of a dispersion between their low and high cases?

10 MR. VONDER: We didn't do a low and high.

11 CHAIRPERSON WEISENMILLER: So you just did the
12 mid case?

13 MR. VONDER: We only did an expected case.

14 CHAIRPERSON WEISENMILLER: And we've looked at
15 the differences between EV and private supply. I'm
16 also -- how do -- how do our energy efficiency numbers
17 look comparing between the two companies?

18 MR. VONDER: Well, I didn't prepare a graph here
19 because the way staff has looked at energy efficiency,
20 they roll a lot of things into it. They do program,
21 utility programs, public agency programs, standards, and
22 price effects.

23 CHAIRPERSON WEISENMILLER: Uh-hum.

24 MR. VONDER: And when we look at it price
25 effects are someplace buried in our model, you know, and

1 we don't pull it out and make it part of energy
2 efficiency.

3 But from what I could look at and what I do
4 remember is when it comes to committed programs I think
5 we used the same assumptions about taking reported ex
6 ante claims and applying a realization rate about the
7 same -- the same type of realization rate and the same
8 type of net-to-gross ratio, and we made adjustments in
9 the same fashion.

10 I don't know exactly how the numbers came out.
11 I would hope that on the committed side they're pretty
12 close.

13 On the uncommitted side I do remember that we
14 made the same types of adjustments, again, for
15 realization rate and so forth, but we discounted the B's
16 program more than staff discounted the B's program. We
17 totally discounted it one hundred percent in our outlook
18 of uncommitted energy efficiency.

19 So, they're uncommitted or in their managed
20 forecast they would have more energy efficiency than we
21 do by a little.

22 Oh, one other thing that I could point out here
23 on this one, if I can go back to peak for just a second.
24 Remember, I said there's a difference there of about 44
25 megawatts by the time we get to 2022. If you were to

1 take a look at just the EV portion, we had about 65
2 megawatts of EV in our forecast in 2022 and staff had, I
3 believe, around 15. So that, all by itself, you know --
4 so, anyway, that's that.

5 CHAIRPERSON WEISENMILLER: Okay, thanks.

6 MR. GORIN: This is the Edison Planning Area
7 forecast in things that are similar to San Diego and the
8 State, and I will try and go through rather quickly.

9 Their consumption was two and half percent
10 below, mainly caused -- below 2009 and mainly caused by
11 commercial and industrial lower use.

12 Growth rates are similar. Their weather-
13 normalized peak was two percent below what we forecast.

14 The mid-case peak growth rate's now slightly
15 lower than 2009, the load factor's about the same. And
16 the per capita consumption on peak are relatively
17 constant.

18 You can see here that the growth rates, the mid-
19 case peak growth rate's a little lower than what was
20 projected in 2009. And the mid-case energy is slightly
21 lower.

22 So, the high case reaches what we projected in
23 2009 by 2020, essentially by 2022 the mid case reaches
24 where we were projecting to be in 2020.

25 The same sort of difference in the peak

1 forecast. I've put the weather-normalized peak on there
2 because Edison had the same occurrence of hot weather at
3 the end of September last year that occurred in San
4 Diego.

5 There's virtually no difference in the load
6 factors.

7 Per capita consumption is a little bit higher
8 mainly because of the EV forecast.

9 Per capita peak is relatively constant, but it
10 starts from a slightly higher level.

11 So, the residential forecast is four and a half
12 percent below 2009 and it has slightly lower growth.
13 There's lower household growth in the mid and low cases,
14 and it's a combination of lower population and revisions
15 to persons-per-household forecast.

16 Household income, and this is pretty much
17 constant across the utilities, grows at a faster rate
18 than we were projecting in 2009.

19 So, even though 2010 was lower than what was
20 projecting in 2009, we're projecting an increase in
21 2011. I'm not sure that that's currently being seen in
22 the first six months of consumption. We're going to
23 revisit that in the revised forecast and may make
24 adjustments accordingly.

25 The household forecast is lower than was project

1 in 2009 and that is a result of lower persons per
2 household.

3 When we incorporate the new Department of
4 Finance estimates of history that may change the
5 historic persons per household values a little bit
6 because the difference between -- the 2010 difference in
7 households between Department of Finance and the Census
8 was about two percent, while the difference in
9 population was four percent. So, household counts were
10 closer between the Department of Finance and the Census
11 than the population estimates.

12 Household income has the same higher growth and
13 the same case that the mid case is the highest out of
14 those scenarios.

15 Use per household goes up because of EVs, again,
16 at the back end of the forecast period.

17 Commercial building sector was relatively close
18 to the 2009 projections, only one percent below, and the
19 growth rates are similar.

20 Floor space, we'll get to. The mid and high
21 case are pretty much the same as what we were projecting
22 in 2009. Floor space is projected, now, to be flat for
23 two years and then increase at the same level that it --
24 in the mid and high case as it has in the past. The low
25 case is a little bit lower.

1 These are going to be revised using new economic
2 drivers for the revised forecast.

3 Industrial and mining sector was four percent
4 lower and the rates now decline faster, partly because
5 of the elasticity of productivity in the differing
6 economic forecasts.

7 And the industrial forecasts have the greatest
8 divergence in scenarios because of the divergence in
9 economic output used in the scenarios.

10 Moody's Analytics has -- which are the mid and
11 low cases, have virtually the same long-term outlook,
12 but they have -- the mid and low cases have a different
13 path to get to that same point. In about 2017 Global
14 Insight has a decidedly different outlook on industrial
15 output. But we're starting from a lower point in the
16 forecast.

17 Other sectors are only 11 percent of the total.
18 Five and a half percent of that's ag and water pumping
19 and five percent's transportation, and communications,
20 and utilities.

21 In these sectors, in most of the service areas,
22 they grow at the same rate, it's just -- as the CED 2009
23 forecast, the only difference is the starting point.

24 And we're projecting electric vehicle use
25 currently to be about two percent by 2022. We're also

1 going to revise the electric vehicle forecast to be
2 consistent with the new transportation report that just
3 came out.

4 This is the electric vehicle forecast and
5 scenarios. And we're projecting peak impacts to be from
6 85 to 100 megawatts in 2022.

7 Committed efficiency savings about 30 percent of
8 consumption in peak and the same thing for -- the same
9 comments for self-gen.

10 These are the efficiency savings estimates and
11 the peak savings estimates. Self-generation reduces
12 peak by about four percent in 2022 in the mid case.

13 A comparison to the Edison forecast, they
14 submitted only a managed forecast and I made a
15 discovery, either yesterday or this morning, that they
16 submitted a forecast, I believe, for their service area.
17 So, the comparisons are benched to their service area
18 numbers.

19 In the past they have submitted -- also included
20 in their forecast a forecast for their resell cities,
21 which makes their -- with the resell cities factored in
22 it makes our planning area and their service area, plus
23 the resell cities, more comparable.

24 And their forecast, from what I gather from
25 information they provided last week, and they can

1 correct me if I'm wrong, includes an extra 2,600
2 gigawatt hours of non-EV electrification. That is I
3 think, basically, port and other industrial
4 electrification that we need to examine more closely and
5 to consider whether we want to include it in our revised
6 forecast.

7 So their managed sales forecast is higher than
8 all of our forecast cases. Part of it's
9 electrification, but I'm not sure that that's the case
10 with the residential forecast. And their managed peak
11 grows faster than our forecast.

12 So, this is a comparison of their managed
13 forecast to what we would consider our managed forecast,
14 and I didn't really compare -- I didn't provide a
15 comparison of our uncommitted savings to what they would
16 consider uncommitted savings because they haven't -- I
17 think they're embedded in their forecast and not
18 specifically taken out.

19 And this is a comparison of the residential
20 forecast, their managed residential forecast. I started
21 the -- their forecast comparison in 2015 because of --
22 because they were granted confidentiality for their
23 forecast before then, for sector level comparisons.

24 The peak starts out lower than ours and then
25 grows at a rate similar to their consumption forecast.

1 And maybe part of that has to do with electrification,
2 also.

3 So, that's sort of the ten-minute version of the
4 SCE forecast and its comparison, and welcome to
5 questions and comments.

6 CHAIRPERSON WEISENMILLER: Yeah, Tom, I was
7 trying to remember where the differences historically
8 have been with Edison; I thought it was maybe the
9 commercial sector. I'm just trying to figure out if
10 we're getting closer or not at this stage?

11 MR. GORIN: I don't think we're getting closer.

12 CHAIRPERSON WEISENMILLER: Okay. That's the --

13 MR. GORIN: We've had differences in the
14 commercial sector. I think the last forecast cycle
15 their commercial sector was growing a lot faster than
16 ours. I think that may be continuing.

17 CHAIRPERSON WEISENMILLER: Yeah, and I know we
18 were trying at that point to understand what was driving
19 the differences. So you're saying at this stage we
20 still haven't sorted that out?

21 MR. GORIN: No, we're still working at it, but
22 through the -- what is it? Through the Forecasting
23 Group and the Demand Analysis Working Group we're -- we
24 have essentially monthly meetings about forecasting
25 topics and we're trying to maybe resolve those

1 differences, and maybe trying to come to some common
2 framework for forecasting analysis to use, maybe similar
3 models.

4 CHAIRPERSON WEISENMILLER: Okay.

5 MR. GORIN: This would not be a new -- a new
6 idea to you or me, coming from the common forecasting
7 methodology framework, right.

8 CHAIRPERSON WEISENMILLER: Right.

9 MR. GORIN: We may be going back to that.

10 CHAIRPERSON WEISENMILLER: I guess the other
11 question was we heard earlier that SoCal's looking at
12 the impacts of the proposed electrification proposals,
13 like in the South Coast, and sort of driving their loads
14 down.

15 Now, presumably, that's got to have an effect of
16 pushing Edison's up and that somehow -- or Edison's and
17 LAWP, both. I mean, so somehow you're probably uniquely
18 situated, having both gas and electric forecasts in the
19 same place, to worry about that sort of -- not having --
20 so not having things fall between the cracks. It would
21 be a lot easier for SoCal to assume some stuff have
22 shifted and for Edison not have, in its forecast, pick
23 up that shift or vice-versa.

24 MR. GORIN: And, you know, we're in the process
25 of analyzing it, that kind of information, and the rules

1 probably aren't set in concrete, yet, even from South
2 Coast's perspective.

3 CHAIRPERSON WEISENMILLER: Sure.

4 MR. GORIN: And it's an evolving situation and
5 it has been for quite some time.

6 CHAIRPERSON WEISENMILLER: It's going to stay in
7 play. I think it's just useful if when you -- a
8 combination of our folks talking to the SoCal Gas, and
9 the LAVP and Edison folks to try to at least have a
10 coherent set of understanding of what these actual shift
11 numbers are among all those, so that we can then worry
12 about the policies, but at least understand how much of
13 a, you know, shift of, say, gas water heaters are being
14 shifted or whatever the drivers are there to make sure
15 that everyone has sort of a comparable understanding.

16 MR. GORIN: Right.

17 CHAIRPERSON WEISENMILLER: Or at least an
18 understanding of that. Otherwise we're -- if you
19 combine that with EV, self-generation, conservation, you
20 know, there's enough different effects going on and it's
21 going to be very confusing to try to get apples to
22 apples comparisons among the forecasts.

23 MR. GORIN: It's a big jigsaw puzzle.

24 CHAIRPERSON WEISENMILLER: Yeah.

25 MR. GORIN: It needs to be fit together. Herb?

1 CHAIRPERSON WEISENMILLER: Herb?

2 MR. EMMERICH: That was a very good point,
3 Commissioner. We have looked at that. And because gas,
4 on an end-use basis, is much more efficient than
5 electricity, burning electricity, we have looked at
6 scenarios that gas use on the power sector could
7 actually more than offset the reduction on the
8 residential and commercial sector. So, we have looked
9 at that.

10 Of course, you have the reduction of emissions
11 in the South Coast, but you have an increase in global
12 warming emissions worldwide if you have that happen.
13 And we think at this point most likely the additional
14 electric demand will be met by gas-fired generation
15 because it's going to be very tough to meet the new
16 goals of 33 percent by 2020, anyway.

17 CHAIRPERSON WEISENMILLER: I don't know if
18 anyone from Edison wants to come up?

19 MS. BENSON: I'm Johanna Benson, I'm an analyst
20 in the Long-Term Demand Forecasting Group. And at this
21 time we're still looking through and going through their
22 forecast, and comparing it to ours. So, we don't really
23 have anything to present today, but we'll be filing
24 comments.

25 CHAIRPERSON WEISENMILLER: Good, thank you.

1 MR. GORIN: Now, for the PG&E Planning Area
2 forecast.

3 I apologize, I had thought I had a table in this
4 presentation that included the utilities that were in
5 the PG&E forecast -- our version of the PG&E forecast
6 planning area. We have -- it's on the next slide.
7 Where did it go? I just missed it. I've been up here
8 too long. How do I go backwards? That's okay.

9 Well, I can try and explain it and we've talked
10 with PG&E about it, and we have a fairly good
11 understanding of the differences. And I essentially
12 benchmarked our comparisons to the PG&E forecast
13 numbers.

14 Our planning area includes some areas that are
15 not in the PG&E TAC area or PG&E control area, or like
16 Modesto and Turlock. And it's a geographical problem
17 that we're trying to work through, but I think we have a
18 fairly good understanding of the differences.

19 So, their consumption is two percent below
20 forecast. Our mid case is similar to 2009, the weather-
21 normalized peak for PG&E we calculated to be four
22 percent below our forecast.

23 We're projecting the load factor to be flat.
24 The consumption -- the per capita consumption increasing
25 slightly and peak remaining constant.

1 The growth rates are very similar, the mid-case
2 growth rates are very similar to what we project in
3 2009. We're just starting from a lower starting point,
4 basically.

5 The peak forecast is also starting from a lower
6 starting point with virtually the same growth rate.

7 The same, you know, a slight increase up from
8 electric vehicles at the end of the forecast for the
9 load factor.

10 And per capita consumption we're projecting a
11 slight increase in per capita consumption over the first
12 part of the forecast period, also, in the mid case. Per
13 capita peak is pretty flat.

14 Residential forecast has slightly lower growth.
15 We have fewer households in the mid and low case from
16 changes in population and revisions to the persons per
17 household.

18 So, there's pretty tight bound in residential
19 consumption, most of the -- it's hard to see, but the
20 blue line that's hidden behind everything else grows at
21 a slower rate than what we had last time.

22 The household forecast is lower, except in the
23 high case. We're -- the mid case projects persons per
24 household now to be flat. We were projecting an
25 increase in persons per household, previously.

1 The same story as previous for service areas,
2 planning areas in household income, and use per
3 household has -- follows what we were projecting last
4 time, although it's not as -- there's not as pronounced
5 of a V shape as there was in the 2009 forecast.

6 Commercial consumption was four percent below
7 our projections. The growth rate's higher, so we end up
8 at the same point. We're ever so slightly below the
9 2020 value in 2020, but we exceed that value in the mid
10 case by 2022.

11 Floor space starts growing in the mid and high
12 cases at a faster rate than previously projected in 2013
13 through the end of the forecast period, so we end up
14 very slightly below. Well, actually, by the end of the
15 forecast period we exceeded where we were in 2020.

16 Industrial and mining was four percent lower, so
17 the growth rate is similar to 2009, it just starts at a
18 different or a lower point. And, once again, the
19 difference in economic output in the industrial sector
20 provides the difference in the consumption scenarios.

21 The remaining sectors are 12 percent, five
22 percent transportation, communications, utilities, which
23 have a lower starting value based on sales in 2010.

24 Six percent of ag and water pumping, and one
25 percent street lighting. There's a difference,

1 increasing ag forecast this time, rather than the flat
2 it was projected in the future. And electric vehicles
3 is about 1.7 percent of consumption by 2022.

4 The ag and water pumping forecast is now
5 projected to increase, has a higher starting point,
6 basically because of increased agricultural pumping, and
7 the forecast is based on what we've seen as an increase
8 over the recent history, and that's projected to
9 continue, whereas before it was -- the history was
10 relatively flat.

11 Electric vehicles are similar to what we saw in
12 the SCE service territory. Again, for the revised
13 forecast we'll incorporate the new EV forecast from the
14 transportation report.

15 Efficiency savings are about 30 percent of
16 consumption in peak and these are representations of the
17 efficiency savings and peak savings.

18 Self-generation; I didn't put the percentage in
19 here, I could calculate it. But mid case, you know,
20 reduces peak by about 1,500 megawatts in 2022.

21 Comparisons I made to the PG&E forecast, their
22 unmanaged forecast is slightly higher than our mid case.
23 The managed forecast is similar to our mid case. The
24 managed residential forecast is a little bit higher than
25 ours. Their unmanaged peak is higher than ours, from

1 short-term peak growth assumptions. And their managed
2 and unmanaged peak are higher, about eight percent
3 higher than ours in 2022.

4 This is the managed case which, in our case,
5 includes uncommitted savings estimates and there's the
6 different between their forecast and our mid case is, I
7 would consider, minimal.

8 You know, they have higher residential growth
9 than we're projecting, which would mean they would have
10 lower nonresidential growth, I would think.

11 Where the differences are is in our unmanaged
12 peak forecast and probably after the first three years,
13 you know, their growth rate grows slightly faster than
14 ours, but most of the differences are in our assumptions
15 in the first three years.

16 And the same thing in the managed peak forecast,
17 which actually is more of the difference is in the first
18 year.

19 So that's it for PG&E. You want questions or
20 comments from PG&E?

21 CHAIRPERSON WEISENMILLER: Come up to the
22 microphone. That's good, why don't all of you come up.

23 MS. WINN: I'm Valerie Winn with PG&E. Good
24 afternoon, Chair Weisenmiller.

25 CHAIRPERSON WEISENMILLER: Good afternoon.

1 MS. WINN: And we wanted to start with thanking
2 the CEC staff. This is always a very collaborative
3 process and, you know, it's pulling together a lot of
4 disparate pieces of information and trying to make sense
5 of all of it. And so they've been doing a good job at
6 pulling all of those pieces together.

7 We know that the demand forecast is a really
8 important issue and, you know, as we hear more about it
9 we're doing a lot of planning in an age of a lot of
10 uncertainty. You know, uncertainty about the economy,
11 uncertainty about when people are going to put more EVs
12 in. And, you know, uncertainty about whether programs
13 that are authorized are actually going to perform.

14 And so we'd really like to, you know, work over
15 the next few weeks with the Energy Commission staff to
16 really make sure we're all on the same page with respect
17 to our understanding of what's in and what's not in each
18 of the forecasts. That sort of a walk I think would
19 really help both of us have a common understanding and,
20 really, then understand where if we changed some of
21 those, what the impact might be.

22 And so with that in mind, you know, I know
23 comments on the forecast are supposed to be due next
24 Friday, September the 9th, so we're wondering if we could
25 possibly get a small extension in the comment dates to,

1 say, September the 15th?

2 CHAIRPERSON WEISENMILLER: Yeah, I think that
3 would make sense.

4 MS. WINN: Yeah, we've just started to review
5 the information we received and that would give us just
6 a little bit more time.

7 So, some of the key areas that, you know, we're
8 looking at in the forecast are really, you know, how can
9 we make sure we get this as right as we can make a
10 forecast. You know, because a forecast is always going
11 to -- the reality will be different from what we
12 forecast.

13 But looking at the things like the resource
14 additions that would reduce demand, how are those going
15 to affect the forecast?

16 What's the impact on customer cost?

17 And, also, how do all of these come together and
18 affect the system reliability?

19 So, a big concern with the resource additions.
20 You know, we have some very aggressive energy efficiency
21 goals in the State. You know, what happens if we're not
22 able to achieve those, how does that affect system
23 reliability?

24 And I'd not that just yesterday I was reading
25 the California Energy Markets and there was a blurb in

1 that publication about the ISO in looking at the CPUC's
2 forecast, just recently, in the long-term plan. You
3 know, they're saying they need another 4,600 megawatts
4 of, you know, upward balancing flexibility to maintain
5 system reliability.

6 So, I think we need to look across all of these
7 different planning forums and try to get a good idea and
8 a good handle on where the sensitivities are across --
9 across planners, both within the utility and with people
10 who are running the grid.

11 So, with that, I have several of my colleagues
12 with me, who are more of the technical experts on these
13 issues and I will turn it over to them.

14 MS. YUCEL: So, yeah, let's just get started
15 with a couple of slides that we put together. This is
16 Zeynep Yucel, from PG&E.

17 So, you know, just to kind of highlight, you
18 know, we have a couple of observations and a couple of
19 questions, and --

20 CHAIRPERSON WEISENMILLER: Is your microphone
21 on?

22 MS. YUCEL: Can you hear me, now?

23 CHAIRPERSON WEISENMILLER: Thank you.

24 MS. YUCEL: So, we're going to share a couple of
25 observations and then we also have a couple of

1 questions, and that we've prepared a few slides to touch
2 base to these questions.

3 So, you know, one area is kind of looking at the
4 growth rates around energy and peak, you know, what were
5 the historical growth rates and then what we see
6 currently in our forecast, and CEC's forecast.

7 And then we are going to do some comparisons
8 behind energy efficiency, what's in committed,
9 uncommitted.

10 And then, you know, I think Rick is going to
11 talk about, you know, addressing this uncertainties that
12 we keep talking about around our base forecast, so is
13 there a way that we can actually make more distribution-
14 based forecast.

15 So, on the energy forecast and the peak
16 forecast, as Tom mentioned, you know, we do our
17 forecast -- it's on the energy side, it's sales forecast
18 based on PG&E service area.

19 But what we get from the CEC is for the PG&E
20 planning area.

21 So, we had some information from CEC and, you
22 know, as I highlighted it at the bottom of the slide,
23 you know, we did our best effort to kind of parse out
24 our service area piece of it to see whether actually we
25 can compare.

1 And I think on the peak side I kind of saw the
2 similar graph that Tom shared with us. So, if you look
3 at the left-hand side, so this is our best effort to
4 comparison. Again, you know, we need to check with CEC
5 to make sure we carved out the appropriate parts to make
6 this comparison.

7 So, it seems like in the earlier years, you
8 know, we are quite close. With the out years there's a
9 gap and, you know, we are thinking that those gaps are
10 related to the assumptions around the CHP.

11 So, before I move on, I also wanted to just give
12 you a framework as to, you know, how we produce our
13 forecast. So, similar to the CEC, from the econometric
14 perspective, we have the econometric models for the
15 major customer classes. This is actually commercial,
16 industrial and ag.

17 And then we also adjust our forecast based on
18 the assumptions around energy efficiency, committed,
19 uncommitted, you know, the self-generation or
20 distributed generation, and EV.

21 So, what I wanted to highlight about the
22 assumptions that we use, if I can kind of skip a couple
23 of slides here is that, so we tried to use the public
24 information, you know, whenever we come up with these --
25 whenever we need to introduce these adjustments to our

1 forecast.

2 On the energy efficiency side for historical
3 period and committed period, you know, we work with PG&E
4 file documents, and for uncommitted incremental piece,
5 you know, we relied on the Itron Report, as it is
6 suggested for the LTPT Scoping Memo.

7 So, the only difference is that our internal
8 group assessed that, you know, we want to exclude the
9 Big Bold and decay, so that's the only difference from
10 the Scoping Memo directions around the energy efficiency
11 assumptions that we incorporated here.

12 So, again, for the distributed generation, you
13 know, we used the Scoping Memo directions. I think
14 around CHP, again, internal group made some modest
15 changes and I think they are all showing up, also, in
16 System One filing as well.

17 For the electric vehicle we used the 2009 IEPR,
18 so we should have an exact match there to CEC's.

19 So, this chart is just to kind of compare, you
20 know, around major assumptions, the energy efficiency,
21 CHP, PV, you know, what kind of adjustments we carried
22 out in our forecast versus what we think CEC carried out
23 in their forecast.

24 So, it seems like there's more energy efficiency
25 adjustments on the CEC forecast than ours but, you know,

1 we don't see as much CHP.

2 Again, so these are some of the details that we
3 would like to clarify with the team to make sure that,
4 you know, you're interpreting your adjustments correctly
5 so that, you know, we can actually feel comfortable how
6 far we are apart. So, again, we will work with CEC
7 offline to get to some of those.

8 So, if I can come to the peak portion of it, so
9 I mean as you will see here, there's a gap, and that's a
10 concern to our internal planners. So, if you plan to --
11 you know, CEC suggests this forecast and then if we
12 think that, you know, our growth rate and level is
13 higher than what CEC is suggesting, so there's some
14 implications there.

15 So, we just need to make sure that we understand
16 the gap around peak and then try to parse it out, so to
17 make sure that, you know, at the end we agree, we have
18 understanding of what makes up these two lines, and that
19 you know what we feel comfortable with. So, there needs
20 to be some discussion happening there.

21 So, let me just go back to the other point that
22 we wanted to highlight. So, this is from Table 2.1 in
23 the report, just kind of looking at the historical
24 growth rates here.

25 So, I think historically we have seen that peak

1 growth rate is a little bit higher than energy growth
2 rate, and then we see that in our turn forecast.

3 So, if you look at this one, we have .7 percent
4 average annual growth for energy, .9 percent for peak.
5 But when we look at, you know, CEC's that's changing.

6 So, if you look at -- again, based on CEC's
7 data, on the historical period, so the peak growth was
8 .4 percent higher than the energy growth, but in the
9 forecast period it kind of switched to, you know, peak
10 energy growing faster than peak. So, I think that we
11 want to have a better understanding of that switch as
12 well.

13 So, you know, what we are thinking that, you
14 know, historically what we see, the relationship in
15 growth rates, we see that in our current forecast, but
16 we see that that is shifting at the CEC's forecast. So,
17 you know, we just wanted to clarify that or understand
18 that better, you know, why is it the case.

19 So, I think that's all I wanted to highlight
20 from the very high level energy and peak forecasting
21 perspective.

22 So I know that, you know, we also have
23 differences like sector-based forecasts, but there's a
24 balancing act going on. On the total we kind of merge
25 and assumptions are kind of acting the same way. I mean

1 there is more energy efficiency on the CEC side, we have
2 more CHP, maybe, on the PG&E side. There's some
3 balancing act going on.

4 I think at the high level we might be close, but
5 we really need to understand that we align with the
6 underlying assumptions because there are implications
7 going forward. You know, is these forecasts going to
8 feed into the next long-term procurement plan and other
9 areas?

10 CHAIRPERSON WEISENMILLER: Thank you. I guess
11 one of the things I'd like to understand, though, as
12 Valerie said, when we look at the future and look at the
13 potential range of economic growth, the potential range
14 of technology choices that -- and also program impacts,
15 that in some respects it's surprising how, you know,
16 looking from the staff's load of high cases,
17 everything's pretty tight.

18 MS. YUCEL: Yeah.

19 CHAIRPERSON WEISENMILLER: And I don't know in
20 terms of if PG&E has more dispersions in its
21 assessment --

22 MS. YUCEL: We also didn't do any, you know,
23 scenario analysis. But, you know, I agree with that
24 that if you're that close, I don't think we should
25 produce the high and low, we should just stay with mid.

1 But in some areas I think there's a good range
2 of high and low, I think it's on the energy side. But
3 some other areas that, you know, we are very close, we
4 either need to revisit what makes up those bands and
5 then redefine them. But, otherwise, I don't see any
6 value why we should produce three scenarios that are
7 kind of coming up with very similar numbers.

8 But for PG&E, we didn't do a scenario analysis.

9 CHAIRPERSON WEISENMILLER: You know, I was going
10 to ask in terms of getting more to the nuts and bolts
11 whether the staff's elasticities are close to yours? I
12 mean --

13 MS. YUCEL: Oh, Matt do you want to look at the
14 models? I actually have the --

15 MR. MASTERS: I think the elasticities are
16 pretty close, we actually have --

17 THE REPORTER: Turn your mic on, please?

18 MR. MASTERS: I think it is. Now it's on, okay.

19 Okay, so I think we actually are pretty close in
20 elasticity-wise. We actually have three different
21 elasticities, one for the residential, one for the
22 commercial and one for the industrial sector, and I
23 believe they're all within the range of .05 to .15.

24 Offhand, I couldn't tell you where they lie, but
25 I think those are pretty close to what you've seen, Tom;

1 right?

2 MR. GORIN: I believe so, but that would be a
3 question that Chris can address when he gets back, more
4 readily, because he did a lot of the elasticity work.

5 MR. MASTERS: Yeah.

6 MS. YUCEL: So, Matt, Commissioner also had a
7 question around rate forecast, so do you want to just
8 say a couple words about that?

9 CHAIRPERSON WEISENMILLER: Yeah, want to talk
10 about that? I mean, again, it's probably been a while
11 since the Energy Commission has really looked at rate
12 forecast and that's an issue, now. Particularly, you
13 know, when you -- I mean this may be more -- well,
14 actually, both, electricity and gas, I mean you have
15 potentially substantial increases in revenue
16 requirements, which could translate into rates, which
17 then could have impacts on demand.

18 So I was trying to figure out in terms of what
19 sort of forecast you have of retail rates and then how
20 that matches, or at least start the discussion with the
21 staff.

22 I don't know if Tom's quite prepared to dig into
23 that today as much, but at least get the dialogue going
24 on the rate forecast.

25 MR. MASTERS: Yeah, what we've assumed in our

1 forecast are rates that are increasing at one percent
2 above inflation, so in real terms one percent per year
3 above inflation.

4 MR. GORIN: Right.

5 CHAIRPERSON WEISENMILLER: Right.

6 MR. GORIN: And, you know, one thing about
7 rates, and I'm going to hate to say this, but in the old
8 days --

9 CHAIRPERSON WEISENMILLER: Go ahead.

10 MR. GORIN: -- the tariff book was maybe five
11 pages long, you know. There's got to be 70 to 100
12 different residential rates, now, depending on where you
13 are, and whether you have an EV, or whether you're on a
14 care rate. You know, so for our forecasting perspective
15 we're trying to meld that all into an average
16 residential or an average commercial rate, you know, and
17 we've got these huge, huge number of different rate
18 schemes that people can apply for, that's hard to --
19 hard for us to determine, you know, what they would do
20 with them.

21 CHAIRPERSON WEISENMILLER: Oh, yeah, actually I
22 was going to say how about Edison, in its non-core area,
23 was always at sort of an incredible variety there that
24 might draw off the others.

25 But the other part that I was just looking at

1 it, it's been a while since I looked at whether the
2 balancing accounts are under-collected or over-
3 collected.

4 But I mean in the case of Edison there's a
5 pending very large GRC, and as you look through this
6 sort of magnitude in the GRC, like I said, and I don't
7 know if there's some substantial imbalances or not in
8 the balancing accounts. But, again, you just have this
9 feeling that, you know, this sort of one percent real
10 types of numbers we've historically had could be low, at
11 least in the near term.

12 MS. WINN: I think that that will ultimately
13 vary on, you know, the additional mandates that are
14 added, that may or may not be reflected in the current
15 rate forecast.

16 CHAIRPERSON WEISENMILLER: Right.

17 MR. GORIN: One thing I'd like to point out in
18 that table is that both the historic energy and peak
19 numbers are actual, and they're not really weather
20 normalized. You know, we could go back and weather
21 normalize history to see how those rates change.

22 MS. YUCEL: Yeah, and see how it changes. Yeah,
23 so that was one observation that we had it seems like,
24 you know, we are carrying that trend in our internal
25 one, but we don't see that with the CEC, even though the

1 history that you published kind of shows that trend.

2 MR. GORIN: Right.

3 MR. MASTERS: Yeah, we actually made those same
4 calculations with our own internal data and came up with
5 very similar results, and we looked at it in a couple
6 different ways. And it seems pretty consistent that
7 historically peak has grown about half a percent faster
8 than energy.

9 CHAIRPERSON WEISENMILLER: Yeah. I think one of
10 the issues I think we're all struggling with on some
11 level, though, is historically -- well, I think if we
12 were having this conversation say four years ago,
13 everyone would have said that your high growth areas
14 would be in the valley, certainly less temperate
15 housing, and that was going to drive a substantially
16 greater peaking over time.

17 And at this stage, just trying to figure out
18 what the likely growth areas are in demographics, I
19 think at least that part of the story has been tempered.

20 MR. MASTERS: I would agree with that.

21 MR. ASLIN: Yeah, I think I would agree with
22 that, also, except for the fact that almost all new
23 housing is being built with air conditioning, and
24 regardless of where you are.

25 So, if you have a new house in San Jose, it's

1 going to have air conditioning. And 20 years ago, that
2 really wasn't the case. So, that's what really drives
3 it.

4 CHAIRPERSON WEISENMILLER: That's true. Yeah, I
5 think certainly the peak versus sales numbers, you're
6 right, are very much air conditioning.

7 MS. YUCEL: So, yeah, Rick has a couple of
8 slides on energy efficiency and climate change.

9 CHAIRPERSON WEISENMILLER: Oh, good.

10 MS. YUCEL: I can draw it for you.

11 MR. ASLIN: Okay. Well, my name is Richard
12 Aslin and I work for Pacific Gas & Electric Company,
13 also.

14 And I also would like to extend my thanks to the
15 staff, especially Tom, Nick and Chris, for all their
16 help over the last year or more on putting this
17 together. And also to say that I think the Demand
18 Analysis Working Group has been very effective and I
19 hope that does continue.

20 I think we see a few things in this draft
21 forecast that are directly coming out of that Demand
22 Analysis Working Group process and that's very
23 encouraging.

24 I actually had a few notes that I made from this
25 morning's presentation, so I don't want to take up too

1 much time, but I did want to kind of go back because I
2 think it kind of sets the stage for what we might talk
3 about next.

4 The first thing was that I was just taking notes
5 on the various things, which were pretty large items,
6 which you had intended to update between now and the
7 next version of the forecast, so I just wanted to make
8 sure I was clear on those.

9 So, one thing that I heard was that you had
10 intended -- you intend to update the economic and
11 demographic forecast?

12 MR. GORIN: Yes.

13 MR. ASLIN: Okay. And then the next thing I
14 heard is that you plan to update the electric vehicles
15 forecast?

16 MR. GORIN: Yes.

17 MR. ASLIN: Okay. And then the third thing,
18 which I thought I heard you say, Nick, but maybe you
19 didn't say this, so I just wanted to make sure this is
20 right, but you also intended to update the incremental
21 uncommitted energy efficiency savings based on the
22 potential and goal studies updates?

23 MR. FUGATE: Yeah, I don't think that was
24 intended for the revised forecast, but once -- I mean
25 that will be something on the horizon once we have a new

1 goals study out of the CPUC we'll look at doing a new
2 incremental uncommitted analysis.

3 MR. ASLIN: Okay, so that's a question mark,
4 maybe?

5 MR. FUGATE: Right.

6 MR. ASLIN: All right, I just wanted to make
7 sure that was the case. So, just necessarily,
8 everything that we're talking about today, with this
9 draft forecast, is really directed towards just better
10 understanding where the biggest gaps are between the two
11 forecasts and then, hopefully, working those so we can
12 get a little bit closer.

13 So, what I wanted to do was really focus on the
14 energy efficiency savings that are, first of all,
15 embedded in the forecast, so the committed part of the
16 savings. And then also to segue from that into the
17 uncommitted and then to really look at what does it look
18 like when you have the uncommitted and the committed,
19 you look at those both, together, and does that seem
20 like a reasonable sort of projection for energy
21 efficiency.

22 I'm going to push page down, I hope it works.
23 Oh, I'll go with this one.

24 So, the first thing I did was I looked at your
25 report, Table 2-3, which I'm showing up here, sort of

1 excerpted from that.

2 And what I'm doing here is I'm trying to look
3 at, okay, if you have the committed savings, so the part
4 that's embedded in the base-case forecast and you look
5 at the incremental part of that, so the part that occurs
6 between 2010 and 2022, what does that look like?

7 So, for PG&E, when I do that what I see is that
8 it looks like the incremental committed piece for codes
9 and standards is 7,556 gigawatt hours, it's 1,784
10 megawatts. Okay, and that's the part that takes effect
11 between 2010 and 2022.

12 And then when I look at, which is not on this
13 table, but it's on another table in the report, the
14 incremental committed programs and price impacts,
15 there's another 3,797 gigawatt hours, 737 megawatts.

16 So, it looks like to me the total, kind of
17 embedded incremental committed, so the part that just
18 takes place from 2010 to 2022, just for PG&E is 11,354
19 gigawatt hours and 2,521 megawatts.

20 MR. FUGATE: Rich, you're using a term I don't
21 think we've used before, "incremental committed."

22 MR. ASLIN: Yes, I'm coining a new term.

23 MR. FUGATE: Okay.

24 MR. ASLIN: That's true. Incremental committed,
25 it's the part of the committed that starts in 2010 and

1 goes to 2022. All right, so this is the savings that
2 wasn't there before 2010, but shows up between 2010 and
3 2022, so the incremental part of the committed savings.

4 MS. WINN: So, if you look at the top part of
5 that chart, if you say take the 1,380 in the total
6 residential column and subtract the 8,768, and then add
7 that to the next group over the commercial, 5,855 minus,
8 what is that --

9 MR. GORIN: 2,912.

10 MS. WINN: -- 2,912, that gives you the 7,556.

11 MR. ASLIN: Yes, that's correct. Thank you,
12 Valerie. That's what I mean by that.

13 Okay, so then I go from that, and so that's the
14 incremental committed, and I go from that and I look at,
15 okay, what's the incremental uncommitted? So, again,
16 just trying to look at how much energy efficiency
17 savings are we projecting that's going to take place
18 before the end of this forecast period?

19 So there, when I look at that, I see that in the
20 mid case it's another 5,225 gigawatt hours and another
21 1,831 megawatts, and this is just for PG&E, and this is
22 just in the mid case.

23 I'm going to add those together and I come up
24 with what seems like some fairly large numbers for
25 energy efficiency savings that's, you know, being

1 suggested in this draft forecast.

2 So, I get an incremental total, so the
3 incremental committed and the incremental uncommitted,
4 add those two together and I come up with the line
5 "incremental total" and that's 16,579 gigawatt hours,
6 and 4,352 megawatts. That's the kind of energy
7 efficiency savings that has to happen, just for PG&E,
8 between 2010 and 2022 to make this base-case forecast
9 realized.

10 So then I asked myself the next question, how
11 does that compare to other things that we know?

12 So when we look at this on an annual average
13 basis what we come up with is that the average savings
14 per gigawatt hours is 1,381 per year, for megawatts is
15 363 megawatts per year, just for PG&E.

16 And then when I look at the goals what I see is,
17 well, the current goals, if you take the annual average
18 of those, it's 870 gigawatt hours, and it's 248
19 megawatts, so significantly lower, especially on the
20 megawatt side of it.

21 And then when I look at the 2006-2008 EM&V
22 studies, you know, that's even lower. So, that actually
23 turns out that if you looked at the EM&V studies what we
24 saw is an annual average, this is 2006 to 2009,
25 actually. It's says 2008 there, but it's 2009.

1 It's 840 gigawatt hours of savings and 140
2 megawatts of peak.

3 So, just to give some perspective here as to,
4 you know, what we're looking at in this base-case
5 forecast relative to other things that are out there on
6 the horizon, which have similar implications.

7 So, my basic question is, you know, can we work
8 together going forward to try to understand whether this
9 amount of energy efficiency savings is realistic, you
10 know, given what we know thus far.

11 And in particular, even though there was a lot
12 of movement made on looking at the peak-to-energy ratio
13 for energy efficiency savings from the last forecast to
14 this forecast, I think there's still some work that
15 needs to be done in that area.

16 So, between the last forecast of the incremental
17 uncommitted and this projection, the peak-to-energy
18 ratio for the savings was lowered, you know, pretty
19 dramatically, and for good reason.

20 But when I look at what the peak-to-energy ratio
21 is that's implied for the -- in, particularly, the
22 uncommitted period, I see that's still -- that's still
23 pretty high.

24 So, that's what I have at the very bottom of the
25 slide here, which is that, you know, if you look at the

1 committed period right now what you see is that -- I'm
2 sorry, the uncommitted period, it's 50 percent higher,
3 the peak-to-energy ratio, than in the uncommitted
4 period, and it's actually 100 percent higher than what
5 you would derive if you looked at the EM&V results. So,
6 again, just wanted to point that out.

7 MR. GORIN: Can I make a comment?

8 MR. ASLIN: Sure.

9 MR. GORIN: Your middle goals and EE mid case,
10 and EM&V savings are all based on assuming they are
11 savings from current practices; correct?

12 MR. ASLIN: Can you say that again?

13 MR. GORIN: Well, the top savings that you
14 calculated are based assuming that anything built, or
15 any appliance purchases in 2011 is -- those savings are
16 estimated assuming that they're compared to what was
17 available in 1975?

18 MR. ASLIN: I'm not sure, is that -- is that the
19 way that your tables are constructed? Because what I --
20 what I was doing was I was taking your numbers off that
21 table that says here's 2010, and here's the savings --

22 MR. GORIN: That's the stock in 2010, right?

23 MR. ASLIN: Correct.

24 MR. GORIN: Any new appliance or new
25 construction in 2011 is compared to what was available

1 in 1975.

2 MR. ASLIN: Okay, so that's -- that's exactly
3 the kind of thing we need to, yeah, make sure that we
4 are touching base with so that we understand the
5 numbers. Because when you just look at the numbers on
6 the surface of them, in the tables, you know, I'm not
7 getting that implication from it.

8 So, I would like to explore that further as to,
9 you know, what is the incremental committed that's
10 embedded? That is a very, very important issue because
11 for the AB 32 analysis and the things that have to do
12 with the greenhouse gas emissions, you know, that
13 understanding what's actually embedded in the base-case
14 forecast is one of the most critical parts of that whole
15 analysis.

16 Let's see, the final thing I wanted to do was
17 just to say I think it's a really good idea to put in
18 something about climate change, and I do appreciate
19 that.

20 One thing that I think that could be done is
21 that we could go a little bit further with that. I
22 think the kind of results that -- I had a couple
23 questions, really, kind of just real questions about why
24 things were implemented in a certain way.

25 So, what I recall is that when you calculated

1 the temperature statistic what you did was that you
2 said, okay, we have these simulations from Scripps,
3 eight simulations, and then you took a 30-year average.
4 And the 30-year average was actually 1990 through 2020.
5 So, out of the 30-year average, 20 years of that was
6 history. Is that --

7 MR. GORIN: That's my understanding because
8 the -- well, the forecast goes to 2022.

9 MR. ASLIN: Right.

10 MR. GORIN: Right.

11 MR. ASLIN: Right. So my question is whether
12 you would consider not including so much of the history.
13 Because if it's the case that the real concept here is
14 that there's non-stationarity in the history, then using
15 two-thirds of history in order to create the temperature
16 statistic seems like it's going to give you a little bit
17 of a bad start to begin with.

18 So, I'm not sure how the simulations are
19 actually constructed, but if you could just use the
20 simulations directly, you might get something that's
21 more reflective of climate change. It's just a
22 suggestion.

23 The other thing is that in the work that we've
24 done with this climate change statistic and trying to
25 estimate what the impacts of climate change might be, we

1 had much more success with using the cooling degree day
2 statistic, rather than just looking at maximum
3 temperatures.

4 And the reason is because a lot of the impact of
5 climate change has to do with higher minimum
6 temperatures and unless you construct the statistic in a
7 way that you can incorporate the minimum temperature
8 into that statistic, I don't think you'll really see
9 that impact. It won't be actually coming into the model
10 because the maximum temperatures, they tend to be
11 higher, but the real difference is that it doesn't cool
12 off at night, so you've got this much higher minimum
13 temperature.

14 Once you put that into the model I think you
15 might see that the impacts of climate change are quite a
16 bit larger than what you're estimating, currently.

17 And that's all I have.

18 CHAIRPERSON WEISENMILLER: That's good. I was
19 going to ask the question; obviously, we talked about
20 sort of the long-standing issues with Edison on
21 commercial forecast. I'm just trying to understand if
22 there are any sort of long-standing differences between
23 PG&E and the Energy Commission on forecasting, that we
24 can try to make progress on?

25 MR. ASLIN: You know, I don't think we've really

1 had that many issues. I think it tends to be the case
2 that our forecasts are relatively close and that, you
3 know, where we've had the most issues over the last
4 several cycles has been the question of the incremental
5 uncommitted energy efficiency and how much efficiency is
6 already embedded in the forecast.

7 And I think that's why I was kind of circling
8 back on that is because I want to make sure that we're
9 still working on that one. I don't think we're still
10 completely confident that we fully are capturing how
11 much energy efficiency is embedded in the forecast.

12 CHAIRPERSON WEISENMILLER: Right.

13 MR. ASLIN: And if you aren't really confident
14 on that, then you can't be really confident on what the
15 incremental uncommitted is because those two things are
16 linked.

17 CHAIRPERSON WEISENMILLER: That's good. I think
18 the other issue, which I think people have illustrated
19 in some of the forms, is to say that, obviously, one
20 looks at the PUC effort on an EMB, you know, there's
21 sort of a pretty wide range of issues there. But,
22 generally, the slopes tend to be the -- you know, that
23 we're -- presumably capturing the low-hanging fruit and
24 moving to more difficult periods in terms of the energy
25 efficiency, and so part of the question is how much

1 we're capturing that?

2 You know, again, that going forward presumably
3 we need to look at innovative technologies as another
4 way to, again, keep increasing it, but that the benefits
5 of the program seem to be somewhat -- seem to be falling
6 off over time.

7 MR. ASLIN: Yeah, I think it's -- it is possibly
8 true that the low-hanging fruit is harder to find or you
9 have to reach a little higher on the tree to get it and,
10 you know, some of the questions around that is just sort
11 of what resolve do we have to get it, and how do we fund
12 it, those sort of things.

13 So, I do agree with statements made by, you
14 know, several people earlier that for PG&E, I think we
15 mentioned this also, that we do very much discount the
16 Big Bold Energy Efficiency strategies in our -- in our
17 base-case forecast, particularly the zero net energy
18 homes.

19 CHAIRPERSON WEISENMILLER: Right.

20 MR. ASLIN: Because we don't really see the
21 funding for those and we -- right now I think most of
22 our analysis shows that they're not really cost
23 effective, so we also discount those. I think San Diego
24 Gas and Electric mentioned that they discounted those,
25 also. And I don't know what Edison does with that

1 but --

2 CHAIRPERSON WEISENMILLER: Yeah.

3 MS. WINN: Right. But on some of these
4 strategies and I know it's a -- it's a different
5 discussion when you start talking about climate
6 generally, and the cost impacts of climate -- climate
7 change. Because we've talked a lot about energy
8 efficiency even beyond what the Commission currently
9 says is cost effective, you could do a lot more in that
10 space that's still cost effective versus doing some of
11 the renewables mandates that we're doing.

12 So, you know, are we trying to overarchingly
13 reduce carbon, or just look at things in their silos?

14 CHAIRPERSON WEISENMILLER: Yeah, good point.

15 MS. WINN: And how can we best manage customer
16 cost from that perspective.

17 CHAIRPERSON WEISENMILLER: Good, thanks.

18 MR. ASLIN: One final thing -- or I'm sorry, did
19 you have another question?

20 CHAIRPERSON WEISENMILLER: No, go ahead.

21 MR. ASLIN: You mentioned a couple of times
22 about the uncertainty in the forecast and that you
23 thought the bands were fairly tight. But when I was
24 looking at -- I think it was Nick. Nick had two slides,
25 he had the slide 16 and slide 17 that showed, you know,

1 what the dispersion on the forecast is in 2022 once you
2 include the various scenarios on incremental uncommitted
3 energy efficiency. And I think that's where you start
4 to see that the forecasts diverge quite dramatically.

5 So, I was just looking at the slides and trying
6 to, you know, note these down. So, Nick, you might be
7 able to tell us what the actual numbers is.

8 But it looked like on the gigawatt hours,
9 statewide, the high forecast was 325,000 gigawatt hours
10 and it looked like the low forecast was something more
11 like 275,000 gigawatt hours. So that's -- that's quite
12 a large difference, I think.

13 MR. FUGATE: I don't have the numbers in front
14 of me but, I mean, if you've got the chart right there
15 in front of me, that sounds reasonably close.

16 MR. ASLIN: Okay, so that sounds pretty close.
17 And then when I was looking at the megawatts I was
18 seeing it was something more like 70,000 megawatts for
19 peak, for the high case, and then it was more like
20 62,000-ish for the low, so that's like an 8,000 megawatt
21 dispersion.

22 CHAIRPERSON WEISENMILLER: Ten percent, yeah.

23 MR. ASLIN: Yeah, and that kind of brings me to
24 what I was actually going to also mention, if I had a
25 second, was just the whole notion of uncertainty

1 analysis. And since you have the econometric models
2 built, I'm wondering if you can do something with those
3 econometric models in order to give us a better
4 understanding of what the distribution of the forecast
5 error might be?

6 That's one of the advantages of using the
7 econometric models, if you can incorporate that, you can
8 calculate the standard error of the forecast and then
9 you can -- or you can just, you know, put it inside a
10 Monte Carlo simulation type of model and just run it,
11 and see what kind of forecast you get out of it.

12 So, I would like to know what amount of
13 uncertainty there is in a 12-year forecast at this point
14 in time?

15 MR. GORIN: I think those statistics are
16 available, but we don't have them right now. Chris has
17 those available.

18 MR. ASLIN: Okay.

19 CHAIRPERSON WEISENMILLER: Okay.

20 MR. ASLIN: Okay. Well, thank you.

21 CHAIRPERSON WEISENMILLER: Thank you.

22 MS. WINN: Thank you and thank you for the
23 additional time to be able to consult with staff.

24 CHAIRPERSON WEISENMILLER: Oh, sure.

25 MS. WINN: And if you have any other questions,

1 we'd be happy to answer them.

2 CHAIRPERSON WEISENMILLER: Okay, thank you. All
3 right.

4 MR. FUGATE: Okay, so we're going to take a look
5 at the LADWP Planning Area. This is going to be a very
6 similar presentation to Tom's previous three.

7 Just a quick overview of some of the slides
8 we're going to be looking at. The 2010 Report of
9 Consumption was five percent lower than previously, and
10 weather-adjusted peak was two percent above the
11 consumption. Mid case grew at a rate similar to what we
12 saw last time.

13 The peak growth rates are higher than last time.
14 Household growth rates, all three cases higher. We've
15 got some charts that sort of lay all this out coming up.

16 Load factors continue to decline. And per
17 capita consumption and peak are lower than previously.

18 And this is a slide I took off the DMV website.
19 I think if you hold up one hand over your eye, and read
20 left to right, I can tell you if you need glasses or
21 not.

22 The consumption forecast, we have a lower
23 starting point than previously, and higher growth rates
24 for all three scenarios.

25 Like I said, the 2010 recorded consumption was

1 five percent lower than we forecasted last time.

2 The peak forecast, the weather-adjusted peak was
3 two percent higher than we forecasted in 2009.

4 And we see higher growth rates this time, than
5 previously, and that's due to economic -- projected
6 economic recovery in the near term, and then the impacts
7 of electric vehicles towards the end of the forecast
8 period.

9 So here we have load factors. The load factors,
10 you know, the historical trend has load factors
11 decreasing and we continue to see that in the beginning
12 part of the forecast period, and then it flattens out
13 towards the end. That's residential consumption.

14 Residential consumption, which has a lower load
15 factor than all the other sectors, comprises a larger
16 portion of the total load.

17 The forecasted load factors increase in the
18 later years, again due to electric vehicle penetration.

19 The planning are peak forecast; the higher
20 growth rates are due to faster household growth in all
21 three cases.

22 Electricity consumption; we're starting for a
23 lower point and we see higher growth rates for each
24 scenario.

25 I'm going backwards. The residential forecast

1 results; in 2010 consumption was over eight percent
2 below what we projected last time. The growth rates are
3 similar, higher household growth rates in all three
4 cases.

5 Use per household increases and electric vehicle
6 consumption drives growth towards the end of the
7 forecast period.

8 Here's a -- you see the lower starting point,
9 the recorded consumption is quite a bit lower than we
10 projected last time.

11 Households in all three cases were projecting
12 higher households. And the growth rates, the growth
13 rate in the low case is similar to what we projected
14 last time.

15 Tom touched on this in his presentations, but
16 the low and the mid case are basic trend analysis and
17 the high case is taken from Economy.com.

18 Persons-per-household actually drives the
19 household forecast, and so when I talked about the trend
20 analysis, it's done for persons-per-household, and
21 that's divided into population to get households.

22 As we saw in all three of Chris's -- or Tom's
23 presentations, household income is relatively tight for
24 all three scenarios. And we have a lower forecast for
25 residential use but, again, that's primarily the lower

1 starting point.

2 I'm just going to go right into the graphs for
3 the commercial building sector. So, all three cases
4 grew faster than previously.

5 The preliminary forecast starts slightly above
6 what we projected last time, it grows at a faster rate.
7 We have higher projected population growth this time
8 around and that directly affects the commercial floor
9 space, which is a key driver to this forecast.

10 You can see here we have higher projections for
11 commercial floor space, but still a very compact set of
12 scenarios and it's because the commercial floor space is
13 tied pretty closely to population growth.

14 In the industrial sector reported consumption
15 was ten percent below what we projected last time. In
16 low and mid cases, you know, the growth rates are
17 similar to what we projected in 2009.

18 And there's a graph there that you can see the
19 much lower starting point.

20 Other sectors only comprise eight percent of the
21 total consumption, with seven percent of that coming
22 from the transportation, communications and utility
23 sector.

24 And I don't have charts for these sectors, but
25 they have similar growth rates to what we saw in 2009.

1 And electric vehicle use is projected to
2 increase the total by two percent towards the end of the
3 forecast period and most of that's residential.

4 And here we see the electric vehicle forecast.
5 I think we might have seen this in Asish's -- or, no,
6 I'm sorry, that's self-gen.

7 Peak impacts from electric vehicles are
8 projected 20 megawatts in the low scenario by 2022, 25
9 in the high.

10 Committed efficiency savings amount to 25
11 percent of consumption by the end of the forecast
12 period. And Asish talked earlier about the self-
13 generation adoption model.

14 So, there's the committed efficiency savings
15 estimates and peak savings estimates, and these are
16 numbers that came out of Asish's self-gen model. The
17 mid case reduces peak by three percent in 2022.

18 So, I'll get into the comparison between our
19 forecast and LADWP's. LA submitted only an unmanaged
20 sales forecast, so I only have a couple slides to look
21 at.

22 So, the orange, the very bottom line there is
23 LADWP's unmanaged forecast, so you can see that our
24 forecast is higher in all three scenarios, with the low
25 case and LADWP's arriving at about the same point in

1 2022.

2 And a very similar graph here for the peak
3 comparison. Again, the low case and LADWP's forecast
4 are relatively close towards the end of the forecast
5 period, but all three of our scenarios are higher.

6 So that was a very quick run through of the
7 LADWP Planning Area. Is there anyone here who would
8 like to discuss LA at all? Dave?

9 MR. WALDEN: Good afternoon and thank you for
10 the opportunity to speak --

11 THE REPORTER: Pull the mic a little closer to
12 you.

13 MR. WALDEN: Good afternoon, thank you for the
14 opportunity to present. I represent Southern California
15 Public Power Authority. We are a joint powers agency
16 that includes the 12 municipal cities in California,
17 LADWP being the largest.

18 A couple comments on the entire process today,
19 we appreciate the collaboration and the opportunity to
20 communicate back and forth with CEC staff, that's been
21 very successful in comparing notes.

22 As far as the trends that you see with regards
23 to the publicly-owned utilities, and in this case LADWP
24 represented, in all cases when we compared our forecast
25 deliveries to the CEC models we were lower for each and

1 every one of the smaller utilities.

2 And there's two considerations for that. One is
3 that we do carry a slightly more pessimistic view of the
4 economic recovery, and the second is that by the nature
5 of the beast the smaller utilities are more impacted. A
6 single commercial/industrial customer departing from a
7 service territory of only 10 megawatts makes a pretty
8 big number. So, we do see those regularly and
9 consistently.

10 The other activity that we see is that our
11 models all include energy efficiency, in this case shown
12 as unmanaged. But energy efficiency is included as a
13 line item within our forecasts.

14 What we do is we take the historic profile,
15 which assumes all embedded standards, California
16 building standards and what have you, carry that
17 forward, which includes the assumption that those will
18 continue. And then on top of that we add our programs
19 and the actual reductions, and those are taken above the
20 line so to speak.

21 This year, on the forms we actually included
22 energy efficiency as a line and distributed generation
23 demand response as a line before we actually began our
24 demand forecast.

25 So, that might be some of the reasons you see

1 the slightly lower numbers.

2 The other thing that I wanted to bring up is
3 that within the forecast the CEC includes a realization
4 rate based on IOU patters, and the realization that we
5 have and that we report every year under SB 1037 is much
6 higher, and so we reflect those in our forecasts as
7 well.

8 So with that, I have no other comments. Thank
9 you, Nick.

10 MR. FUGATE: All right, thanks Dave.

11 CHAIRPERSON WEISENMILLER: Thanks for being
12 here. And certainly encourage you to continue the
13 dialogue with the staff on trying to understand the
14 differences.

15 MR. WALDEN: Thank you.

16 CHAIRPERSON WEISENMILLER: Thank you.

17 MR. FUGATE: Are there any other questions or
18 comments on this? Okay.

19 CHAIRPERSON WEISENMILLER: No. Thank you.

20 MR. FUGATE: All right, we'll move on to SMUD's
21 service area then.

22 So, this table should be a little easier to
23 read. Consumption forecast results and basically split
24 the tables that you've been seeing into two slides, so
25 peak is shown in the next table.

1 And what you see in the mid case is that we have
2 a slightly higher growth rate than projected previously.
3 The same with the peak forecast.

4 And you can see it visually here in the chart,
5 the lower starting point, higher growth rates.

6 Consumption in 2010 was actually three percent
7 lower than projected previously. The preliminary
8 forecast was 1.2 percent lower than the previous
9 forecast by 2015. And by 2020 the mid case and the --
10 I'm sorry, the low case and CED 2009 are roughly the
11 same by 2020.

12 Per capita consumption starts at a lower point.
13 Again we see the impacts of projected economic recovery
14 in the near term. Growth in the high case is due to the
15 high projected growth in income and manufacturing.

16 Here's the peak forecast; again the lower
17 starting point and higher growth rates.

18 Through 2020 the peak demand is expected to grow
19 at a rate of 1.5 percent. Previously, it was 1.2
20 percent. This is primarily due to growth in the
21 residential and commercial sectors.

22 Per capita peak is relatively constant in the
23 historical series and was in the previous forecast, as
24 well. Since 2008, though, the per capita peak declined
25 by about five percent, 5.3 percent and it's not

1 projected to recover to CED 2009 levels for the mid and
2 the low cases.

3 We have very flat load factors. So, the
4 residential consumption, again, we start from a slightly
5 lower point and we see higher growth rates.

6 So that was 1.6 percent lower and grows at about
7 two percent, and the higher growth rate is driven by
8 income and electric vehicle penetration.

9 We have residential use per household. So you
10 can see back in 2008 it's kind of interesting, the
11 residential use per household was relatively close to
12 the maximum in the historical series and in 2010 it
13 drops to almost the minimum in the historical series
14 there.

15 And again, the high growth in the out years is
16 driven by electric vehicles.

17 Here's our persons-per-household projections; we
18 see the same sort of household income, the tight -- the
19 tight three scenarios.

20 The commercial building consumption; again,
21 lower starting point, higher growth rates. And we see,
22 again, that tight floor space projections that are tied
23 to population growth.

24 In the industrial sectors the mid and low cases
25 are very similar in the out years, and not all that

1 different from 2009, either.

2 So we have agriculture and water pumping
3 consumption. You know, the last couple of years of
4 history have been declining, so it's sort of lowered the
5 trend line a bit, and the lower starting point.

6 And transportation, communications and utilities
7 forecast has a very similar growth rate to the previous
8 forecast, but a lower starting point.

9 Here's our electric vehicle consumption
10 forecast. Peak savings from self-generation, and here's
11 the consumption savings, and peak savings. It's very
12 similar to all the other charts we've seen.

13 The unmanaged forecast comparison, so -- so SMUD
14 submitted both a managed and an unmanaged forecast, so
15 I've got a few more charts than I had for LADWP.

16 So, you see it's -- it's maybe tough to see, but
17 there's a red dash line almost underneath the purple,
18 low-case scenario, so that's SMUD's forecast. So that's
19 in line with what Dave was just saying, SMUC's forecast
20 is coming in along the lines of our low forecast.

21 And this is the managed forecast comparison, so
22 the savings in -- uncommitted savings are included in
23 this one.

24 Unmanaged peak forecast, which again is closer
25 to our low-forecast scenario.

1 And the managed peak forecast.

2 Do we have anyone from SMUD that would like to
3 say anything make any comments? Anyone that would like
4 to make any comments or -- I think after the SMUD
5 forecast we're just going to open the floor to anyone
6 who would like to comment on the process, in general.

7 Any questions from the Commissioners?

8 CHAIRPERSON WEISENMILLER: No, not now.

9 MR. FUGATE: We have a -- it doesn't look like
10 we have any comments and -- oh.

11 MR. STEWART: I would like to comment.

12 MR. FUGATE: Oh, okay, good.

13 MR. STEWART: Hi, I'm Jim Stewart, a volunteer
14 from the Sierra Club. And I really want to hand a great
15 round of applause to this great staff here because
16 they've done an amazing tour de force to combine all of
17 these different disparate sources of information into
18 quite simple slides. So, congratulations to you guys,
19 it's a great job.

20 So, I have a series of questions and I'm hoping
21 that Tom can be at a microphone and respond to them, if
22 there's any chance of that?

23 One of the questions that popped out when PG&E
24 raised their -- you know, put up their slides about the
25 comparison of the rates of growth. They had like seven

1 percent -- a .7 percent in their energy growth and the
2 CEC had 1.3 percent, and they had .9 percent in their
3 peak growth and you had 1.2.

4 And I was trying to figure out why there's such
5 a huge difference between the PG&E forecasted annual
6 growth rates and yours? And maybe you don't have an
7 answer off the top of your head there?

8 MR. GORIN: For the projected?

9 MR. STEWART: Yeah, that's what I saw when PG&E
10 and put it up, but maybe I didn't write it down right.

11 MR. GORIN: No, I would believe you. That's
12 what we're trying to figure out is how we would -- part
13 of the purpose of this process is to figure out where
14 the differences occur and try and resolve those
15 differences.

16 Sometimes we look at the world differently.

17 MR. STEWART: Okay, great. So, we'll looking
18 forward to seeing that. So, when are you going to get
19 those kinds of discrepancies clarified by?

20 MR. GORIN: Some of them we've been working on
21 for 30 years.

22 MR. STEWART: Great.

23 MR. GORIN: We're trying; we have a Demand
24 Analysis Working Group that meets probably monthly.

25 MR. STEWART: Great.

1 MR. GORIN: We have forecast discussions to
2 examine our input and the -- our forecast results. We
3 use -- sometimes we use the same economic forecast and
4 sometimes we use different vendors and have --

5 MR. STEWART: Yeah. Okay, well, I mean we'll
6 raise that question in written comments, and then I
7 guess that sometime between now and the November report
8 you'll try to clarify this.

9 MR. GORIN: Well, we're -- the November report
10 is the IEPR?

11 MR. STEWART: Isn't that when you're next going
12 to report this?

13 CHAIRPERSON WEISENMILLER: I'm sure we're going
14 to have workshops, but at this point the schedule's
15 sliding a little bit, so maybe further along. We've
16 been talking today about doing some updating and having
17 some things a little bit later.

18 MR. STEWART: Ah, okay.

19 MR. GORIN: This forecast, we're going to revise
20 our forecast because the purpose of the revised forecast
21 is to provide the Public Utilities Commission a
22 forecast, an adopted forecast that they can use for
23 their --

24 MR. STEWART: Right.

25 MR. GORIN: -- 2012 LTPP proceeding, so that

1 will be in January or February.

2 MR. STEWART: Okay. Then I wanted to ask you,
3 Tom, about this strange occurrence that seemed to have
4 occurred in 2009-2010, where the demand went way down
5 and, yet, the peak significantly rose. Was that like
6 just one bad day, one hot day throughout the State that
7 made that peak go up over between 2009 and 2010? It's
8 just like in just every single one of your scenarios all
9 the way across each of the utilities.

10 MR. GORIN: 2009, to my recollection, had no
11 really hot spells.

12 MR. STEWART: Yeah, okay.

13 MR. GORIN: 2010, in Southern California, you
14 could argue was --

15 MR. STEWART: Right, got it.

16 MR. GORIN: -- San Diego would call it a one in
17 35 event.

18 MR. STEWART: Got it.

19 MR. GORIN: So the peaks from year to year are
20 highly variable depending on the temperature.

21 MR. STEWART: Yeah. And those kinds of peaks
22 are going to -- likely to increase with the climate
23 change?

24 MR. GORIN: That's one scenario.

25 MR. STEWART: Ah. Are there other scenarios?

1 MR. GORIN: The peaks are based on the maximum
2 temperatures of the year and, as Rick allude to, the
3 minimums are going up.

4 MR. STEWART: Yeah.

5 MR. GORIN: The minimums in climate change are
6 projected to go up higher than the maximum temperature.

7 MR. STEWART: Right.

8 MR. GORIN: So, the peak may not increase as
9 fast as one would think.

10 MR. STEWART: And then my final question has to
11 do with the -- what seems to me to be a very optimistic
12 economic forecast because of, you know, there are -- I
13 mean I think it's okay to have some economic optimism,
14 but you'd think that the low case would be more in line
15 with some pessimistic stuff that, you know, a lot of
16 people are talking about, double dips and various kinds
17 of disasters, the stock market's not doing well, et
18 cetera.

19 Are you going to take another look at your low
20 economic forecast?

21 MR. GORIN: I think in our revised forecast
22 we're going to look at all the scenarios provided by the
23 vendors that we -- by our economic forecasts from --
24 they revise their forecasts monthly, as far as I know,
25 and right at the moment the recovery seems to be being

1 pushed off a little bit.

2 MR. STEWART: Right.

3 MR. GORIN: Than we predicted -- than they
4 predicted last year, or even in April.

5 MR. STEWART: Okay, so that we can expect some
6 lower ranges than in the next out -- the next iteration?

7 MR. GORIN: I wouldn't -- you know, I'm not the
8 economic forecaster.

9 MR. STEWART: Okay.

10 MR. GORIN: That's the -- that's why we rely on
11 these economic services to provide us forecasts of
12 economic growth and we'll see what they say. It doesn't
13 appear that there's going to be some over-optimistic
14 viewpoint coming out in the next two months, but I'm not
15 the one to answer that question.

16 MR. STEWART: And, really, you know, you don't
17 have to answer this one either, but related to this
18 issue is the fact that you predict a quite a significant
19 increase in number of households across the State, which
20 implies a rather large housing boom, which I don't see.

21 MR. GORIN: We're hoping before our revised
22 forecast that the Department of Finance comes out with a
23 new long-term population projection. If that doesn't
24 occur, we're going to end up using the Census
25 projection, which indicates about 425,000 people --

1 person increase annually for the State.

2 MR. STEWART: Yeah, well, I see that population
3 growth, but I don't see the housing growth. In other
4 words, you project a lower per-household size, at the
5 same time as the house -- as the population is growing
6 up and I don't see that.

7 MR. GORIN: Well, our -- the population
8 forecast -- the persons-per-household forecasts that we
9 develop in-house are either constant or increasing.

10 The decrease in persons-per-household was
11 provided -- was what Moody's Analytics uses. You know,
12 if you listen to the economic workshop we had in
13 February of this year, there was kind of a divergence of
14 opinion of whether household formation was going to
15 increase or decrease. There's thought that the Asian
16 population will move into their own houses. There's
17 another thought that children and aging parents are
18 going to move back into consolidated families.

19 So, I'm not sure there's a definite -- well,
20 definite consensus around that.

21 MR. STEWART: But, you know, we do know at the
22 current, you know, construction rate of housing and it
23 doesn't look like there's very many extra households.

24 MR. GORIN: I would agree with that currently --

25 MR. STEWART: Okay.

1 MR. GORIN: -- but there have been booms in the
2 past and there will probably be booms in the future.

3 MR. STEWART: Well, let's hope so, but I'd like
4 to see a low forecast somewhere that reflects that data.
5 Thank you very much.

6 MR. GORIN: Thank you.

7 CHAIRPERSON WEISENMILLER: Thank you.

8 MS. YUCEL: Zeynep Yucel, PG&E. So, I just
9 wanted to highlight that the focus shouldn't be around
10 .7, .9 percent to the CEC growth rates, but the order of
11 it because ours is sales fully mitigated, yours is
12 planning area, I think just covers the uncommitted --
13 sorry, the committed.

14 So, you know, I think the focus that we want to
15 give here is that, you know, peak grows a little bit
16 faster than energy in our case, but it's vice-versa for
17 CEC. So not the differences, okay, just to clarify.

18 CHAIRPERSON WEISENMILLER: Thanks.

19 MR. GORIN: Any comments from the phone?

20 Any other comments? I think that's it

21 CHAIRPERSON WEISENMILLER: Okay, this meeting's
22 adjourned, thanks.

23 (Thereupon, the Workshop was adjourned at
24 3:33 p.m.)

25 --oOo--