STAFF WORKSHOP

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

In the Matter of:	)	
	)	Docket No.
Preparation of the 2009 Integrated	)	09-IEP-1G
Energy Policy Report	)	
	)	
and	)	
	)	Docket No.
Implementation of Renewables	)	03-RPS-1078
Portfolio Standard Legislation	)	RPS Proceeding
_____	)	

CALIFORNIA ENERGY COMMISSION

HEARING ROOM A

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

MONDAY, DECEMBER 1, 2008

10:05 A.M.

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

COMMISSIONERS PRESENT

Jackalyne Pfannenstiel, Chairperson

Jeffrey D. Byron, Commissioner

Karen Douglas, Commissioner

ADVISORS PRESENT

Laurie ten Hope

Tim Tutt

Panama Bartholomy

STAFF and CONTRACTORS PRESENT

Mike Leaon

Drake Johnson

Kevin Baker

Rachel Salazar

Joe Fleshman

Wilson Rickerson (via teleconference)
Rickerson Energy Strategies
KEMA Contractor

Robert C. Grace
Sustainable Energy Advantage, LLC
KEMA Contractor

Karin Corfee
KEMA Contractor

ALSO PRESENT

Robert Kinosian
California Public Utilities Commission

Ray Pingle
Sierra Club

ALSO PRESENT

Steven Kelly
Independent Energy Producers Association

Dan Patry
Pacific Gas and Electric Company

John Kerrigan
Los Angeles Department of Water and Power

Mary Lynch
Constellation Energy Resources

Craig Lewis
Greenvolts

Tom Faust
Redwood Renewables

Marci Burgdorf
Southern California Edison Company

David Townley (via teleconference)
Infinia Corporation

Toby Couture (via teleconference)
National Renewable Energy Laboratory

Andy Katz (via teleconference)
Breathe California

Molly Sterkel (via teleconference)
California Public Utilities Commission

Gregg Morris (via teleconference)
Green Power Institute

Joseph Langenberg (via teleconference)
Central California Power

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

2 10:05 a.m.

3 COMMISSIONER DOUGLAS: Welcome to the

4 third of three staff workshops on the feed-in

5 tariffs with the Renewables and IEPR Committees.

6 My name's Karen Douglas; I'm the

7 Presiding Member of the Renewables Committee. To

8 my immediate left is Chairman Jackie Pfannenstiel.

9 And to her left Commissioner Jeff Byron. Chairman

10 Pfannenstiel is a Member of the Renewables

11 Committee. And both are Members of the IEPR

12 Committee, which is fully represented here.

13 And then to Commissioner Byron's left we

14 have Robert Kinosian, who is an Advisor to

15 Commissioner Bohn at the PUC. To his left, Laurie

16 ten Hope, Advisor to Commissioner Byron. And to

17 my right Panama Bartholomy, my Advisor.

18 I appreciate everyone's participation

19 here today. These feed-in tariff workshops are

20 the result of the 2007 IEPR directing the staff to

21 develop an assessment of feed-in tariffs for

22 California.

23 The purpose of today's workshop is to

24 take public comments on the recommendations and

25 implementation issues in the California feed-in

1 tariff design policy options report, in order to
2 assist the staff, the consultant, and Committee
3 Members in making decisions related to the
4 finalization of the report.
5 The recommendations were developed based
6 on IEPR policy, Renewables Committee direction and
7 stakeholder input from previous workshops.
8 The first workshop we had on July 30th
9 focused on the 2007 IEPR recommendation that
10 Energy Commission Staff explore the possibility of
11 a feed-in tariff for facilities over 20 megawatts.
12 We took comments on the report, the
13 consultant report, exploring feed-in tariffs for
14 California, feed-in tariff design and
15 implementation issues and options. That report
16 has been finalized and is posted on our website.
17 The second workshop on October 1st
18 reviewed the draft consultant report, California
19 Feed-in Tariff Design and Policy options. It
20 focused on tariff design and policy options
21 building off of the first workshop.
22 The second report presented optional
23 policy paths using drivers identified by the
24 staff, consultant and the Renewables Committee.
25 Again, today's workshop will focus on

1 recommendations in the consultant's second draft
2 of this report. The report that we will be
3 looking at today, the draft that we'll be looking
4 at today, as recommendations for the expansion of
5 feed-in tariffs in California.
6 And, again, the recommendations are
7 based on direction from the Renewables Committee
8 and input from stakeholders.
9 We appreciate everybody's participation
10 here today, and we very much look forward to
11 hearing from you. Thank you.
12 Chairman Pfannenstiel.
13 CHAIRPERSON PFANNENSTIEL: I'd just like
14 to observe that this is a very important subject
15 for us as we are trying to make sure that we not
16 just meet the renewables targets, even though the
17 Governor has raised the bar on that, but that we,
18 in fact, get all of the renewables that should be
19 coming forward in the state.
20 And I would have to say that it's
21 taking, the consideration of feed-in tariffs has
22 taken sort of a strange turn from my perspective,
23 from where I thought it was going to go. And
24 that's largely because of the input from the
25 stakeholders. All of your input has been heard,

1 listened to, accounted for, incorporated. So we
2 appreciate people being here to help us with this.
3 COMMISSIONER BYRON: I'll be brief.
4 Chairing the 09 IEPR going forward, we're going to
5 be very interested in this topic. I'd note,
6 having reviewed all the materials for the
7 workshop, I think staff's put together what looks
8 to be another very interesting workshop.
9 But I also think the contractor involved
10 here, and comments received from all the
11 stakeholders, have demonstrated that this
12 Commission's probably done an excellent job of
13 identifying the value of the feed-in tariff for
14 implementing our energy policies around
15 renewables.
16 And now the hard work is designing that
17 tariff by the PUC. And that's where I think this
18 workshop's extremely important. I'm really glad
19 to have one of my colleague's representatives here
20 in Robert Kinosian. And we look forward to
21 working with them.
22 I'd also note that I just received a
23 press release this morning that our Governor was
24 down in southern California this morning, in
25 Fontana, to announce the completion of the first

1 of 150 planned commercial rooftop solar
2 installations in southern California.
3 And you may all recall that this is
4 initiative that he undertook with the PUC and
5 Southern California Edison to install about 250
6 megawatts of peak generating capacity in southern
7 California.
8 Of course, this will all be rate-based
9 generation that'll be owned by Southern California
10 Edison on the distribution side of the meter. But
11 it shows that this kind of generating capability
12 has a big role to play in California going
13 forward.
14 I look forward to working with the PUC
15 and figuring out how we're going to enable the
16 feed-in tariff so that we can see a lot more of
17 this kind of renewable generation.
18 Thank you, Commissioner. Sorry for my
19 long comments.
20 MR. KINOSIAN: I'd just like to say
21 that, you know, the PUC recognizes the importance
22 in the feed-in tariff as a way to try and meet a
23 33 percent RPS goal. We have an existing feed-in
24 tariff program, and expanding it is, I would say,
25 definitely one of the tools we're going to be

1 looking at it in trying to meet that 33 percent
2 goal.
3 And as Commissioner Byron said, I think
4 the issue is how best to do it, not whether to do
5 it.
6 COMMISSIONER DOUGLAS: Thank you very
7 much. At this point we will turn the workshop
8 over to Mike Leaon of the renewable energy office.
9 MR. LEAON: Thank you, Madam Chair. For
10 the record, I'm Mike Leaon, Supervisor, integrated
11 energy and climate change units, renewable energy
12 office.
13 Before I get to my introductory
14 presentation there are a few housekeeping items I
15 need to go over. First, in regard to our WebEx
16 participants, I wanted to reiterate that you will
17 be able to see the presentations. And if you
18 would like to ask a question via WebEx you can use
19 the raise-hand icon, or chat directly to the WebEx
20 administrator.
21 WebEx users are muted on entry. And we
22 will un-mute WebEx users during the question-and-
23 answer portion of the workshop after lunch today.
24 Handouts are available at the entrance
25 to the hearing room. Restrooms are located across

1 the foyer on the first floor here. There is a
2 snack bar on the second floor up the stairs and
3 directly across the atrium. There are several
4 restaurants located within walking distance of the
5 Energy Commission.
6 And in the event of an emergency the
7 alarm will sound. And I would ask our guests to
8 follow Energy Commission Staff out the main
9 entrance onto 9th Street, and we will evacuate to
10 the park that is kitty-corner from the Energy
11 Commission at the intersection of 9th and P.
12 Regarding groundrules. We do ask that
13 people who would like to make comments utilize the
14 blue cards that are available on the table with
15 the handouts at the entrance to the hearing room.
16 And if you could bring those cards up to myself or
17 Energy Commission Staff that is in the room. Make
18 sure you indicate your name, organization, a brief
19 message on what you would like to speak to.
20 And also if you could provide a business
21 card to our court reporter, that would be very
22 helpful.
23 And in addition, please make sure to use
24 the microphone at the podium, as our WebEx
25 participants won't be able to hear you speak if

1 you are not on the microphone.
2 During the afternoon's open discussion,
3 the Q&A format, again we'll take blue cards in the
4 room first. WebEx participants, we will take you
5 after we've had a chance to get through all the
6 blue cards in the room. And, again, if you want
7 to chat directly to the host or submit a question
8 using the raised-hand icon, you can do that, as
9 well.
10 And finally, for those of you that are
11 orally participating over the phone via WebEx, we
12 will provide an opportunity prior to the close of
13 the question-and-answer session to unmute the
14 phone lines and take any questions we may have
15 over the phone.
16 Today's agenda. We've had opening
17 remarks from Commissioners. Covering the ground
18 rules now. I'll follow this up with a brief
19 introductory presentation. And then we'll hear
20 from our KEMA team, contractors, who will be
21 providing us an update on U.S. policy regarding
22 feed-in tariffs. And also reviewing changes to
23 the reports and the recommendation that was
24 included in the report based on direction from
25 Commissioners and feedback from stakeholders.

1 We'll break for lunch from approximately
2 11:30 to 12:45; followed by an afternoon session
3 where we'll take stakeholder comments from 12:45
4 to 2:00. Have some time for closing remarks from
5 the Commissioners from 2:00 to 2:15. And briefly
6 wrap up and talk about next steps; and adjourn by
7 2:20. And, if necessary, we can take additional
8 time this afternoon for public comment.
9 Okay, with that I would like to move to
10 my introductory presentation. And we're pulling
11 that presentation up on WebEx.
12 Okay, briefly I'll be covering our goals
13 for today in the workshop. Review reasons for
14 having an expanded feed-in tariff. Also briefly
15 review the policy drivers that were used to help
16 craft the policy paths that were presented in the
17 policy options report.
18 Briefly summarize some of the
19 stakeholder feedback we received for those policy
20 paths. Again, briefly review the actual
21 recommendation in the report. Also briefly cover
22 how this process influenced the recommendations
23 that were included in the 2008 IEPR update.
24 Also, I'll briefly cover some of the
25 feed-in tariff policy interactions with other

1 policies. And, again, briefly review
2 implementation issues which will actually be
3 discussed in more detail in Bob Grace's
4 presentation. And briefly talk about next steps.
5 Regard to workshop goals for today, our
6 goals for today are to review the latest
7 developments in regard to feed-in tariff policies
8 in the United States. Review changes to the two
9 consultant reports, the Feed-in Tariff Issues and
10 Options report, which was the subject of the June
11 30 workshop; and the Design of Policy Options
12 report.
13 To provide a final opportunity for
14 stakeholders to comment on staff recommendations
15 in the policy options report. And also provide
16 stakeholders with a chance to share their
17 insights, comments and suggestions in regard to
18 implementation issues.
19 Why have an expanded feed-in tariff? An
20 expanded feed-in tariff for California would offer
21 a second financing strategy for renewable energy
22 developers, in addition to the existing renewable
23 portfolio standard, or RPS, competitive
24 solicitation.
25 This additional funding approach offers

1 another tool for achieving the state's renewable
2 energy objective of 33 percent renewable energy by
3 2020.
4 If the state were on a track to meet the
5 RPS' renewable energy objective of 20 percent by
6 2010, we would likely not find ourselves here
7 today considering a policy recommendation for an
8 expanded feed-in tariff.
9 However, since we're not on track to
10 meet that objective, and have an even higher
11 objective to achieve by 2020, and since those
12 renewable energy objectives are critical for
13 meeting all the greenhouse gas reduction goals,
14 and also to reduce risk to ratepayers' continued
15 reliance on fossil fuels, it is necessary to adopt
16 new approaches for developing renewable energy
17 resources.
18 As demonstrated in Europe, the advantage
19 of a feed-in tariff is its transparency through
20 the establishment of a guaranteed price buyer and
21 long-term revenue stream because feed-in tariffs
22 can reduce the cost and complexity of the
23 contracting process and guarantees a price,
24 developers are better able to secure necessary
25 project financing.

1 And expanded feed-in tariff adds another
2 arrow in California's quiver to establish a
3 diverse mix of sustainable renewable resources.
4 In regard to potential feed-in tariff
5 policy paths for California, the policy paths that
6 are presented in the policy options report were
7 crafted using policy drivers that were developed
8 based on direction from the Renewables Committee
9 and stakeholder feedback.
10 These policy drivers relate strictly to
11 the feed-in tariff policy options identified in
12 the policy options report and do not have any
13 policy applications beyond the context of this
14 report.
15 The highest priority drivers increase in
16 the quantity of renewable energy generation and
17 providing financial security for developers
18 reflect the need to increase the pace of renewable
19 energy development, and the need to address the
20 impediments to that objective associated with the
21 existing RPS solicitation. Specifically the high
22 rate of contract failure.
23 The other drivers, while an important
24 consideration, are relatively lower priority than
25 the first two drivers. Specifically, increasing

1 the diversity of renewable energy resources,
2 supporting the development of sustainable
3 technologies, and helping to stabilize the cost of
4 generation through establishing a diverse mix of
5 resources were identified as medium-level drivers.
6 And finally, reflecting policy direction
7 from the Governor to achieve 20 percent of RPS
8 targets through biomass, the policy driver to
9 support biomass projects through an expanded feed-
10 in tariff was also included.
11 In summary, these policy drivers, in
12 addition to the feed-in tariff policy
13 recommendations in the 2007 IEPR, shape the policy
14 options that were analyzed in the feed-in tariff
15 design and options report that was the subject of
16 the October 1, 2008 staff workshop.
17 In regard to the stakeholder support for
18 the feed-in tariff, at the October 1st workshop
19 staff solicited comments from stakeholders
20 regarding the proposed feed-in tariff policy
21 paths.
22 Significant support for policy path
23 number 6, a feed-in tariff for projects up to 20
24 megawatts, cost-based and differentiated by
25 technology and size, arose from the renewable

1 energy developers and environmental groups,
2 including Infinia, SolFocus, Solar Alliance, Fuel
3 Solar Energy, Union of Concerned Scientists, and
4 Breathe California.
5 In addition, there was also stakeholder
6 support, including from the Sierra Club and
7 Windworks, for a full market feed-in tariff open
8 to all technologies with no restrictions on
9 project size.
10 However, stakeholder support primarily
11 coalesced around an increased feed-in tariff for
12 projects up to 20 megawatts, cost-based,
13 differentiated by technology and size.
14 Investor-owned utilities provided mixed
15 feedback to the proposed policy paths. PG&E
16 believed the combination of the existing under 1.5
17 megawatt program and the existing RPS program, in
18 conjunction with their voluntary offerings as the
19 best and most cost effective approach for
20 achieving renewable energy goals.
21 They don't believe that an expanded
22 feed-in tariff will address permitting and
23 transmission barriers, which they see as the
24 primary obstacles to attaining RPS goals.
25 SCE, however, has expressed support for

1 expanding feed-in tariffs up to -- for projects up
2 to 20 megawatts, and have included a standard
3 offer contract in their 2009 procurement plan to
4 that effect.
5 Which brings us to the report
6 recommendation. Based on consideration of
7 stakeholder feedback and direction from the
8 Renewables and IEPR Committees, staff included
9 policy option 6 as the preferred recommendation in
10 the revised California feed-in tariff design and
11 policy options report.
12 Specifically this recommendation calls
13 for expanded feed-in tariff for projects up to 20
14 megawatts based on the cost of generation
15 differentiated by technology and size.
16 In addition, the report also includes a
17 recommendation that the Energy Commission and the
18 CPUC continue to work together to evaluate feed-in
19 tariffs for projects over 20 megawatts.
20 These report recommendations were also
21 reflected in the 2008 IEPR recommendation for
22 feed-in tariffs. Specifically, the 2008 IEPR
23 recommends that the PUC immediately implement a
24 tariff for projects up to 20 megawatts in size
25 based on the cost of generation. And that the

1 Energy Commission and the CPUC continue to work
2 together to evaluate a tariff for projects over 20
3 megawatts.
4 The recommendations in these reports
5 will continue to inform the IEPR process moving
6 forward, and guide the development of a feed-in
7 tariff as we move forward toward a potential
8 implementation phase.
9 Feed-in tariff and other policy interaction.
10 Implementation of an expanded feed-in tariff will
11 impact other renewable energy policies including
12 the Governor's recent executive order S-14-08, the
13 existing RPS solicitation and greenhouse gas
14 reductions mandated under the California climate
15 change legislation.
16 In addition, the renewable energy
17 transmission initiative process, the development
18 of competitive renewable energy zones, would also
19 be affected.
20 Regarding the Governor's executive
21 order, staff believes that the report's
22 recommendation will support the executive order's
23 call for all retail sellers of electricity to
24 serve 33 percent of their load with renewable
25 energy by 2020, specifically by providing more

1 transparency and certainty for developers and
2 financiers in the contracting process recommended
3 in the feed-in tariff would support the executive
4 order by expediting development of new renewable
5 energy projects.
6 In addition the RPS solicitation would
7 be another area of policy interaction. However,
8 the feed-in tariff would act in parallel and in
9 concert with the existing RPS solicitation.
10 Next slide. The recommendation to
11 evaluate a tariff for projects over 20 megawatts
12 also represents the opportunity to align tariffs
13 for larger projects with the RETI process through
14 which competitive renewable energy zones are
15 identified.
16 These zones are intended to address
17 transmission barriers to regions of high renewable
18 resources which would help with the permitting and
19 siting challenges.
20 Once transmission is established to
21 these zones, a feed-in tariff could help to
22 expedite project financing and development.
23 Consequently, the combination of the two programs
24 could contribute significant renewable energy
25 capacity.

1 Regarding implementation issues, we will
2 hear from Bob Grace more on these in his
3 presentations, so I think we can skip to the next
4 slide.
5 Next steps. The next steps are to
6 revise the reports based on testimony from today's
7 workshop. And our objective is to publish the
8 reports by January of 2009. And then to begin
9 moving towards an implementation phase in 2009
10 based on further direction through the IEPR
11 process and any possible legislation.
12 That concludes my presentation. I will
13 be happy to answer any questions.
14 COMMISSIONER DOUGLAS: Thank you very
15 much.
16 MR. LEAON: Okay. All right, thank you.
17 With that, we'll hear from our first member of the
18 KEMA team, Wilson Rickerson, who will be making
19 his presentation via WebEx.
20 (Pause.)
21 MR. RICKERSON: Hello.
22 MR. LEAON: Can you hear us, Wilson?
23 MR. RICKERSON: Is my application up and
24 running?
25 MR. SPEAKER: Yeah, you have something

1 in front of your application, though.
2 MR. RICKERSON: How about that?
3 MR. SPEAKER: You have something still
4 in front of it. If you go to your screen, there's
5 a screen in front of it that's coming up.
6 MR. RICKERSON: Okay, how about that?
7 MR. SPEAKER: Do you have like a chat-
8 box in front or something?
9 (Pause.)
10 MR. SPEAKER: You know what, if you
11 want, I don't exactly know why, but there's a box
12 that's covering your slide. If you want I can
13 just control the slides from this end.
14 MR. RICKERSON: Sure, sounds fine.
15 MR. SPEAKER: Okay.
16 MR. RICKERSON: Trying to do a
17 (inaudible).
18 (Pause.)
19 MR. RICKERSON: (inaudible)?
20 MR. SPEAKER: Yeah, can you see it?
21 MR. RICKERSON: It's not (inaudible)
22 just click.
23 (Pause.)
24 MR. SPEAKER: Wilson, I gave you the --
25 again; go ahead and try it again.

1 MR. RICKERSON: Okay.
2 MR. SPEAKER: All right.
3 MR. RICKERSON: -- application. All
4 right. How am I doing?
5 MS. CORFEE: Wilson, this is Karin.
6 There's still a problem. I'm going to recommend
7 that we flip the presentations and try to
8 troubleshoot what's going on with you presenting
9 your --
10 MR. RICKERSON: Sure.
11 MS. CORFEE: Okay, so.
12 MR. LEAON: All right, while we have
13 technical difficulties with Wilson's presentation,
14 we'll go ahead and have Bob come up and where we
15 won't have similar technical difficulties.
16 MR. GRACE: Good morning, Commissioners,
17 Advisors, stakeholders. Glad to be here wrapping
18 up this project.
19 This report is really at the boundary
20 between deciding what to do and all the, as was
21 stated earlier, all the hard work, decisions and
22 choices of how to implement it.
23 So, the purpose of my talk is to review
24 the proposed final results of the design policy
25 option exploration, the path that we took to get

here, and where we go from here.

So, in this presentation I will be reviewing the changes that were made to both reports, the feed-in tariff issues and options report, as well as the second draft report.

I will touch on the different phases of the process. The first phase in which the policy issues and options were identified and explored. The policy drivers, experience elsewhere, and stakeholder feedback that was taken from that phase.

The second phase which focused on the representative policy paths, which were built on lessons learned from particularly Spain and Germany. The division of the various issues and options and to core and noncore implementation issues, the interactions among those paths. And again, stakeholder feedback.

And then focus on the recommendations, which, as we've touched on, focus on a cost-based feed-in tariff for generation under 20 megawatts. And the potential broader application of feed-in tariffs in the future.

And finally, focusing on the implementation issues which include the process of

1 establishing initial tariff prices, adjusting
2 those tariff prices over time, the procedures that
3 would need to be implemented, as well as the
4 philosophy behind them.
5 A number of choices that could be made
6 in order to support efficient transmission
7 distribution and supply portfolio planning; what
8 can we do in building the feed-in tariffs to most
9 efficiently interact with all the other needs of
10 the system.
11 And identify possible legislative needs
12 to move forward.
13 So, starting with the changes to the
14 draft reports, the first paper, Exploring Feed-in
15 Tariffs in California, Feed-in Tariff Design and
16 Implementation Issues and Options, the changes
17 were few. They were mostly editorial in nature,
18 clarifying some dates, updating some references,
19 and certainly making sure some of the references
20 were current, since there have been further
21 developments during the course, first as the
22 CPUC's orders regarding the definition of RECs and
23 the allowing (inaudible) RECs.
24 The second paper, California Feed-in
25 Tariff Design and Policy Options, the changes also

1 include a number of minor edits and updates.
2 But more substantively addressed fine-
3 tuning some of the chapter on policy interactions.
4 In particular, some additional text was added to
5 talk about the interaction of feed-in tariffs with
6 the existing RPS. Noting that for under 20
7 megawatt scale projects there was not a lot of
8 concern since most of the RPS contracts had been
9 with projects in excess of 20 megawatts.
10 But for those projects over 20
11 megawatts, there may or may not be issues to
12 wrestle with in terms of the interaction between
13 feed-in tariffs and RPS. Whether there were
14 concerns or not depended heavily on some of the
15 design details yet to be determined.
16 So, really highlighting that the
17 conditions under which there may or may not be
18 issues or concerns, and some of the things to look
19 out for.
20 In addition, a couple of appendices were
21 added, basically staff summaries of the comments
22 in workshop number one and number two, replacing a
23 summary chapter that had been in there in the
24 earlier draft.
25 And we added the last chapter to reflect

1 the recommendations for the feed-in tariff design
2 and implementation, the core issues, and
3 identifying the implementation issues to be
4 considered in the IEPR process going forward.
5 I seem to have lost control of the --
6 there we go. So, the first phase of the process
7 started with articulating the goals, objectives
8 and policy drivers. Now Mike earlier talked about
9 the policy drivers. I won't reiterate that here.
10 But it's critically important in
11 designing any policy to understand where you're
12 going and why. So, the process started here by
13 focusing on the overall goals and objectives, as
14 well as the policy drivers that were driven by the
15 Renewable Energy Committee input.
16 But also to consider the policy as
17 subject to a number of important constraints.
18 Available transmission, siting, permitting, the
19 feasible buildout time, cost effectiveness, and
20 environmental and resource sustainability.
21 So all of those really laid the
22 groundwork and provided some criteria for
23 considering options.
24 We took a look at experience elsewhere
25 in feed-in tariffs, focusing on in particular the

1 experience to date in Europe, as well as Ontario
2 and Prince Edward Island, Brazil, Korea. A number
3 of different countries have already had a good
4 deal of experience.
5 We focused in at a finer level on three
6 countries, Denmark, Spain and Germany, in terms of
7 their experience, as well as taking a look at what
8 has been done to date in the United States.
9 Now, from there we developed something
10 of a laundry list of the feed-in tariff policy
11 design issues. I won't go through them all here.
12 You've seen this slide and the following one in
13 the October 1st workshop.
14 Just to review here, we had identified
15 the full range of issues, potential options for
16 those design issues, and included an analysis of
17 pros and cons. For eligibility, setting the
18 price, the tariff structure, contract duration,
19 the approach to adjusting the price over time and
20 when those adjustments would be made, the
21 magnitude of price adjustments, issues that had to
22 do with queuing, tariff differentiation and then a
23 number of other implementation issues.
24 From the workshop number one, the June
25 30th workshop, quite a number of stakeholder

1 comments were requested in response to questions
2 that were in the workshop announcement.
3 There was also an online survey created
4 to seek stakeholder input on very specific and
5 targeted questions as regards to specific design
6 options. All of that information is available on
7 the Energy Commission's website.
8 The key takeaways from stakeholder
9 feedback in the first workshop were, first, the
10 nonutility stakeholders tended to support a broad
11 range of different feed-in tariff options in order
12 to grow the market and close the gap between net
13 metering and the RPS.
14 The utilities, as a whole, at that point
15 stated that feed-in tariffs would conflict with
16 the RPS and would raise costs. So it had been
17 raising some concerns.
18 And there was certainly a recognition by
19 all parties that feed-in tariffs would not address
20 all constraints. Nothing about a feed-in tariff
21 was going to get transmission built, so this is
22 not the tool that will solve all of the issues and
23 barriers.
24 Moving on to phase two, which culminated
25 in the October 1st workshop, we focused on lessons

1 learned from Germany and Spain. Some important
2 lessons that were taken away from experience there
3 were that long-term generation cost-based payments
4 can rapidly grow the renewable energy markets and
5 achieve, in that case, national targets. And that
6 technology-specific tariffs can create diversity
7 among different technologies when they're set at
8 appropriate levels.
9 We've also learned that investor
10 security is determined both by price certainty and
11 policy certainty. So one without the other is
12 insufficient.
13 Value-based incentives, we've learned,
14 may not put the type of downward pressure I think
15 we'd all like to see on renewable energy prices
16 and costs. And have had less success than cost-
17 based.
18 Feed-in tariffs, according to the
19 European studies, have been shown to suppress
20 wholesale market prices, as would any policy
21 that's really increasing the penetration of
22 renewables.
23 Both Spain and Germany ended up deciding
24 to distribute the policy costs nationally.
25 Because renewables tend to be geographically

1 concentrated, it was deemed reasonable to not
2 unfairly burden a subset of consumers with the
3 costs of a broad social policy.
4 Long-term payments therefore have been
5 used successfully in both Germany and Spain. But
6 it's been clear that implementing support for the
7 emerging resources is particularly challenging.
8 It's hard to get the price right; it's hard to
9 control the rate at which resources will be built
10 out. And it's also been learned that setting the
11 correct price for biomass can also be challenging.
12 The second phase also focused on
13 developing feed-in tariff policy design options.
14 The issues and options report had identified the
15 range of design issues and options, and there are
16 lots of different combinations.
17 So, in order to try and cut through that
18 clearly and quickly, first the issues were sorted
19 into three categories. Core policy issues, and
20 these really represented the high-level policy
21 decisions that would dictate California's feed-in
22 tariff strategy, as well as the critical
23 characteristics of alternative feed-in tariff
24 paths.
25 So these are really the differentiators

that created the forks in the road of different directions that could be taken.

In addition, there were noncore policy issues identified. These are important still to the design and they would modify the design, but they don't fundamentally alter its core structure.

They would require decisions to move forward, but really independent of the different policy paths selected, and therefore they've really been appended to each of the policy paths.

And then there was a third category of issues, the implementation details. All these need to be addressed if you decide to move forward with the feed-in tariff, but don't require major policy decisions at this point in time. And so the discussion on those was deferred.

The core design issues had been narrowed through consideration of all the things we've talked about, the policy drivers, the Commission's Renewables Committee input, the pros and cons that were laid out in the issues and options report, the practical constraints and California precedents that needed to be accommodated, particularly the stakeholder comments, as well as the Commission Staff -- analysis.

1 There were some issues that were found
2 to have only a single viable choice, so those were
3 basically incorporated into all of the policy
4 paths going forward. And the remaining issues
5 were used to craft a representative range of
6 policy paths.
7 Now, these policy paths, we developed
8 six of them in this second phase. And they were
9 each fundamentally distinct. The idea was to put
10 out six different strawmen which were each
11 radically different and could elicit stakeholder
12 feedback, and help us quickly steer in one
13 direction or another.
14 These were constructed from the narrowed
15 options. And represented models that were, in and
16 of themselves, nothing magical about them, but
17 they were intended to stimulate dialogue. And
18 these have been guided by, again, all the things
19 that we have talked about earlier.
20 The representative range of options
21 spanned a wide range of direction, scope and
22 timing. Again, representative forks in the road.
23 Yet they were also crafted as paths that had
24 potential interactions. Some were baby steps on
25 the way to broader application, or had different

1 narrow application. And so some could be seen as
2 steps along the way to a broader trajectory.
3 There was always an implicit seventh
4 choice, which was not doing a feed-in tariff,
5 maintain the status quo.
6 As we've seen all of these policy paths,
7 I won't dwell on them in detail here. Just
8 touching quickly on the six that were introduced,
9 the policy path number one was really the full
10 cost-based feed-in tariff, German style, unlimited
11 size, cost-based and differentiated, using some
12 competitive benchmarks to help establish the
13 price.
14 But in this case it would not have been
15 implemented until a later trigger based on actual
16 RPS performance. And the role of emerging
17 resources would have been capped.
18 The second path was focused on larger
19 generators, in excess of 20 megawatts, but with a
20 value-based price structure. Really what my
21 colleague Wilson referred to as MPR on steroids.
22 But it would have been implemented in a very
23 narrow three-year pilot program, one utility. So
24 it was an attempt to experiment with this on a
25 limited basis before expanding it more broadly.

1 The third path focused on the German-
2 style differentiated cost-based feed-in tariff
3 approach, but would have been limited to within
4 competitive renewable energy zones. And only
5 focused on generation greater than 1.5 megawatts.
6 So a very targeted application.
7 Policy path number four focused on a
8 technology-specific application, in this case
9 looking at a solar-only feed-in tariff. And
10 policy path number five looked at a biomass-only
11 feed-in tariff. Both of those cost-based.
12 The solar-only one was considered as a
13 pilot program only within one utility, whereas the
14 biomass would have been seen as across all
15 utilities.
16 Finally, policy path number six, the one
17 we'll talk most about today, was really the
18 German-style, full-market, less-than-20 megawatt,
19 cost-based differentiated tariff, differentiated
20 by both technology and size.
21 So this basically was let's not wait,
22 we'll move forward promptly, but we'll focus on
23 generation only under 20 megawatts.
24 So, with each of these policy path
25 designs we had also identified several options.

1 Who pays for the interconnection? The nature of
2 the tariff as a fixed-price tariff. Who would be
3 offering the tariff, the interconnecting
4 utilities? Those were really single-option
5 choices. None of the other options seemed viable
6 in this market structure. So those
7 characteristics were appended to each policy path.
8 And then a number of the other
9 implementation issues or other core issues,
10 rather, the method of adjusting the price, when to
11 adjust the price and how much to adjust the price.
12 These were choices that could be made, but were
13 really independent of each of the policy paths.
14 So, putting all the core issues together,
15 this is a map of what they look like.
16 Again, we touched on the timing and
17 scope and the triggers in the policy paths that
18 could create different implementation options. So
19 while the policy paths were distinct, they were
20 not all mutually exclusive independent
21 alternatives.
22 They were interaction and trajectories.
23 Some could be adopted in concert with others; some
24 were partial market, could be pilot-scale or
25 duration; could be thought of as potentially

1 working together along a policy trajectory. Some
2 could be adopted while waiting for a specific
3 trigger.
4 So, that being the summary of the phase
5 two analysis and what was in the first draft of
6 the paper we're talking about today. Stakeholder
7 feedback. We had the workshop on October 1st and
8 received written comments specifically on the
9 policy paths.
10 Looking here for very constructive and
11 targeted criticism or comment on which policy
12 paths would have support and for which there would
13 be lack of material opposition. And which could
14 be effectively implemented in the short term.
15 We also sought comments on the specific
16 basis of any opposition, specific barriers and
17 concerns to each of the policy paths; challenges
18 to a feed-in tariff coexisting with the current
19 RPS solicitation process; as well as ways that
20 those concerns might be mitigated. All of the
21 comments are summarized again on the Energy
22 Commission's website.
23 The key take-aways from phase two were
24 that there was very strong support, and I think to
25 some of us, rather surprising coalition around one

1 of the options, option six. Nearly all the
2 stakeholders had supported option six or slight
3 variations thereon with very limited dissent.
4 There was little support for a pilot
5 policy, one in which we would have either limited
6 use to one utility, or a window of time, or
7 waiting to a future trigger.
8 The utilities, in general, still tended
9 to favor the status quo with the current feed-in
10 tariff for 1.5 megawatts and below. Although Mike
11 touched on earlier that there was some openness to
12 feed-in tariffs up to 20 megawatts.
13 So this brings us to the recommendation
14 outlined in the second draft of the paper. And
15 this is based on the direction from the Renewables
16 Committee, the IEPR Committee and all of the
17 stakeholder feedback basically to establish a
18 feed-in tariff initially for projects up to 20
19 megawatts that would be cost-based, that would be
20 a must-take tariff offering long-term contracts.
21 It would be open to all RPS-eligible
22 resource types. It would be focused on and
23 eligible to new projects. Although a separate
24 tariff certainly could be explored, targeted at
25 repowering applications.

1 There would be no waiting to a future
2 trigger. And a tariff would be differentiated by
3 both technology and size.
4 The recommendations did not end there,
5 however; it left open the possibility for
6 considering a recommended feed-in tariff -- this
7 recommended feed-in tariff as a potential bridge
8 to feed-in tariffs for projects larger than 20
9 megawatts in the future, as well as or in addition
10 to projects in the competitive renewable energy
11 zones. These could be considered if conditions
12 merit in the future.
13 As greater experience is gained with the
14 small project feed-in tariff there certainly are a
15 number of implementation issues to wrestle with
16 and lessons to be learned. And how to apply or
17 whether to apply feed-in tariffs more broadly in
18 California.
19 And certainly, as transmission and other
20 barriers are addressed, the potential for focusing
21 a feed-in tariff on larger projects becomes more
22 interesting.
23 So, from there there are a number of key
24 implementation issues which would require
25 resolution in the IEPR process. These included

1 the high-level establishing the initial tariff
2 prices; adjusting those prices over time. Tactics
3 that could be taken to support efficient
4 transmission distribution and supply portfolio
5 planning.
6 Legislative issues that would need to be
7 grappled with. And then all of the noncore policy
8 issues and implementation level design issues that
9 would need to be decided on in order to have a
10 fully defined feed-in tariff.
11 So focusing first on establishing the
12 initial tariff prices. There are a number of
13 different options available. One could go down
14 the path of a government-established set of
15 prices. One could rely on studies or analysis
16 from National Renewable Energy Lab, Lawrence
17 Berkeley Lab or other experts to come up with
18 tariffs based on analysis.
19 Alternatively one could use current
20 applicable market information. For some
21 technologies and project sizes there may be a lot
22 of information available, if that good information
23 is available, for instance on solar. So you might
24 be able to establish the feed-in tariffs based on
25 information already available or in hand, at least

1 for some technologies.
2 But there are a number of alternative
3 approaches that would include stakeholder input,
4 and we feel that that's probably advisable to get
5 stakeholder input going forward. But there are a
6 number of different models that could be pursued.
7 One is to open an MPR type of a docket
8 in which parties would propose and support
9 different tariff rates. The Public Utilities
10 Commission would set various parameters to perhaps
11 narrow that, but that would be one potential
12 approach.
13 Another might be to create technology
14 working groups. Get different stakeholders
15 together and try to develop this to be similar to
16 the procurement working groups and the California
17 RPS program that could potentially review industry
18 cost data and come up with recommendations.
19 An alternative branch would be having
20 the Energy Commission and/or the CPUC prepare a
21 proposal, straw proposals, based on publicly
22 available data, and put them forth for reaction.
23 Perhaps the Public Interest Energy
24 Research platform would be the proper
25 institutional home here rather than creating a new

1 structure. But this would be putting forth a
2 strawman for reaction.
3 Another approach which might be useful
4 and applicable, at least for a subset of
5 technologies, might be to start by having some
6 technology-specific auctions where you would have
7 a competitive process create the information that
8 would be used to establish the initial feed-in
9 tariff price. And from there on you would adjust
10 it as we'll talk about in a few minutes.
11 Finally, we might be able to tap into
12 some aggregate price information available from
13 the RPS solicitations at a starting point. Again,
14 this would probably only be useful for a subset of
15 the technologies.
16 So, several of these options are
17 discussed at a conceptual level in the paper.
18 The next issue is adjusting tariff
19 prices. And here we're really trying to balance
20 two important objectives, getting the price right,
21 that means not having ratepayers pay too much; and
22 not setting the price too low so that projects
23 can't profitably be developed at those prices.
24 But you also need to consider leaving
25 sufficient time for generators to respond,

1 maximizing the degree of market certainty and
2 minimizing the administrative complexities. So,
3 that's a balancing act.
4 One recommendation was to, whatever you
5 do, leave the initial tariff prices alone for two
6 to three years; give the market time to respond
7 and get some experience before the prices started
8 to evolve.
9 So, what are the options available here?
10 The IEPR process should consider a few different
11 approaches, a few different issues and approaches.
12 One is the method of adjusting the price which is
13 designed to place downward pressure on renewable
14 energy costs and prices.
15 The options available include a
16 scheduled set of price decreases which referred to
17 in feed-in tariff parlance as digression.
18 Alternatively, simply leaving the prices
19 fixed over time at a fixed nominal rate.
20 Effectively that means that we're shrinking the
21 price in real terms. But that seems like perhaps
22 an overly simplistic approach.
23 I've x-d out the value index basis.
24 We're not going with the -- we're going down the
25 path of cost based.

1 So, once you've focused on the method of
2 adjusting the price, the question is when to
3 adjust the price. Several options are available
4 there. Do you create a periodic schedule so every
5 x years you would simply adjust prices downward?
6 Do you have a capacity-dependent block
7 trigger similar to the California Solar Initiative
8 where once a certain number of megawatts of each
9 technology had been put in the ground that's a
10 signal to the market that that price is viable and
11 that maybe it's time to move the prices down. So
12 we have some experience with that.
13 A third approach is to have a periodic
14 review. You'd have a timetable set up to consider
15 whether to either make a change or keep on
16 whichever trajectory you had decided.
17 And finally, a hybrid which might start
18 with a capacity-dependent revision schedule, but
19 acknowledge that at day one we don't have perfect
20 foresight. There may be some changes that we
21 could not have foreseen, and it may be appropriate
22 to review that from time to time.
23 The final adjusting price category here
24 is how much to address the price. The available
25 options include effectively setting a schedule

1 ahead of time using what we refer to as experience
2 curves. This takes into account information from
3 both the particular technology and technologies
4 more broadly, what is the rate at which we would
5 expect their cost to decrease over time and with
6 greater penetration. Or, alternatively, to take a
7 series of small uniform steps over time.
8 One of the issues with experience
9 curves, of course, is that they are
10 administratively determined and predictive. And
11 as with most things of that sort, they are
12 inevitably wrong, at least much of the time.
13 One option that was not presented in the
14 paper but that I thought I would mention here that
15 relates to adjusting the price is particular to
16 this point in history, when we have the federal
17 production tax credits slated to expire and we
18 don't really know, going forward, today whether
19 those tax credits will be extended, when they will
20 be extended, for how long they will be extended.
21 Or whether there would be fundamental changes in
22 their structure.
23 This uncertainty in production tax
24 credits has led to a well-documented boom-and-bust
25 cycle, particularly in the wind industry. And

it's possible that you could use feed-in tariff design to help address some of the issues here.

That uncertainty has been a barrier to many projects that are participating in solicitation processes, not just in California but all over the nation, when the timetable of contracting and development is beyond the current known expiration date.

This creates a lot of uncertainty and difficulty in projects being able to put forward firm prices. So, one could create a feed-in tariff that was a two-tier tariff. One set of prices if the production tax credit was in place, another set if it wasn't.

So the IEPR might wish to consider whether having something like that in place could take away one of the major logs in the road that has been slowing down momentum for a lot of projects.

Now the next slide here, supporting efficient T&D and supply portfolio planning.

CHAIRPERSON PFANNENSTIEL: Excuse me, Bob, --

MR. GRACE: Sure.

CHAIRPERSON PFANNENSTIEL: -- may I just

1 interrupt before we lose that, the last two
2 contexts about how you set the price and how you
3 reduce it.
4 You talk in the paper about the German
5 government sets the price; that they do so based
6 on some consultant input in terms of the
7 technology. How does the Spanish government and
8 the Danish government do that?
9 MR. GRACE: I would have to defer to my
10 colleague, Wilson, if he's still on the phone, who
11 headed up our research on that. Wilson, are you
12 out there?
13 MR. RICKERSON: I am. It's a bit more
14 complicated in the German system. In fact, we
15 know less about it than -- we could look into.
16 CHAIRPERSON PFANNENSTIEL: Okay.
17 Because it just seems to me that that was -- I
18 think, as we had discussed this previously, it was
19 sort of the assumption that some combination of
20 the PUC and the Energy Commission would get
21 together and decide what that price would be. And
22 so I just wanted to know if that's generally the
23 standard practice.
24 And sort of the same with the reducing
25 the price over time. You know, that would just be

1 a process, I assume, the government would have to
2 go through to decide what the trajectory would be
3 downward. I mean there isn't any special guidance
4 on that.
5 MR. GRACE: All of these approaches have
6 been taken and they all have their pros and cons.
7 One issue, I think, with the capacity-dependent
8 trigger, for example, is -- and this, again, is my
9 personal opinion, that that approach has a lot of
10 merit to it because the filling of a block is a
11 signal that the industry has been able to
12 successfully and profitably execute at a higher
13 price.
14 And so that should be a signal that if
15 the economics of the industry are doing what we
16 expect them to, that it would be time to take an
17 incremental step down.
18 So that one is one that may require
19 somewhat less analysis, especially --
20 CHAIRPERSON PFANNENSTIEL: Although it
21 does seem that that plays against the price
22 certainty that the developers would want, knowing
23 that they're coming on in a year, they're not sure
24 what that price would be in a year, because they
25 don't know how many of their competitors would

1 beat them --
2 MR. GRACE: Absolutely.
3 CHAIRPERSON PFANNENSTIEL: -- to the
4 punch.
5 MR. GRACE: And that's why when you go
6 down that path you are inevitably needing to deal
7 with some queuing procedures.
8 CHAIRPERSON PFANNENSTIEL: And, again,
9 do we have experience from Europeans to guide us
10 there?
11 MR. GRACE: Again, I would need to defer
12 to Wilson on the European experience details.
13 MR. RICKERSON: Am I still on?
14 CHAIRPERSON PFANNENSTIEL: Yes.
15 MR. GRACE: Yes, you are.
16 MR. RICKERSON: All right. Just
17 (inaudible) price settings, our colleague from
18 National Renewable Energy Lab, Toby Couture,
19 within the letter -- Spanish feed-in tariffs
20 (inaudible). And I was reading that.
21 What was the second question you had?
22 CHAIRPERSON PFANNENSTIEL: I was
23 wondering, the same question about stepping down
24 the price over time, whether the European
25 experiences can help us there.

1 MR. RICKERSON: Again, they've tried
2 several different approaches, including, you know,
3 the experience curve (inaudible) and just kind of
4 seeing how things go. And so we can look at each
5 one of those in great detail. Definitely.
6 CHAIRPERSON PFANNENSTIEL: Thank you.
7 MR. GRACE: Okay. So, now we're back on
8 the slide supporting efficient T&D and supply
9 portfolio planning.
10 These issues were really added and
11 addressed in the paper. It was important to
12 recognize that stakeholders had raised a number of
13 real issues of concern, some of them are really
14 renewables policy issue with or without a feed-in
15 tariff; and others are particular to
16 characteristics of a feed-in tariff as something
17 that's less planned than the RPS procurements.
18 But they, each recognize that it's
19 important to help make feed-in tariffs or not make
20 feed-in tariffs blind to their impact on the
21 system. So, we identified several different
22 issues here.
23 The possibility that you may wish to
24 incorporate design tariffs with a responsive
25 digression. In other words, when system issues

are identified either in the positive we could sure use more renewables in this area; or in the negative, our penetration of intermittent renewables in this area starting to become problematic with respect to integration issues of reliability.

You could effectively tweak the feed-in tariff prices to encourage generation with the highest system value by setting those tariff rates more aggressively and sending the price signals to encourage feed-in tariff there.

As well as discouraging generation with the lowest system value. So this could be applied really broadly to really replace or augment some of the least-cost/best-fit concepts. Or it could be applied on a very targeted basis.

Another issue is the concern that today, with the RPS solicitations, system planners can see what's coming and plan the wires and other T&D capabilities accordingly.

So in a feed-in tariff that's must-take, yes, there still needs to be interconnection notification. But there is a concern that there would be a lot less visibility to system planners.

And so it might be appropriate to

1 develop, in the feed-in tariff process, some form
2 of notification provision in order to provide
3 greater visibility of what's coming down the
4 pipeline as early as possible.
5 Further, and really taking this concept
6 a step further, even if you have projects that
7 have notified that they are in the development
8 pipeline because it's a must-take provision, those
9 projects may or may not ever materialize.
10 It might be helpful to provide system
11 planners with a reasonable level of certainty as
12 to what generation will ultimately interconnect
13 and when. And this means developing some manner
14 in which to solidify those commitments.
15 Or, alternatively, at least identify
16 nonperforming projects. If you have an open-ended
17 feed-in tariff where a project can simply even
18 notify early, but if it never materializes you
19 don't want to have the system overbuilt to
20 accommodate projects that don't show up. So,
21 again, here this may go to both queuing and
22 security provisions in order to manage that
23 concern.
24 And finally, expanding on that
25 particular topic, are there preoperational or

1 operating performance requirements that might be
2 necessary within tariff or contractually.
3 So, each of those issues, there are
4 tools available to help address some of the
5 concerns that were raised. And some of these
6 options are discussed at a conceptual level in the
7 paper.
8 As far as legislative issues go, the
9 paper included some discussion of the degree to
10 which additional legislation may or may not be
11 required. And so posed the question of whether
12 legislation would be required so that investor-
13 owned utilities could exceed the 20 percent RPS
14 that didn't serve as a cap on the expanded feed-in
15 tariff. I think the executive order that Mike
16 described earlier may get us part of the way
17 there.
18 In addition, the question was raised as
19 to whether legislation would be required to give
20 the CPUC or the Energy Commission authority to
21 require feed-in tariffs for up to 20 megawatts,
22 expand the RPS past 20 percent, authorize cost-
23 based as opposed to the currently authorized MPR-
24 based tariffs. And specifically with respect to
25 the recently passed SB-380 to provide the CPUC

1 with authority to implement the feed-in tariff
2 that would exceed 1.5 megawatts, be cost-based,
3 and exceed potentially a statewide cap of 500
4 megawatts.
5 Another question, an issue that was
6 identified in the European best practices
7 assessment was that statewide, or national in the
8 European case, statewide here, cost reallocation
9 was deemed a best practice.
10 And here in California the question
11 would be raised this would be important under a
12 subset of conditions. It may or may not be
13 desirable, but if you have a situation which
14 caused, say, one of the utilities to be exceeding
15 its targets while the others were lagging behind,
16 there's a reallocation of the cost or the RECs may
17 be something worth considering.
18 In addition, if there's a really
19 disproportionate cost impact to one utility over
20 another, some degree of reallocation may be worth
21 considering. And finally, if there's a uneven or
22 disproportionate impact in terms of integration
23 costs.
24 All of those would be reasons to
25 consider a redistribution of the cost and

1 legislation may be required to accommodate that
2 relative to where we stand today.
3 And finally, the issue of making the
4 feed-in tariff statewide available to any
5 generator regardless of where located in
6 California, would legislation be required to
7 create an opportunity for generation that would be
8 located in publicly owned utility territory. May
9 require statutory activity.
10 Finally, the noncore policy issues and
11 implementation level issues would need to be
12 addressed. These are all laid out in the paper in
13 table 4. The noncore issues have to do with
14 generation eligibility as a function of location.
15 Generally address issues for generation that is
16 not located in an IOU territory.
17 Some of the price-setting details. How
18 would you establish the appropriate profit level
19 that goes into the cost basis of feed-in tariffs;
20 and the degree to which you would make an
21 individual tariff aggressive or conservative are
22 some of the choices to be made.
23 There are a number of interconnection
24 issues. Most of the issues are fairly well
25 understood, but there may be some opportunities

1 for streamlining or modifying some of the
2 parameters and structures that are in place
3 today. Those choices are laid out in the
4 first paper.
5 What is being purchased? Is this a
6 fully bundled purchase, RECs, energy, all avoided
7 emissions or does the feed-in tariff account for
8 and procure a subset of those unbundled
9 characteristics now that we're moving down a path
10 of allowing unbundling?
11 Again, cost allocation and distribution.
12 We already talked about why you would do that, and
13 so there are decisions to be made there of whether
14 and how.
15 Integration into the power supply of the
16 utilities. If there is reallocation, would you
17 have all of the power incorporated into the power
18 supply of the interconnecting utility? Or would
19 some of the electricity be rerouted, reallocated,
20 either among utilities or even to the other load-
21 serving entities, the community choice aggregators
22 and ESPs?
23 And finally, some of the development
24 security requirements, particularly as they may
25 relate to queuing procedures which may be

1 necessary. Anytime you're going to be dropping
2 the price over time you will have a desire by
3 generators to rush to get in at the higher prices.
4 And then there are a number of
5 implementation details, some of the operational
6 security requirements, if at all, some of the
7 management and oversight decisions. Would there
8 be changes to rule 21 to further streamline I
9 think in the 10 to 20 megawatt range. And again,
10 just defining some of the queuing procedures.
11 So, that is where the current draft of
12 the second paper has brought us to.
13 And I am happy to take any questions.
14 Thank you.
15 COMMISSIONER DOUGLAS: Any questions?
16 COMMISSIONER BYRON: Mr. Grace, good
17 presentation. And I think, as I said earlier, I
18 think KEMA's done a very good job on these
19 reports.
20 I'm going to go back to your slide 24 --
21 I'm sorry, I think it's 24. No need for you to,
22 I'll just read from it. One of the key takeaways
23 was strong support for option number six with
24 limited dissent.
25 And I'm not sure I'd characterize it

1 that way. As I read some comments there was some
2 pretty significant comments, a number from the
3 investor-owned utilities, around concerns about
4 reliability, doing potential harm to the existing
5 RFO process. There were some implicit concerns
6 about cost to consumers.
7 I thought there was some good comments
8 from Constellation about concern that a feed-in
9 tariff would stifle competition and innovation.
10 So, let me ask you this. Is there
11 anything else that you included in your report
12 that addresses some of these concerns?
13 MR. GRACE: Excellent observation.
14 First of all, I think what was meant by limited
15 dissent I think was limited in the number of
16 stakeholders. For the most part I think you've
17 accurately touched on the parties that addressed
18 concerns, many of them quite valid and reasonable.
19 As far as the reliability-related
20 concerns, a number of those we did attempt to
21 address in some of the issues that were on slide
22 30 that were discussed, really recognizing that
23 these issues are valid and real, although
24 potentially, in some cases accurate, and in some
25 cases perhaps overstated.

1 But that it's appropriate to consider
2 all of these issues and look to come up with
3 specific design tactics to best address and
4 accommodate those.
5 So the report does, within this section
6 of the report on supporting efficient T&D and
7 supply portfolio planning, address those issues.
8 As far as the interaction with the RPS
9 RFOs there was in, I believe it's chapter six,
10 some additional language that addressed those
11 concerns explicitly.
12 In considering those concerns I think we
13 came to the tentative conclusion that for
14 generation under 20 megawatts there really wasn't
15 much of a concern of interaction since the vast
16 majority of RFO responses were for projects
17 greater than 20 megawatts.
18 So we're not completely, but largely,
19 with usually exclusive sets. So therefore the
20 interaction concerns would be minor, if any.
21 And the concerns that were raised really
22 would be more material if the Commission were to
23 move forward and implement feed-in tariffs for
24 projects in excess of 20 megawatts.
25 Now, in that case the paper laid out a

1 couple of different perspectives. There are
2 situations in which the design details really
3 matter quite a bit here. The timing, the nature
4 of the tariffs at the level of their prices would
5 really ultimately dictate the degree to which
6 there were interactions of concern or not.
7 And so it's difficult to address those
8 in specific without having greater detail. So the
9 report kind of laid out at a high level
10 conceptually the situations under which there may
11 or may not be concerns. And provided some
12 guidance for that consideration.
13 I think once there is greater flesh on
14 the bones for some of the design details it will
15 be quite appropriate to then look very
16 specifically at, given this strawman, what are the
17 potential interactions of concern.
18 COMMISSIONER BYRON: Good answers, thank
19 you.
20 COMMISSIONER DOUGLAS: Other questions?
21 No? Okay, well, thank you very much.
22 MR. LEAON: All right, let's see if we
23 can get Wilson's presentation queued up. And,
24 Wilson, if we still are having problems what we
25 can do is run the slides here, if we're still

1 having challenges with giving you control.
2 MR. RICKERSON: Okay.
3 (Pause.)
4 MR. RICKERSON: Are we online?
5 MR. JOHNSON: Just a second. Just a
6 clarifying thing. We inadvertently put up, made
7 copies, and also in your binders, a presentation
8 that was not this one. And we will be providing
9 you with copies and put them on the table.
10 We've got it already, okay. We'll make
11 copies for everybody out in the back and they'll
12 be available later.
13 So we'll be going with Wilson's
14 presentation now.
15 MR. JOHNSON: Go ahead, Wilson.
16 MR. RICKERSON: So (inaudible) start
17 statement one?
18 MR. JOHNSON: Yes.
19 MR. RICKERSON: All right. Then I'll
20 start about these big brown blobs, as I understand
21 it was earlier one. We're going to go ahead and
22 move into the presentation here.
23 To kind of put everything that Bob was
24 talking about in context, we started these
25 proceedings back in June. We flashed this map of

1 Europe to just kind of show what else is going on
2 around the world and what were some of the best
3 practices we were reviewing, or at least practices
4 we were reviewing both in Europe and elsewhere
5 around the world.
6 Since -- October renewable energy
7 policymaking around the world, specifically as it
8 relates to feed-in tariffs, has remained fairly
9 dynamic. The green countries here around the
10 periphery of the EU are those that have added
11 feed-in tariffs within the last three, four or
12 five months, in addition to the -- EU that already
13 had feed-in tariffs in place.
14 Next slide. Of those Israel and
15 Switzerland were two of the most recent. And
16 their feed-in tariffs were similar in structure to
17 Germany's, being cost-based and technology-
18 differentiated.
19 Both the Ukraine and Algeria also
20 recently passed feed-in tariffs. And South Africa
21 recently announced just a few weeks ago that it,
22 too, is exploring feed-in tariffs.
23 So it seems a continual spread and
24 diffusion of feed-in tariffs around the world.
25 And it seems to continue to be the most prevalent

1 national renewable energy policy out there.
2 Of course, with a myriad of different
3 designs, not all of them like Germany's or Spain's
4 or France's, for example.
5 At the same time we've seen new feed-in
6 tariffs. We've also seen existing feed-in tariffs
7 be adjusted. There have been several high-level
8 announcements over the past several months about
9 solar adjustments, in particular.
10 Spain, as we mentioned at the last
11 workshop, actually reduced its solar feed-in
12 tariff levels after it significantly exceeded its
13 solar energy targets.
14 In the same timeframe Germany actually
15 also increased the rate of its feed-in tariff
16 decline. So Germany's feed-in tariffs, the rate
17 that you lock into declines each year. And it has
18 previously been on about a 5 percent or 6.5
19 percent annual decline. But they accelerated that
20 a little while ago to take into account the fact
21 that their solar energy markets there were moving
22 fairly rapidly, very rapidly.
23 Just last week, however, we saw, even as
24 Spain and Germany have been adjusting their feed-
25 in tariffs downward, France actually added a feed-

1 in tariff for solar power, specifically for
2 commercial generators doing higher than previous
3 rates.
4 So it will be interesting to see how
5 things continue to move in Europe. But many of
6 the adjustments have been focused primarily around
7 solar.
8 Another very interesting adjustment,
9 however, was that the United Kingdom, which has
10 been kind of the primary representative of
11 tradeable credit mechanisms, what's very similar
12 to a U.S. RPS, and they've actually led the EU
13 charge on going to a tradeable credit system PV-
14 wide, just, I guess in the last few weeks again,
15 the U.K. now is going to be switching from
16 tradeable credits to feed-in tariffs for at least
17 those 5 megawatts and under.
18 And so against this backdrop of
19 continual feed-in tariff policy development and
20 that -- and -- policy switching, we've also seen
21 decreased momentum for feed-in tariffs in the
22 United States.
23 Of course, that's not the only thing
24 we've seen since October, if you'd go to the next
25 slide. We also had elections with not a lot of

1 renewable energy industry stakeholders -- for
2 future development. President-Elect Obama
3 announced that as part of his platform he's
4 maintained that commitment to 10 percent renewable
5 electricity by 2012; and 25 percent by 2025. Not
6 only for electricity generation, but also
7 presumably he maintains his commitment to plug-in
8 hybrids, energy independence -- plug-in hybrids
9 and electrical vehicles, that 25 percent by 2025
10 will be more challenging to meet.
11 What's interesting right now is that
12 although we have the target, there is no mechanism
13 in place, or a mechanism that's been announced
14 publicly as to how we're going to get to this
15 future scenario.
16 And since the Obama campaign has been
17 one of new ideas, there's the potential that --
18 state level be what are some of those recent
19 developments and (inaudible) bill.
20 So, moving on to the next slide, we're
21 going to look out to what's been going on the U.S.
22 to date in terms of feed-in tariffs, if feed-in
23 tariffs are, in fact, one of the emerging new
24 renewable energy policy mechanisms, the last two
25 or three months, seeing they are, or at least

they're heavily under consideration.

So, at the federal level, as been mentioned in previous workshops, introduced a federal feed-in tariff, but it's not yet been voted on. And we're not really sure (inaudible).

Next slide. Although we haven't had progress at the federal level to date, at the state level we're seeing a sharp uptake in the number of feed-in tariffs being considered, feed-in tariffs being voted on or feed-in tariffs at least being talked about.

To date we've had six states introduce feed-in tariff legislation, and one -- and another 12 states have introduced it at least in terms of gubernatorial recommendations or regulatory proceedings. The concept is definitely on the table.

So we're going to go into each of those very quickly to bring it up to speed. Next slide, please.

The original round of feed-in tariffs that are out there look very similar to -- legislation, anyway, look similar to Germany's. They were cost-based and technology-differentiated. They were Michigan, Rhode Island,

1 Minnesota and Illinois. For wind and biomass they
2 range from 8 to 14 cents per kilowatt hour. And
3 for PV they range from 48 cents to 71 cents per
4 kilowatt hour. And -- 20-year contract. None of
5 these, however, have passed to date.
6 Next slide, please. In addition, bills
7 under the Michigan model, those are all look very
8 similar. Hawaii considered four separate bills
9 that were just specifically for PV, with a premium
10 rate of between 40 and 70 cents per kilowatt hour.
11 But, again, none of these passed, either, during
12 2006-2008 legislative sessions.
13 Next slide, please. That said, although
14 the legislation didn't pass, some of you have been
15 monitoring the news recently. The Hawaii utility
16 and the consumer advocates and the Governor --
17 Hawaiian clean energy initiative whereby they
18 agreed that -- the taxpayers, they would design
19 the feed-in tariffs to cover the renewable energy
20 costs of energy production -- unreasonable profit.
21 The last bullet there, these feed-in
22 tariffs will be developed by 2009. Significant
23 about this, they also spelled out in the agreement
24 that the State of Hawaii -- benefits of oil
25 imports, increasing energy security, increasing

1 both jobs and tax base to the state, exceeded the
2 potential -- would exceed the potential
3 incremental paid for cost-based feed-in tariffs.
4 Also, to the question of how feed-in
5 tariffs interact in Hawaii, anyway they agreed the
6 utility purchases under feed-in tariffs would be
7 counted towards the utilities requirement.
8 So, that's what sort of action out
9 there, and also the Hawaii clean energy initiative
10 called for several recent gubernatorial
11 initiatives where they looked at feed-in tariffs.
12 Of course, Wisconsin, the Wisconsin
13 Governor's had (inaudible); recently came back
14 recommending feed-in tariffs for distributed
15 generators who were 15 megawatts and under.
16 Again, based on a specific production cost of each
17 particular generation technology, including a
18 return comparable to the utilities return.
19 Again, this year in Oregon, the
20 Governor's legislative proposal included a
21 suggestion to create a production incentive pilot
22 program that would pay for electricity produced by
23 a solar project. This would be limited to solar
24 projects, but they referenced it would be known,
25 also known as a feed-in tariff similar to those

1 that had been rolled out in Germany.
2 And finally, out of Virginia, and I was
3 surprised to see this, but the Virginia Governor's
4 Commission on Climate Change, the draft
5 recommendations recently included a feed-in tariff
6 feasibility study to see how a feed-in tariff
7 (inaudible).
8 All those things are what is currently
9 being discussed on the table. None of them, to
10 date, have actually been implemented or passed.
11 The one exception to all this so far is in
12 Gainesville, Florida.
13 They recently established a feed-in
14 tariff; it's going to be for PV only. They took a
15 cost-based approach to developing this feed-in
16 tariff. But they recognized that in light of the
17 federal production tax credit and other extended
18 federal and state levels, 26 cents per kilowatt
19 hour would be the appropriate level rather than
20 60, 70 cents we've seen in place elsewhere. The
21 26 cent per kilowatt hour was going to be
22 incremental (inaudible).
23 Unlike some, like Hawaii where the feed-
24 in tariff will be for -- generation, the feed-in
25 tariff in Gainesville will replace both the

1 municipal metering, and also replace net meters.
2 So 100 percent of the power would go into the
3 grid. And the feed-in tariff -- would be
4 available for -- the payments will last for 20
5 years.
6 Moving on to the next slide. The
7 (inaudible) the fact that they've actually
8 established a feed-in tariff (inaudible) feed-in
9 tariff is that they explicitly tied in the
10 experience of Aachen, Germany. And in 1993 was
11 the first German municipal utility to establish
12 a -- feed-in tariff, at $1.34 per kilowatt hour,
13 which was fairly high.
14 (Laughter.)
15 MR. RICKERSON: After Aachen, the next
16 slide was after the first feed-in tariff -- a
17 number of other municipal utilities around Germany
18 ultimately jumped onboard. And that model then --
19 the federal level in 2000 and 2004. By the time
20 that happened they were up to 60 municipal
21 utilities that had feed-in tariffs.
22 It's interesting, I think, primarily to
23 what happened in Florida. Also, beyond that,
24 (inaudible) but the Los Angeles Department of
25 Water and Power, the Mayor of Los Angeles recently

1 announced that they'd be developing a feed-in
2 tariff there for 150 megawatts of solar power.
3 What (inaudible) is yet to be determined.
4 So, moving on to conclusions on the last
5 slide here. We're definitely seeing diffusion in
6 feed-in tariff concept during this last 24 months,
7 not necessarily with its implementation, but
8 California is definitely not alone and (inaudible)
9 mutually exclusive. Today most feed-in tariffs,
10 feed-in tariff proposals, anyway, target their
11 technologies such a PV, -- or Hawaii, which has
12 legislation.
13 Specific sizes generally under 20
14 megawatts; under 15 megawatts proposals; under 10
15 megawatts. And there are certain ownership
16 structures like community ownerships, which you
17 saw the proposal for Minnesota.
18 And finally, this is something that
19 bubbled between the last workshop and this one,
20 probably the feed-in tariff dialogue is now taking
21 place in direct response to the credit crunch.
22 There have been some commentators who have said
23 are we for feed-in tariffs because of the
24 investor security they provide in a period where
25 on the one hand we've seen some -- financing and

1 interest rates creeping higher for financing
2 projects. Feed-in tariffs have been the closest
3 way to keep interest rates lower for project
4 financing because of the security of investors.
5 And secondly because they can be debt
6 financed, they are typically debt financed with
7 large, 80 percent or higher, debt financing. They
8 may be a stopgap measure for tax equity financing
9 situations. Where generally our federal policies,
10 especially for wind, have been very tax heavy, and
11 for solar have been very tax heavy and relied on
12 tax -- ventures and the tax financing.
13 With the credit crunch we've seen that
14 tax financing base shrink to some degree, so these
15 feed-in tariffs can help plug that hole, as an
16 alternative moving forward.
17 I think that's it for me at the moment.
18 Thanks very much.
19 COMMISSIONER BYRON: Quick question?
20 Mr. Rickerson, another excellent presentation.
21 Thank you. I wanted to make sure I understood
22 something correctly when you were talking about
23 the Gainesville, Florida approach.
24 MR. RICKERSON: Yes.
25 COMMISSIONER BYRON: I believe you said

1 it replaces net metering. So does that mean, and
2 maybe you said this and I just didn't grasp it,
3 does that mean they're getting credit for all the
4 PV they generate as renewable? And therefore
5 they --
6 MR. RICKERSON: Yeah, we've seen a
7 couple of different approaches to this in U.S.
8 proposals. Some, you know, you just get credit
9 for the excess; some propose some kind of premium
10 that rides on top of net metering.
11 In Gainesville it's you're connect --
12 100 percent of the time your PV system generates
13 gets credited with the 26 cents per kilowatt hour
14 payment because you do not get net metering. You
15 do not actually offset (inaudible).
16 COMMISSIONER BYRON: Interesting. Thank
17 you. A lot of new and interesting information you
18 provided in this presentation. I'm fearful that
19 California may be losing its leadership edge here
20 in this particular area.
21 So I turn to my PUC colleague, Mr.
22 Kinosian, and say we'd better get going here.
23 (Laughter.)
24 COMMISSIONER BYRON: We may be behind
25 soon. Thank you.

1 CHAIRPERSON PFANNENSTIEL: May I just
2 clarify something, though, just on that basis.
3 Other than Gainesville, Florida, is there anyplace
4 in the United States that's actually using feed-in
5 tariffs right now? I see that you have six states
6 where there is legislation. But are those
7 actually in effect right now?
8 MR. RICKERSON: No. California is the
9 only one with the current feed-in tariff for 1.5
10 megawatts and below.
11 CHAIRPERSON PFANNENSTIEL: All right.
12 And Gainesville, Florida?
13 MS. CORFEE: This is Karin --
14 MR. RICKERSON: I believe -- I think -
15 MS. CORFEE: Wilson, --
16 MR. RICKERSON: Go ahead.
17 MS. CORFEE: This is Karin Corfee. New
18 Mexico has a feed-in tariff.
19 CHAIRPERSON PFANNENSTIEL: And what are
20 the characteristics of that, do you know offhand?
21 MS. CORFEE: It's to purchase RECs for
22 small DG systems.
23 CHAIRPERSON PFANNENSTIEL: For small
24 systems, so it was under what size?
25 MS. CORFEE: Do you recall, Wilson?

1 MR. RICKERSON: I believe, was that the
2 PNMP --
3 MS. CORFEE: Yes.
4 MR. RICKERSON: -- I believe it's two
5 kilowatts and below.
6 MS. CORFEE: We can get back to you on
7 that, Jackie.
8 CHAIRPERSON PFANNENSTIEL: All right,
9 thanks very much.
10 MR. RICKERSON: There are definitely
11 some around the U.S. where there are fixed price
12 contracts in place such as PNM or Wisconsin Energy
13 had 22 cents per kilowatt hour purchase for that
14 green power program.
15 There are several other things you can
16 point to (inaudible) discussed.
17 CHAIRPERSON PFANNENSTIEL: They look a
18 lot like feed-in tariffs but they may not actually
19 be the same as what we're talking about?
20 MR. RICKERSON: Correct.
21 MS. CORFEE: In New Mexico they're
22 paying 13 cents per kilowatt hour, and it's really
23 a mechanism to purchase RECs to comply with their
24 DG carve-out under their RPS.
25 CHAIRPERSON PFANNENSTIEL: All

technologies at 13 cents?

MS. CORFEE: I believe it's PV, and I'd have to get back to you on that.

CHAIRPERSON PFANNENSTIEL: All right, thanks.

MS. CORFEE: And the other comment is Hawaii is moving there very fast, and we're likely to see feed-in tariff policy and tariffs established by July 2009. That's their timeline at this point in time.

MR. LEAON: Okay, thank you, Wilson. This is Mike Leaon. We're scheduled to break for lunch at this point, but if the -- Commissioner Douglas, if you'd like to propose an amendment to that schedule, we're certainly open to that.

COMMISSIONER DOUGLAS: Well, let's break for lunch now. And should we give lunch a full hour, or should we cut lunch short by the ten minutes that we've --

CHAIRPERSON PFANNENSTIEL: Well, I think the schedule had us coming back at 12:45.

MR. LEAON: Yes.

COMMISSIONER DOUGLAS: Oh, perfect. Well, let's come back at 12:45.

MR. LEAON: All right, we will break for

1 lunch and reconvene at 12:45 and move to the
2 stakeholder comment period at that time.
3 (Whereupon, at 11:40 a.m., the workshop
4 was adjourned, to reconvene at 12:45
5 p.m., this same day.)
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1 AFTERNOON SESSION

2 12:50 p.m.

3 MR. LEAON: This is the California feed-

4 in tariff design and policy options workshop. We

5 are moving towards the stakeholder comment period.

6 And, again, as far as protocol, in the room we'll

7 start with blue cards. So if you have blue cards,

8 if you'd like to make a comment, if you could get

9 those filled out and turn those in, we'll get you

10 in the queue for blue cards.

11 After we get through the blue cards in

12 the room we'll then see if we have any questions

13 submitted via email or through chat via WebEx.

14 And lastly, we will open up the phone lines to see

15 if we have any folks on the phone that would like

16 to make comment.

17 And with that, I'd like to turn it over

18 to our Chairperson, Karen Douglas, to kick off the

19 stakeholder portion of the workshop.

20 COMMISSIONER DOUGLAS: Thank you very

21 much. So far I have four blue cards. And the

22 first one is Ray Pingle of the Sierra Club.

23 MR. PINGLE: Thank you, Madam Chair,

24 Commissioners and others. My name is Ray Pingle

25 and I'm a volunteer representative of the Sierra

1 Club California.
2 We do support the tremendous effort
3 that's gone into this program. And we do support
4 the policy path six with one notable exception.
5 And that is the 20 megawatt cap on project size.
6 So we recommend that there be no cap on
7 project size. It would be unlimited project size.
8 And, of course, there's a lot of reasons
9 for us supporting this, but our most important
10 objective for doing all of this is to hit the 33
11 percent objective by 2020. We failed with the RPS
12 standard, we're three years behind. And now --
13 which was, in one sense, kind of a timid approach
14 that's not been successful. And now we're taking
15 another timid approach.
16 Time is not on our side. We see every
17 day, we read the paper, I just read yesterday huge
18 sections of Antarctic ice are breaking away. Some
19 of the things we're experiencing is that global
20 warming is progressing at a more rapid rate than
21 the UN IPCC had forecast. Even their worst
22 scenario. So time is not on our side. We've
23 really got to get after this.
24 I think Governor Schwarzenegger is to be
25 highly commended for taking a very bold step. And

1 everything he's done with AB-32 with his recent
2 executive order on the 33 percent standard. And
3 he's done that because he recognizes the magnitude
4 and the urgency of us getting after this problem
5 and solving this problem.
6 On the one hand it might seem like this
7 approach of going small, getting our feet wet,
8 learning how this works, and then maybe we can
9 remove the caps later is a rational approach, but
10 I would argue it's not a rational approach.
11 Because I think it's going to increase our
12 probability of failure.
13 And I think basically going faster
14 certainly has some risk associated with it.
15 There's no doubt about that. But I think the
16 choice that we face is going faster, maybe having
17 some marginally suboptimal results in some senses,
18 but ultimately succeeding as opposed to taking a
19 lower risk but failure-prone approach.
20 There's many positive economic effects
21 to an unlimited cap system. One is that it would
22 allow us to obviously put larger, more cost
23 effective projects into the mix, keeping the
24 overall costs lower. It would also help
25 accelerate the production of more kinds of scale

1 for more cost effective manufacturing,
2 installation of renewables, and for improving the
3 technology curve. So get more cost effective
4 things online sooner.
5 As Commissioner Byron mentioned, it
6 appears from the earlier presentation we're not
7 leading on this. You know, I think we have the
8 potential. I was at a CARB meeting a couple weeks
9 ago, fantastic things California's doing, but the
10 fact is we're not leading in many areas. We have
11 the potential to, but we won't achieve that
12 leadership position and accelerate that position
13 without being bold and taking some risk to move
14 forward quickly.
15 And I think it also can affect our
16 economy in a lot of ways. Obviously if we can be
17 bold and we can move forward quickly, it'll
18 attract more and more green industry to the State
19 of California, to the extent that we can be
20 effective in our large economy and in our
21 leadership role in the country and the world.
22 We can mitigate some of the other global
23 warming that will occur, which will mitigate some
24 of the costs associated with adaption to global
25 warming. So I think there's a lot of benefits

there.

And I think especially one example of having an unlimited cap will promote larger thermal solar projects which have the potential of using thermal storage capabilities which would mitigate some of the intermittency of some of the projects that we're trying to do.

So, for all these reasons and many more, I won't take too much more time, I really think it's critical. And I think it's going to take leadership, a willingness to take a little bit more risk to do what's the right thing so we can succeed on our overall objective there.

I've got two other quick points I wanted to make. One is that we want the projects as they're implemented to be sensitive to environmental values. Certainly environmental reviews are one of the things that we'll have to look at on how we can streamline those. But we still have to be cognizant of preserving our environmental values, not destroying wildlife habitat, some of the most beautiful areas in the state and so on.

Secondly and lastly is to look at those kinds of projects that we're defining as

1 renewable, and are they truly renewable; are they
2 sustainable; have they been manufactured in an
3 environmentally sensitive way; or are they adding
4 to the problem.
5 So, for example, photovoltaic cell
6 manufacturers. They use highly toxic products;
7 waste a lot of resources in their manufacture;
8 should not be qualified as, you know, renewable
9 for this program.
10 Things like the Geysers project in
11 northern Napa where they create a geothermal
12 project, but they let the steam evaporate and
13 vented to the atmosphere, which added toxicity.
14 Lost all that steam, now they're having to pump
15 water back in there, as opposed to designing a
16 closed-loop system.
17 So I know this is a detail area, but
18 just wanted to get on the record that as you move
19 forward to be careful in defining what qualifies
20 as a renewable type project.
21 So, those are my comments. Thank you
22 very much for the opportunity.
23 COMMISSIONER DOUGLAS: Thank you, Mr.
24 Pingle.
25 Our next speaker is Steven Kelly of IEP.

1 MR. KELLY: Thank you, Commissioner
2 Douglas and Commissioners Byron and Pfannenstiel.
3 I wanted to talk about next steps, as well,
4 following up on the last speaker's comments.
5 IEP has been an organization that has
6 been a strong supporter of open, transparent,
7 competitive procurement processes. And we still
8 maintain that position, particularly if they're
9 working well.
10 But we do have some concerns about the
11 performance of the RPS over the last seven or
12 eight years, which has been primarily a
13 procurement-oriented tool for bringing on new
14 renewables.
15 And we actually do think now that it is
16 timely to be looking at a feed-in tariff for
17 renewables. And particularly renewables that are
18 sized above 20 megawatts.
19 And I encourage you to be looking at
20 this in the IEPR process for next year. I would
21 like to see a robust debate about that issue and
22 the programmatic mechanisms to implement that tool
23 in the first quarter of 2009 so that we can get
24 started in the discussion.
25 If it turns out that the procurement

1 process that's in place today, that it primarily
2 RFO-based, proves successful and actually
3 resulting in interconnected generation, and that's
4 the way that we measure success. If it proves
5 that that's moving forward, we'd be relatively
6 comfortable with that mechanism. But there is not
7 a lot of proof today that that mechanism is
8 resulting in renewables that are being
9 interconnected.
10 And one of the advantages to a feed-in
11 tariff, as you're well aware, is that the
12 definition of success in there is generation that
13 can be interconnected.
14 And the payment mechanisms and all the
15 other things that we talk about that are complex
16 and need to be worked out are secondary to the
17 recognition that it's what you're going to do once
18 generation gets interconnected. And we can move
19 off the debate hopefully about the potential for
20 speculative phantom projects.
21 So I would encourage you, as soon as
22 possible, and certainly hopefully in the first
23 quarter of 2009, to expand your perspective on the
24 role of the feed-in tariff to include the
25 generation that it could exceed 20 megawatts, and

1 bring that into the discussion fold for purposes
2 of analysis.
3 I think program design is obviously
4 going to be key. And I think if the KEMA reports
5 identifies a number of important issues, that
6 we're prepared to work with you on in 2009, if you
7 choose to put that on your agenda. We've got some
8 ideas on how this could work, be perhaps more
9 effective. And work for the consumers, the
10 ratepayers, as well as the state in terms of
11 meeting its RPS goals.
12 But importantly, because it might take
13 one to two years to actually get that kind of
14 policy tool in place, particularly in coordination
15 with the Public Utilities Commission, in
16 coordination with the municipal utilities, we
17 think that the work needs to start sooner rather
18 than later.
19 And that might help send some of our
20 signals to both buyers and sellers about where the
21 state is heading. And hopefully even the
22 procurement process may improve because of those
23 signals that we send.
24 I do have a couple issues that I would
25 put on your plate that you might consider as we

1 move forward and have that discussion. One is --
2 and this goes back to actually the report that was
3 on the topic of presentation this morning about
4 some of the key issues.
5 One of the policy drivers that I think
6 is missing from the report discussed today, and
7 certainly needs to be talked about, is the need
8 for regulatory certainty. Whatever program the
9 state moves forward on in terms of feed-in tariff
10 or whatever, we need to be cognizant of the need
11 to send relatively stable policy signals to the
12 development community so that they can start
13 getting the financing, designing the projects,
14 with some assurance that the program is not going
15 to be dramatically changed over time.
16 We have a 2020 goal of 20 percent. It
17 might be 33 percent soon. Which gives us an
18 opportunity of about 12 years. But what's really
19 needed is stability there from a policy
20 perspective to show people certainly where you're
21 going and where you're going to end up.
22 Secondly, I want to make the observation
23 that in the design and implementation of a feed-in
24 tariff I think it's important to not wait until
25 new transmission is built before we start

1 designing this thing.
2 The focus of a feed-in tariff is to pay
3 generation when they become interconnected. That
4 interconnection is a function of existing
5 transmission.
6 There's a lot of concerns about
7 integration costs and the cost of integrating
8 renewables, but almost by definition in a feed-in
9 tariff you are integrating by -- interconnecting
10 by using available transmission capacity.
11 We have a lot of discussions going on in
12 the RETI process about new transmission, and
13 that's well and good. I actually am participating
14 in that. But there's available transmission today
15 that might be able to benefit from a feed-in
16 tariff.
17 And the recognition that they can only
18 take available transmission capacity to begin
19 with, it might be a tool if we implemented it
20 prior to the new transmission being built to
21 actually maximize the utilization of the existing
22 infrastructure today while we build the new
23 transmission.
24 Likewise, in a similar vein, I think
25 it's important that we have the new generation

1 coming online at the time that the new
2 transmission is being developed, so we don't
3 sequence this so that we actually build
4 transmission that takes five to seven years, and
5 then we go out to buy the renewables that are
6 going to backfill that kind of transmission. I
7 think this can be kind of a parallel mechanism in
8 some sense, and a policy tool, to make those come
9 together in a more coincident timeframe so we
10 don't waste time in bringing the renewables onto
11 the grid to meet the RPS goals.
12 Third, I'd just say that, and reiterate
13 the point that only generation that is built is
14 going to take advantage of a feed-in tariff.
15 That's something a little different than the
16 paradigm that we have today where the RPS is
17 pretty much contingent on contracts being
18 executed. But there's no real certainty whether
19 the generation is actually going to be built or
20 not.
21 We've been an advocate for
22 incorporating, in a transparent fashion,
23 milestones and reliability, or viability criteria
24 in our process. But one of the advantages of a
25 feed-in tariff is that somebody's got to be built

1 before they actually get paid, under that design,
2 and interconnected at whatever rate the state
3 establishes.
4 So there's an advantage there, I think.
5 And I don't think the Commission needs to be
6 concerned at this point early in the game of over-
7 building the system.
8 And finally, I've heard comments about
9 integration issues and integration costs, and
10 certainly the integration of renewables is
11 something that, from a grid-planning perspective,
12 needs to be taken into consideration. And I think
13 it is today. Certainly the ISO is focused on
14 that.
15 But I don't think there are any
16 integration issues that are insurmountable, that
17 would suggest that we have to pause today from
18 developing a policy tool like the feed-in tariff
19 because of potential integration concerns down the
20 road.
21 I'll just note that renewables have been
22 going backward as a percentage of retail sales
23 over the last few years. I think we started at 12
24 percent, we're now at 11. Most reports that I've
25 read suggest that integration issues, from a

1 system-operations perspective don't arise until
2 you reach 20, 25 percent. Xcel had a big study
3 that suggested that.
4 Which would mean we'd have to double the
5 renewables we have installed today before we start
6 to see those problems emerge from a planning and
7 operational perspective.
8 We have plenty of cushion time now at
9 the rate people are developing projects to deal
10 with those issues down the road. And I don't
11 think they should be -- are insurmountable.
12 So, those are the comments that I have
13 now. We look forward to working with you in 2009
14 hopefully in the IEPR, if that's your pleasure, on
15 the specific design issues that might be afforded
16 electric generation up to 20 megawatts, and then
17 beyond in order to meet the RPS goals.
18 And I'd be happy to answer any questions
19 if you have any.
20 COMMISSIONER BYRON: Mr. Kelly, I always
21 get a lot out of your comments. I'm not sure, did
22 we see any in writing for any of this time,
23 because I may have missed them if we did.
24 MR. KELLY: You did not. I actually was
25 hoping to be at your October 1 workshop, but I was

1 out of the country. And I have not -- here I am.
2 If you need something in writing we'll be able to
3 put something together very quickly.
4 COMMISSIONER BYRON: Well, it's always
5 valuable because everybody gets to see them and
6 read them that way.
7 MR. KELLY: Okay.
8 COMMISSIONER BYRON: But I got the gist
9 of what you're saying and it's very helpful. I
10 don't have any further questions.
11 COMMISSIONER DOUGLAS: Please.
12 MR. KINOSIAN: Good afternoon, Steve.
13 I've dealt with you a lot on QF issues, so I just
14 had to ask the question. How do you see feed-in
15 tariffs overlaying with QF contracts going
16 forward?
17 MR. KELLY: Many of the QF contracts are
18 going to terminate over the next four to five
19 years. I think something like 80 percent of the
20 existing QF contracts will terminate.
21 Either the IOUs will enter into
22 bilateral contracts with those terminated
23 contracts, or those entities are going to have to
24 have a place to go.
25 Now, they're already on the system. And

they already are using available transmission capacity. So, as a practical matter, I don't really see the feed-in tariff, per se, having a physical issue with existing infrastructure for renewables.

It could be a tool that existing renewables that no longer have contracts would be able to sell to the state; because they're energized you don't need new transmission.

I think a lot of renewables, if they're prudent and operating under the existing contracts today, are probably looking four or five years down the road and thinking about what they can do with their energy capacity and renewable attributes.

And since you've raised the issue, there are problems with the existing QF structure at the PUC that are there today, retroactive payment -- treatment of payments to QFs is a huge problem from a business perspective. And I would be surprised if that were in place from the business side of existing renewable infrastructure that they would want to re-up contracts with the utilities under that present structure implemented by the PUC.

1 So, this kind of structure of a feed-in
2 tariff is going to create a helpful alternative to
3 them, I believe.
4 MR. KINOSIAN: I guess what I'd really
5 like to hear is the Public Utilities Commission
6 has required utilities to sign standard offer
7 contracts, --
8 MR. KELLY: Yeah.
9 MR. KINOSIAN: -- which are not that --
10 it's not that dissimilar, I think, from requiring
11 a feed-in tariff. I guess I'm just wondering, in
12 your view, do you think a feed-in tariff is a
13 better way to go in terms of a must-take
14 requirement the QF contracts?
15 MR. KELLY: Yes.
16 MR. KINOSIAN: And if so, why?
17 MR. KELLY: Yes, I think it is. The
18 existing contracts that the Commission has in
19 front of them today for QFs, whether they're from
20 expiring contracts or new QFs, at this point in
21 time look to have a opportunity for the utilities
22 to look back on the payment structure and claw
23 back on some of the revenue streams under the
24 retroactivity thing. That applies as a broad PUC
25 policy to any QFs.

1 Under that structure I don't see any QFs
2 or CHPs, for example, signing up under those
3 deals. Because it's too uncertain about what your
4 revenue stream is going to be.
5 The feed-in tariff would become an
6 alternative to that, and would be a much more
7 attractive alternative, I think, for existing QFs.
8 MR. KINOSIAN: Okay, thank you.
9 COMMISSIONER DOUGLAS: Thank you very
10 much.
11 MR. KELLY: Sure.
12 COMMISSIONER DOUGLAS: The next blue
13 card I have is from Dan Patry of PG&E.
14 MR. PATRY: Good afternoon. My name's
15 Dan Patry. I'm the State Agency Relations
16 representative with PG&E. PG&E wishes to thank
17 the Commissioners, Staff and consultants for the
18 opportunity to speak today regarding feed-in
19 tariffs.
20 I was hoping to pose a few questions to
21 Mr. Grace and/or Mr. Rickerson regarding their
22 work if that's okay.
23 Their work provides a number of options
24 within policy path six, and given your consulting
25 experience, what would work best among these

1 options both from European experience in the
2 prevention of influence from market players.
3 Essentially, what's your vision of the methodology
4 by which developer cost would be ascertained, and
5 how we might assure a fair target?
6 MR. GRACE: Wilson, are you out there?
7 MR. RICKERSON: I am.
8 MR. GRACE: Okay. Just to make sure I'm
9 understanding the question, then, are you focusing
10 at this point on the process of establishing the
11 price, the initial establishment of a price?
12 MR. PATRY: Yes.
13 MR. GRACE: Wilson, why don't you start
14 by talking about the European experience, and let
15 me follow up with some specific thoughts here on
16 the California perspective.
17 MR. RICKERSON: You mean how they've set
18 the price thus far?
19 MR. GRACE: And what you see from that
20 experience best translating here.
21 MR. RICKERSON: Actually, I'm sorry.
22 Maybe you could you restate the question one more
23 time. You want to know what the European
24 experience, as it has been thus far as it relates
25 to the options we've laid out? Or what that

1 experience then has good, or what are we getting
2 at?
3 MR. PATRY: That, and then essentially
4 what I'm trying to understand from your
5 consultant's perspective here, what the
6 methodology would be. Sure.
7 MR. RICKERSON: Sure. Which methodology
8 would be the best or --
9 MR. PATRY: Right. Correct.
10 MR. RICKERSON: -- to consider?
11 MR. PATRY: Correct.
12 MR. RICKERSON: So, you're talking about
13 the first part there, that a variety of different
14 approaches have been taken. The German
15 government, as I understand it, has worked with
16 its federal registry. In turn worked with both
17 their own data source and consultants who have
18 then tasked with (inaudible) answer.
19 I think in France there's a methodology
20 called the profitability index that (inaudible)
21 using, I believe. But also at one point,
22 (inaudible) using another alternative to get
23 there.
24 And, again, (inaudible) methodology
25 used. But there's several different methodologies

1 that have been tried.
2 I think ultimately the (inaudible) is
3 one of the most complex; and also because it rides
4 on what the consumer price index and also you have
5 the opportunity to switch over to the stock market
6 price plus a premium which is also determined
7 through, you know, one of the methodologies.
8 It's been very interesting (inaudible)
9 more than they expected and they've kind of had
10 their (inaudible) adjusted their solar prices
11 downward.
12 You know, I'm not sure at this point we
13 can say which one we'd probably do, but I'd
14 imagine that based on the recommendations thus
15 far, we would not do the Spanish method to get
16 there.
17 In terms of which one, the consultants
18 think we've personally not found it. We have much
19 -- this point. There are a variety of different
20 options that were laid out. You know, cross-
21 referencing a number of them could get really
22 close to a good answer.
23 I don't know, Bob, do you want to take
24 it from here?
25 MR. GRACE: Thank you, Wilson. I think

the specifics there are really beyond the scope of what we've wrestled with so far. But that being said, I think a process that has stakeholder input rather than one that doesn't is probably preferable. There's an awful lot of expertise in California to take advantage of. And, you know, a whole lot of good and valid perspectives.

So, I guess I have a slight preference in a situation in which there's some time urgency for getting to decisions, to start with a strawman and get a reaction to it, rather than take a process that would take a large degree of consensus to arrive at a starting place.

And so that would tend to narrow you down to a subset of the options that were laid out in the report and the presentation.

Within that I think we may have the opportunity to take slightly different approaches for different technologies. There's a lot of understanding of the cost of PV systems, for example, that could be built on and utilized as a starting point.

Whereas wind, for example, there are such strong scale economies and sensitivity to wind speeds and other factors that a more

1 analytical approach may be appropriate in there.
2 I think you're probably getting into some policy
3 decisions in terms of how aggressive or
4 conservative. It's hard to be completely divorced
5 from those decisions.
6 While there's been very little, if any,
7 experience in going down this path, I am
8 personally still intrigued by the opportunity to
9 find a subset of technologies where some kind of
10 initial competitive benchmark would be able to be
11 utilized. But, again, that's a -- there's been
12 very little industry experience to lean on to date
13 there. And so that's a concept that needs further
14 consideration.
15 MR. PATRY: Thank you. And on a related
16 note, do you have any suggestions as far as what
17 you think of the structure for development of
18 milestones would look like? You know, in terms of
19 what your opinion might be on development,
20 security, performance, assurances, delivery
21 obligations, things of that nature.
22 MR. GRACE: I think it's important to
23 have some degree of clarity and certainty, and the
24 queuing issues, especially, if we have a price
25 structure that will be dropping over time, are

very real.

I think the need to have some clarity and rigidity so that all parties understand the timetables that they have to work with is important, but flexibility is equally important. I think if we have projects that get to the point of 90 percent developed and are slightly delayed because of something that's beyond their control, to kick them out of the queue and send them back to the beginning is, I don't think, in anybody's best interest.

I have worked with the State of New York in coming up with a milestone structure that's used in their RPS central procurement, and variations of that has been recommended or being considered in a number of other states that I think incorporates a best practice in terms of pre-operational milestones where there would be increasing -- an opportunity to effectively extend a deadline by putting additional security on the table as something that will tend to sort out those projects that aren't real. And therefore, wouldn't be willing to put more capital at risk than those that are.

So, I would be inclined to focus on a

1 process that would have graduated requirements.
2 MR. PATRY: Thank you. We just wanted
3 to know for the record that we do agree with the
4 report's recommendations that legislation would be
5 one of the routes by which these measures would be
6 adopted. And if so, we do hope that feed-in
7 tariffs would be available for customers, for
8 POUs, as well as our use.
9 CHAIRPERSON PFANNENSTIEL: Mr. Patry,
10 does PG&E agree on a feed-in tariff for greater
11 than 20 megawatts?
12 MR. PATRY: Well, we'd have to refer
13 back to our streamlined RPS proposal that we
14 submitted to the CPUC recently.
15 CHAIRPERSON PFANNENSTIEL: I'm, sorry, I
16 didn't get a chance to review that. What did that
17 say relative to a greater than 20 megawatt feed-in
18 tariff?
19 MR. PATRY: Well, the 2009 RPS form PPA,
20 it would be offered year-round for renewable
21 generators of any size. Essentially the CPUC
22 would preapprove a contract that PG&E elected to
23 submit and does not modify this form PPA.
24 Essentially this would negate their
25 requirement to participate in the RFO process.

1 Essentially what it does, it cuts costs both on
2 the utility and the CPUC and the regulatory end.
3 So that's available for generators of
4 any size above 1.5.
5 CHAIRPERSON PFANNENSTIEL: The PPA would
6 be standard with the price being the same. And
7 would it be the same across all technologies?
8 MR. PATRY: You know, I'm not sure --
9 CHAIRPERSON PFANNENSTIEL: And all
10 sizes?
11 MR. PATRY: -- about that. We can --
12 CHAIRPERSON PFANNENSTIEL: You didn't
13 address that?
14 MR. PATRY: -- I understand it's an
15 issue. We can address it in our written comments.
16 CHAIRPERSON PFANNENSTIEL: Thank you.
17 COMMISSIONER BYRON: I'm not aware of
18 the proposal that you're discussing. How recent
19 is this?
20 MR. PATRY: It's within the last two
21 months, I believe, is when it was submitted to the
22 CPUC. I can run down a list of this pilot
23 proposal, if you'd like.
24 COMMISSIONER BYRON: I would.
25 MR. PATRY: Sure. It's essentially

1 streamlining our RPS pilot program. The
2 components are this: There's the form PPA that
3 would be offered year-round for renewable
4 generators of any size.
5 The CPUC would preapprove this contract.
6 The signed contracts requests will be accepted by
7 PG&E on a first-come/first-serve basis up to the
8 program cap of about 800 megawatt hours, which is
9 akin to about a 1 percent of retail sales.
10 The cap is limited in the first year,
11 and if PG&E reaches this cap it would submit
12 contracts for formal CPUC approval unless the CPUC
13 decides to increase the cap at a later date.
14 We would retain the right to reject
15 offer projects. And parties are encouraged to
16 submit contracts with prices at or below the MPR.
17 The project must commence operations
18 within five years of contract submittal. And no
19 modifications or re-negotiation of the PPA would
20 be accepted. It would be a standard offer.
21 CHAIRPERSON PFANNENSTIEL: So just to
22 make sure I understand. So it would not be at a
23 standard price, because you're asking for
24 contracts below MPR, so it's whatever people
25 want to --

1 MR. PATRY: That's my understanding.
2 COMMISSIONER BYRON: And what's the cap?
3 MR. PATRY: Eight hundred megawatt hours
4 a year, about 1 percent.
5 COMMISSIONER BYRON: Eight hundred
6 megawatt hours?
7 MR. PATRY: Oh, I'm sorry, gigawatt. My
8 apologies. Eight hundred gigawatt hours.
9 COMMISSIONER DOUGLAS: Thank you.
10 MR. PATRY: Thank you.
11 COMMISSIONER BYRON: Oh, since he asked
12 a few questions of the contractors, I was hoping
13 maybe I could ask a couple questions.
14 COMMISSIONER DOUGLAS: Absolutely.
15 COMMISSIONER BYRON: I was looking at
16 your comments earlier and, you know, I'm trying to
17 understand this also. And really my questions
18 precede my knowledge of this proposal that's been
19 made.
20 But, if I got it correctly it's at or
21 below MPR, capped 800 gigawatt hours, and, of
22 course, it's a power purchase agreement, it's a
23 contract.
24 MR. PATRY: Correct.
25 COMMISSIONER BYRON: But some of the

1 comments that you provided, or that your company
2 provided, you know, I don't know that it's worth
3 getting into the details on this, but one of the
4 concerns expressed by PG&E is that you have no --
5 that there be no incentive for anyone to bid lower
6 than the current MPR in an FIT.
7 Are you seeing bids in your current RFO
8 process that are below the MPR?
9 MR. PATRY: I'm not familiar at this
10 point if we do, but I --
11 COMMISSIONER BYRON: Just wondering how
12 realistic that is.
13 MR. PATRY: It's something we can look
14 into. We'll address it in our written comments.
15 COMMISSIONER BYRON: Forgive me one
16 second.
17 MR. PATRY: Sure.
18 COMMISSIONER BYRON: And this concern
19 that was expressed in comments about needing a cap
20 to avoid over-subscription, I believe, was the
21 term PG&E used. What are we worried about there?
22 Over-subscription. Why is over-subscription of
23 renewables, particularly when we're so far below
24 our goal, why is that a bad thing?
25 MR. PATRY: I'm not sure if I can -- I

1 think it's something we're going to have to
2 address in written comments. We're going to get
3 back to our subject matter experts and address it
4 there.
5 COMMISSIONER BYRON: I'll forego my
6 other questions, thank you.
7 MR. PATRY: Thank you very much.
8 COMMISSIONER DOUGLAS: The next card we
9 have is from John Kerrigan of LADWP.
10 MR. KERRIGAN: Thank you very much.
11 Appreciate all the hard work that's been done by
12 the Commissioners and the staff and the
13 consultants on this.
14 And we'd like to say we prefer that any
15 legislation does not include POUs, if possible,
16 regarding feed-in tariffs. And I know that
17 earlier we mentioned leadership on this, and Los
18 Angeles Department of Water and Power and the City
19 of Los Angeles has taken a leadership role with
20 regards to solar energy, starting with AB-2269,
21 which unfortunately was vetoed.
22 You probably heard the news today that
23 the Mayor has approved 150 megawatts of feed-in
24 tariff as part of an overall solar, what's called
25 a solar L.A. program, which we hope to put

1 forward.
2 The City of Los Angeles will be placing
3 an initiative on the March 2009 ballot that will
4 amend the Los Angeles Administrative Code to
5 authorize the creation of a Los Angeles Department
6 of Water and Power program to require production
7 of at least 400 megawatts solar energy by 2014.
8 This measure will also establish a jobs
9 program and training academy to meet program
10 participation demand and provide contract bid
11 preferences for local solar power equipment
12 manufacturers.
13 This is in addition to another customer
14 solar program of 380 megawatts by 2020. The 150
15 megawatts of feed-in tariff will be part of this
16 380.
17 We also have plans for large-scale solar
18 projects 500 megawatts, probably out in the
19 desert, which will require transmission, by 2020.
20 Now, we hope that with this 400
21 megawatts of local -- solar panels put on city
22 facilities, reservoirs, all sorts of areas, will
23 provide up to 440,000 permanent jobs and it'll
24 also be a $325 million investment, by 2016.
25 So, we are moving forward with this.

1 This will be a 1.3 gigawatts of solar energy that
2 we're looking to attain. And we have an overall
3 goal of 35 percent by 2020 for renewable energy.
4 And as we said in our previous comments,
5 we'd like to see more study done on feed-in
6 tariffs. There's been extensive study and your
7 work is very well appreciated by all of us. And
8 we'd like it better that we can have our own feed-
9 in tariff and not be subject to a statewide feed-
10 in tariff. But we still appreciate the merits of
11 the goal.
12 CHAIRPERSON PFANNENSTIEL: I'm sorry, I
13 did not see the announcement this morning, so
14 thank you for sharing it with us.
15 MR. KERRIGAN: No problem.
16 CHAIRPERSON PFANNENSTIEL: Tell me a
17 little more about the 150 megawatts feed-in
18 tariff. Is it any size? Did you say that, is
19 there a size limit?
20 MR. KERRIGAN: No, there's no size
21 limit. Let me -- excuse me if I get my notes on
22 it. The feed-in tariff, it will allow a solar
23 developer in the city to sell wholesale power
24 directly to LADWP through a long-term contract
25 between the private seller and LADWP.

1 These third-party sellers can take
2 advantage of tax incentives of 30 to 60 percent of
3 the installation costs. And after five to eight
4 years may choose from several options including
5 selling the solar systems to LADWP.
6 This is our -- the FIT goal is to
7 install 150 megawatts of solar systems by 2016.
8 CHAIRPERSON PFANNENSTIEL: I didn't hear
9 anything about the price, though. Now, what price
10 would they --
11 MR. KERRIGAN: Well, yeah, given all
12 available incentives and availability of tax
13 credits, volume discounts, enhanced performance
14 and technological innovations, economies of scale,
15 17 to 30 cents per kilowatt.
16 CHAIRPERSON PFANNENSTIEL: Seventeen to
17 30 cents per kilowatt.
18 MR. KERRIGAN: Correct.
19 CHAIRPERSON PFANNENSTIEL: And that
20 would be the same across all technologies? Or is
21 this just solar?
22 MR. KERRIGAN: This is just solar. This
23 is an estimate, of course.
24 CHAIRPERSON PFANNENSTIEL: It's an
25 estimate. So how would that be calculated?

1 Somebody's going to have to set that in order to
2 be a standard price, I assume.
3 MR. KERRIGAN: Yes. We have our solar
4 experts there, subject matter experts who gave it
5 quite a bit of study and review. And we're
6 hoping, we estimate that over time, as solar
7 technology advances, as new production methods
8 become available, greater economies of scale, that
9 this will bring the price within that range, which
10 is --
11 CHAIRPERSON PFANNENSTIEL: So, it will
12 start at -- the feed-in tariff would start at 30
13 cents a kilowatt hour, and then decline? I'm just
14 not understanding how it's working.
15 MR. KERRIGAN: That's the hope. That's
16 the hope.
17 COMMISSIONER DOUGLAS: But you have
18 decided that it will start at 30 cents a kilowatt
19 hour, or it's that there's a range and --
20 MR. KERRIGAN: That's the range, that's
21 what we estimate, given a perfect world, where all
22 the incentives are available.
23 CHAIRPERSON PFANNENSTIEL: When will it
24 start?
25 MR. KERRIGAN: I don't have a start date

on that. I will follow up in my comments, my written comments with more information. This is still being worked out, but this is our plan right now. The details have not all been worked out yet.

But one of the good things is, is that we've got it to the ballot in March, so the people of the City of Los Angeles can decide to pursue this.

COMMISSIONER DOUGLAS: And the ballot measure is necessary for the City to be able to implement this?

MR. KERRIGAN: This enables the Department of Water and Power to establish this program utilizing Power funds. And the L.A. Administrative Code has to be amended to be able to do this. And that's why it's on the ballot.

COMMISSIONER DOUGLAS: Is the City looking at a different price for solar thermal versus PV, or is it looking at one price?

MR. KERRIGAN: I have an estimate. Sorry, forgive me.

COMMISSIONER DOUGLAS: Well, this is all very interesting. Thank you for providing us the information that you've been able to provide us

1 today. We look forward to hearing more as details
2 are developed and --
3 MR. KERRIGAN: Okay, just -- just to
4 answer your question. With regards to solar
5 thermal, once again with all the wonderful
6 incentives and tax benefits and so-on and so-
7 forth, a capacity factor of 25 to 35 percent,
8 we're looking at 8.5 to 21 cents per kilowatt
9 hour.
10 COMMISSIONER DOUGLAS: Okay.
11 MR. KERRIGAN: Yeah, we have some big
12 ideas, too.
13 COMMISSIONER DOUGLAS: That's great.
14 We're glad to see you moving forward --
15 MR. KERRIGAN: Any questions?
16 COMMISSIONER DOUGLAS: -- on this issue.
17 MR. TUTT: Yes, I have a question. How
18 would you determine in any individual project
19 where it would fall within that range? Is that
20 figured out yet?
21 MR. KERRIGAN: No, it hasn't been. And
22 as the details unfold, as we move forward I can
23 probably get those details. The Mayor is very
24 determined to get to these goals. We're
25 definitely going to make that 35 percent by 2020.

1 And this is part of the overall picture of
2 reaching that goal. We're very determined and
3 we're very excited about this project going
4 forward.
5 COMMISSIONER BYRON: Thanks for being
6 here to share this new developing information with
7 us today. It is very interesting that LADWP is
8 making this transition. We certainly encourage
9 it.
10 MR. KERRIGAN: Thank you.
11 COMMISSIONER DOUGLAS: All right, the
12 next card I have is Mary Lynch with Constellation.
13 MS. LYNCH: Good afternoon. I'm Mary
14 Lynch with Constellation Energy Resources. I'm
15 very appreciative of this opportunity for these
16 few brief remarks, observations, as I listened to
17 the presentation this morning. And want to thank
18 Bob and his team, Bob an old colleague of mine
19 from many years ago, on the very thorough report
20 that they've submitted.
21 But I would like to offer a few comments
22 on an area where we think there has not yet been
23 enough analysis. And that is with respect to how
24 a feed-in tariff program is truly going to
25 interact with an RPS. And whether it is really

1 something that can work in tandem with it, or
2 whether it is an alternative.
3 And so I think the best way that I
4 thought of it as I was listening to the report
5 this morning was to tee up some additional
6 questions that we would offer perhaps need to be
7 answered before we continue down this path.
8 And that's first, do we have any
9 analysis of whether there have been any
10 jurisdictions that have had an RPS standard onto
11 which a feed-in tariff structure has been
12 overlain. I don't think that either Spain or
13 Germany has had an RPS of the type where entities
14 that are mandated to execute the tariffs and
15 administer the tariffs are also subject to an RPS
16 standard for the amount of energy that they're to
17 be delivering from renewable resources.
18 And so I don't think that we have any
19 good sense of what the interactions of these two
20 programs are going to be.
21 And we would suggest, Constellation
22 would suggest that that interaction is probably
23 not likely to be a very good one. It seems to us
24 that a program that is looking for investment to
25 come from two very different sources, one from a

1 competitive market source and one from a mandated
2 investment management source, is one that is
3 probably going to see the market-based one fall by
4 the wayside.
5 Investors will always look for the sure
6 investment and the regulated return type of
7 investment before they will be able to go out into
8 the marketplace and manage the risks associated
9 with those investments.
10 So we're not confident at all yet that
11 we know that an FIT program really will work side
12 by side with an RPS program, or whether it would
13 supplant it.
14 And this becomes particularly even more
15 acute if the FIT program is expanded beyond the
16 1.5 megawatt that it applies to now. But
17 particularly if it applies to something that's
18 bigger than 20 megawatts.
19 At that point we don't see that an RPS
20 solicitation has much meaning at all if we're
21 going to allow investors to submit -- or
22 developers I should say, to submit their projects
23 for tariff treatment, as opposed to an RFO. It's
24 hard for us to imagine how many developers would
25 be able to see their way clear to the risks

1 associated with a contract under an RFO as opposed
2 to a mandated tariff.
3 So it doesn't seem to us that those two
4 will co-exist peacefully. And neither one of them
5 is particularly supportive of competitive market
6 approaches. It seems to us that we have had
7 problems with the RPS, but most of those problems
8 seem to be rooted in the availability of
9 transmission. And the feed-in tariff, by its own
10 admission, throughout the areas where it's been
11 practiced, does nothing to solve the problems
12 associated with transmission.
13 So it seems to us that with the efforts
14 that are ongoing in that regard, and along with
15 some of the very real strides that we're making in
16 terms of market initiatives here in California, it
17 seems to us that the FIT approach is likely to be
18 a step backwards.
19 And some of those additional
20 improvements that I think will do more to enhance
21 RPS than would an FIT are things like the
22 establishment of the renewable energy credits,
23 which we think will bring a lot of transparency to
24 investment, a lot of transparency for entities
25 such as my company that serves retail load, in

1 order to allow them to actively participate in
2 this market.
3 That, along with proposed market-based
4 initiatives to meet greenhouse gas standards, as
5 well as the ongoing proceeding to reopen retail
6 access, which would bring a multiplicity of buyers
7 into this market, as well, we think are events
8 that should be given a chance to work before we go
9 layering on another element of command and control
10 techniques that are represented by feed-in
11 tariffs.
12 So, those are our comments. It's sort
13 of a threshold matter with respect to FITs. But
14 beyond that, I did want to also offer just a
15 couple of additional questions that perhaps get
16 down a bit more into the weeds.
17 If we are going to go down this path of
18 FITs, we need to think a little bit about how an
19 FIT -- well, one of the comments that we've heard
20 is that FITs would be very helpful in the 1 to 20
21 megawatt area -- space, because there's isn't a
22 lot of support, and we're not seeing a lot of that
23 in the RPS solicitations.
24 And while I will take that as a fact
25 that that's true, because I'm sure that it is

1 true, I think the comment that therefore this
2 won't impact the RPS is somewhat misplaced.
3 If all entities who have projects in
4 those 1. -- or in the zero to 20 megawatt space
5 are able to get tariffs to do that, we have to
6 step back and then say, how does that feed into
7 the RPS requirements. Are those going to be
8 megawatts taken off the top? And therefore what
9 the utilities are seeking in their RPS
10 solicitations are reduced by that amount?
11 This becomes particularly acute if the
12 program is not capped at any megawatts. Because
13 entities coming into the RPS solicitation are
14 going to have an additional risk that their
15 investments, their analysis of the supply side
16 dynamic can be undone by the number of megawatts
17 that come in through the FIT structure.
18 So, I think, from an implementation
19 standpoint, we have to think very carefully about
20 what those interactions are going to be to make
21 sure that if we really want both, if we want RPS
22 solicitations and we want FITs, we need to be
23 clear about how these two mechanisms are going to
24 interact.
25 And then finally the one issue that I

1 haven't heard discussed at all either with respect
2 to FITs is how will these costs be allocated. If
3 it's intended that the tariffs that are entered
4 into by each utility, if that is going to be for
5 bundled customers only, then that would mean that
6 retail customers that aren't served by the
7 utilities aren't going to see any of those costs.
8 But if all of the facilities in the zero
9 to 20 megawatt regime are committed to the
10 utilities through these tariffs, they could create
11 additional difficulty for retail suppliers to meet
12 their RPS goals, because those facilities would,
13 by and large, be looking to execute tariffs rather
14 than participating in a competitive market
15 environment. And it could compromise our ability
16 to meet our goals.
17 On the other hand, if those costs are
18 going to be spread to all customers, what we have
19 to recognize is that we're now adopting an
20 additional element of socialized cost recovery
21 among all retail load servers in the state, which,
22 as we know, there's already a large degree of that
23 from the conventional generation that the
24 utilities enter into. And it's not, at the end of
25 the day, supportive for retail competition.

1 So I bring you these comments in the
2 spirit of a company that looks at California from
3 the standpoint of wanting to keep the momentum
4 moving for robustly competitive wholesale and
5 retail markets.
6 We think that FITs represent a layer of
7 command and control approach that won't be
8 supportive of competitive markets. We think that
9 there are enough improvements on the horizon for
10 the renewable program, that those should be given
11 a chance to work before we layer on this
12 additional mechanism.
13 Thank you.
14 CHAIRPERSON PFANNENSTIEL: Mary, first
15 of all, I think that there's a cognitive
16 dissonance between your discussing the FIT as
17 being a separate, maybe even competing, program
18 with the RPS.
19 Whereas I'm looking at it, and I think
20 the staff report is looking at it, as, in fact,
21 part of the RPS, a mechanism for helping us meet
22 the RPS.
23 So the question, I guess, is would we
24 continue having the kind of procurement that goes
25 on now and a feed-in tariff. And you said well,

1 you didn't see how they could both work. I guess
2 I sort of agree with you; I'm not sure that the
3 procurement that is currently being done would be
4 needed under the feed-in tariff.
5 The feed-in tariff, as envisioned, would
6 be a way of the utility accepting all kilowatt
7 hours generated by qualifying renewable facilities
8 at a given price. And that price would go down.
9 So, I'm not sure why there would be
10 still a separate renewables procurement. The
11 point being to promote very deliberately and very
12 overtly and very consciously and measurably, to
13 promote the renewable industry and develop the
14 economies of scale and the cost reductions that
15 would be presumably seen if there was sufficient
16 price stability, such that then the -- eventually
17 that industry could stand on its own.
18 We've heard from a number of renewable
19 developers, really not today, but in past
20 workshops, that many of them believe this would be
21 helpful to them because of the issues they've had
22 with contracting and securing PPAs with utilities.
23 And that this is a way to go.
24 Now, many others -- I don't want to put
25 a value judgment in terms of how many of one and

1 how many of the others, but certain others of
2 developers, renewable developers, have said
3 exactly the opposite. Have said just what you
4 said, that transmission is really the problem.
5 And the contracts with the utilities at a price
6 that the utilities pay really is not so much the
7 problem.
8 But where we are right here is to say,
9 well, on balance, the recommendations have been
10 that at least up to 20 megawatts should be on a
11 feed-in tariff, and the larger ones are yet to be
12 determined.
13 But that would then, I guess, obviate
14 the need for further procurements of the existing
15 type.
16 So, it's a long way of saying I believe,
17 at least in my view, the feed-in tariff should be
18 a way of allowing us to replace the existing
19 procurements.
20 MS. LYNCH: Okay, well, I think that's
21 -- I think not what was specified in the reports.
22 And I think you're right, I think it will replace
23 the existing procurements. I think that it would
24 have to.
25 I think that it's not that dissimilar to

1 the current procurements because at the end of the
2 day both the utility solicitations and a feed-in
3 tariff impose all the risks of the investment on
4 ratepayers. There's very little risk management
5 going on with that type of cost socialized
6 investment.
7 And that's where we see things like
8 RECs, even the implementation of MRTU, the
9 implementation of cap-and-trade. All of these
10 things we had hoped, our company's perspective is
11 that these would move us towards market mechanisms
12 where investors, working with load-serving
13 entities in a competitive market space would find
14 ways to manage the risks of all these investments
15 so that ratepayers wouldn't be directly on the
16 hook for these long-term 20-year contracts.
17 And that we could design procurement
18 practices in a way that would allow more active
19 risk management of the full lifecycle costs of all
20 of these facilities.
21 And in that regard, as I said, where we
22 see things like RECs and greenhouse gas cap-and-
23 trade programs, and MRTU that brings transparency
24 to locational price signals for energy, all of
25 those things would help move us in that direction.

1 But something like FITs, where we're
2 executing tariffs for fixed prices for fairly
3 lengthy time periods are not --
4 CHAIRPERSON PFANNENSTIEL: I don't think
5 that has been determined.
6 MS. LYNCH: Okay. All right. Well,
7 I've heard 20 years, and maybe they'd be shorter,
8 and maybe there would be some market risk
9 component to it. I think a lot of that is in the
10 implementation details, which is why I offered
11 what do we do when we do this. Are these the
12 first megawatts through the meter? Are they the
13 last megawatts through there?
14 How are we going to structure all these
15 things so that, as Steve Kelly said, we have a
16 level of market certainty there about what the
17 rules are going to be for all investors who are
18 looking at different ways of managing the costs of
19 their facilities?
20 Those are the points that I was trying
21 to make.
22 CHAIRPERSON PFANNENSTIEL: I see. Thank
23 you.
24 MS. LYNCH: Thank you.
25 COMMISSIONER BYRON: Mary, if I may.

1 Are you a member of -- is Constellation a member
2 of IEP?
3 MS. LYNCH: No.
4 COMMISSIONER BYRON: I was just curious
5 because obviously your comments are very
6 different. Let me ask another general type
7 question. Is this more a case of you'd rather
8 stick with the devil you know rather than the
9 devil you don't know?
10 Because, I mean, you can't really argue
11 that the current RFO process is accomplishing the
12 goals that we've set out here for renewables.
13 MS. LYNCH: I can't argue that it's not
14 working, is that --
15 COMMISSIONER BYRON: Yes. It's
16 difficult to make the case that it's working well.
17 MS. LYNCH: Well, agreed. I mean --
18 COMMISSIONER BYRON: And, as
19 policymakers, you know, we initiate the renewable
20 energy transmission initiative because we really
21 want to try and move forward there.
22 MS. LYNCH: Um-hum.
23 COMMISSIONER BYRON: We want to clean up
24 -- clean up is not the word I mean -- we want to
25 perfect the renewable procurement process so that

1 that works.

2 But as policymakers we can't put all our

3 eggs in those baskets. I mean the FIT affords a

4 wonderful opportunity to see smaller projects get

5 onto the distribution side of the system without

6 the need for large renewable transmission; without

7 the need for a great deal of -- I'll stop there.

8 MS. LYNCH: Well, --

9 COMMISSIONER BYRON: So, as

10 policymakers, help me out here a little bit. Do

11 you see the advantages that FIT affords us in

12 reaching a higher renewable goal?

13 MS. LYNCH: I think from a -- if we are

14 expecting load to be served from a rate-regulated

15 perspective, FITs probably fit the bill very well.

16 Our vision for California is one where

17 infrastructure is supported through competitive

18 market forces, and where we have price signals

19 that tell investors here's what, we have

20 requirements that we must meet and we have price

21 signals that tell us what the value of those

22 commodities is.

23 And when we have those price signals out

24 there, we're confident that investors will respond

25 with what's needed to meet the requirements of the

1 state.

2 To impose a 20 percent requirement and

3 then tell the utilities you must sign a contract

4 with every entity that comes to you wanting to

5 provide a renewable megawatt doesn't allow those

6 competitive market price signals to be revealed in

7 the marketplace.

8 In fact, done to an extreme, or done in

9 a very large quantity, they undermine those price

10 signals because it gives you a whole set of assets

11 out there that are operating totally outside your

12 market structures. And therefore serve, in the

13 long run, to undermine them.

14 So, --

15 CHAIRPERSON PFANNENSTIEL: Well, may

16 that not be true generally of the RPS or any other

17 policy prescriptions that the policymakers in

18 California impose on the utilities where the

19 utilities may not have purchased 10 percent, 11

20 percent, certainly 20 percent of RPS without a

21 policy mandate to do so.

22 And so wouldn't that then have the

23 fundamental issue that you're raising, and now

24 it's just a question of how to implement that?

25 MS. LYNCH: It is a question of how to

1 implement it. And up until now what we've said is
2 we have a 33 -- well, now we're saying we have a
3 33 percent requirement by some date.
4 But now when we're layering on -- and
5 here's exactly how we are going to bring
6 investment in, by giving it a fixed guaranteed
7 cost recovery at a certain price. It's something
8 that goes beyond telling the marketplace, here's
9 the requirement, figure out how to meet it; here's
10 how we value it; here are the price signals you
11 see through RECs and everything else. That's one
12 way to achieve those goals.
13 It's a different way to achieve those
14 goals to say to require an entity, whether it's a
15 central procurement entity or a utility, we
16 require you to pay all of these entities a certain
17 price.
18 CHAIRPERSON PFANNENSTIEL: But two
19 points. One is that, but it wasn't happening
20 under what you're calling the market mechanisms
21 that were currently in place.
22 The other point I would make is the
23 whole QF program in California with the standard
24 offer contracts back in the early '80s, which I
25 think we would all -- we all know were over-priced

1 and caused a lot of higher utility rates for a
2 number of years than they would have been.
3 And at the end of the day, however, that
4 did propel the independent power industry in
5 California way ahead of where it was elsewhere.
6 And, so, again, it was more painful than
7 it needed to be. And I hope we don't make that
8 mistake with the feed-in tariff.
9 But the policy objective was to promote
10 the independent generating business in California.
11 And that seemed to have worked.
12 MS. LYNCH: Well, --
13 CHAIRPERSON PFANNENSTIEL: Do you agree
14 with that?
15 MS. LYNCH: I know my understanding of
16 the QF regime, and I wasn't here when that was
17 implemented, we certainly have a strong component
18 of QF facilities here in California. In fact, my
19 company owns some of them here in California.
20 But the fact of the matter is they do
21 operate outside a competitive market regime. They
22 have a guaranteed fixed price that they're going
23 to get paid regardless of what happens in the
24 marketplace. And, as such, if we add more and
25 more megawatts of that type to our mix, we won't

1 get megawatts in this market that don't have that
2 guarantee because they won't be able to take the
3 risk to build.
4 So, in our view, markets that support
5 investment, there's not too many cutting corners
6 you can do in terms of supporting that paradigm.
7 Either you support that paradigm or you want to go
8 a command and control approach.
9 And that's what concerns us about FITs.
10 That it's going to create a bifurcated asset
11 ownership in the state that will crowd out
12 competitive investment at the end of the day.
13 I don't think that we've seen market
14 based renewable investment because we're so
15 willing to support renewables in many other ways,
16 through mandated investments.
17 I think that the advent of RECs and of
18 regional market for renewables could change that.
19 And that's the thrust of my message. I think
20 we're on the cusp of being able to support truly
21 competitive investment where risks are managed if
22 we don't undermine it with more command and
23 control approaches.
24 COMMISSIONER BYRON: Ms. Lynch, I thank
25 you for your comments. I think they're very

1 thoughtful. I'm moved by the concern about
2 stifling competition and the other one that I'm
3 not sure you even mentioned, that I read in your
4 comments earlier, about deterring innovation.
5 I also am concerned about those. So I
6 thank you for bringing those forward here today.
7 MS. LYNCH: Thank you.
8 COMMISSIONER DOUGLAS: All right, next
9 we have Craig Lewis of Greenvolts.
10 MR. LEWIS: I appreciate the opportunity
11 to speak here today. I had the pleasure of
12 sitting on the panel during the October 1st feed-
13 in tariff workshop, which I think was extremely
14 productive.
15 Just to reintroduce Greenvolts.
16 Greenvolts is a solar technology company and we
17 are also a developer of solar power projects using
18 our technology.
19 And we have the unique distinction of
20 being the very first solar project to successfully
21 navigate the CPUC RPS solicitation process. So we
22 know quite a bit about that process. And we also
23 know that it doesn't really work for under 20
24 megawatts.
25 So, I want to make a couple of comments

1 here, and I want to start with thanking the Energy
2 Commission for its incredible leadership. I am so
3 happy with what I've seen here today based on
4 where we've come from October 1st to December 1st.
5 It is really exciting.
6 And I want to thank you for taking the
7 leadership really to shift away from a paradigm
8 that has dominated in California for decades. And
9 that is the central station paradigm.
10 What we're talking about here with the
11 20 megawatt and under feed-in tariff is unleashing
12 the market for what we call wholesale distributed
13 generation. That's distribution interconnected
14 generation that's project size 20 megawatts and
15 under. That market is not happening right now.
16 And so the comments from Constellation,
17 I can appreciate where they're coming from.
18 They're operating under the central station
19 paradigm. Obviously they're successful with that
20 paradigm; they'd like it to continue.
21 But from a standpoint of California,
22 California ratepayers and the RPS mandate, we need
23 to open up the whole distributed generation
24 marketplace so that we can hit 20 percent by 2010,
25 or at least as soon thereafter as we possibly can.

1 There's no other way that we're going to come
2 anywhere close to achieving 20 percent by 2010.
3 Greenvolts, if not obvious already,
4 we're very supportive of the policy path number
5 six. We think that that is, you know, really the
6 right way to start with a feed-in tariff in
7 California. We think that it is completely
8 disjointed from the RPS program.
9 The RPS program, again, is a central
10 station paradigm created process that is all about
11 large, central station power. And the feed-in
12 tariff is not going to overlap with that.
13 But in the future Greenvolts is open
14 minded about extending the feed-in tariff if it
15 plays out the same way it has in other countries
16 around the world, and proves itself to be the most
17 effective policy mechanism in the history of
18 mankind for bringing renewables online, which is
19 what it has done in other countries.
20 I've got to say I'm very happy that the
21 consultants did not forget about the mandate for
22 20 percent by 2010. I think we really have to
23 keep our eye on that mandate. There's been a lot
24 of talk about 33 percent by 2020. To me that
25 diverts the issue. If we can't figure out how to

do 20 percent by 2010, there's not a lot of hope, from my perspective, that we're going to figure out how to do 33 percent by 2020.

Also, the fact that must-take was really emphasized. Greenvolts looks at must-take as a fundamental feature of this. This makes the process transparent, predictable. It allows the developers to get funding early in the process. It also allows the funding to be acquired or to be established at very favorable terms.

So you add transparency and predictability into the process and you really help facilitate the whole financing element of project development.

Also want to touch on assurance obligations. This isn't something that was really touched on here in this proceeding, but it is something that's being discussed in the long-term procurement planning proceeding and other proceedings at the CPUC.

There's a lot of questions about how do you make sure that there's assurances that this generation comes online and stays online and doesn't move over from one customer to another customer.

1 And basically I just want to throw out a
2 couple of things there, probably for the benefit
3 of the consultants and the staff more than anybody
4 else. But the PIRP process, the participating
5 intermittent resource program, is going to apply
6 to solar projects. It already applies to wind in
7 California. Cal-ISO monitors that program, or
8 runs that program. It will apply to solar
9 projects as soon as the MRTU goes live, which is
10 anticipated to be in the first quarter of 2009.
11 But PIRP basically handles all the
12 performance requirements that would be associated
13 with a renewable energy project, either wind or
14 solar.
15 Also, in terms of the interconnect issue
16 the timing of the interconnect, when you're
17 talking about a feed-in tariff where you have a
18 standard must-take contract you don't have to
19 worry about, you know, whether a project's going
20 to interconnect because you don't have to -- the
21 developer doesn't have to worry about that until
22 the project's ready to interconnect.
23 So, they build the project; they know
24 that they -- they can get the financing before
25 they sign a contract with the customer because

they know that the contract is, it's a done deal. It's a standard, must-take contract.

And so the customer, the utility doesn't have to worry about getting that energy online until the energy's ready to come online. So just, you know, the contract gets signed at the time that the interconnect is ready. And it really removes a lot of obstacles.

I want to just address something that was early on, Commissioner Byron. You talked about, or I think you alluded to something where there's maybe a little bit of mixing up of California Solar Initiative and the feed-in tariff. And this is something that Greenvolts is very sensitive about. Because there are some people within the renewable energy industry, SunPower being one of them, that's very nervous about messing up the California Solar Initiative program. And we don't want to do that.

So, a very simple solution is to make sure that feed-in tariff facilities have a dedicated meter. You never put it -- never interconnect it to the retail meter. And you've eliminated any potential mixing of CSI and feed-in tariffs. Done. Very easy.

1 Also, just two quick comments on
2 pricing. One thing that can help inform the feed-
3 in tariff program here in California is the
4 national feed-in tariff bill which was introduced
5 about six months ago by Congressman Jay Inslee.
6 He's a very energy-focused congressman out of
7 Washington State, Seattle district.
8 And it is a feed-in tariff that provides
9 for a 10 percent internal rate of return to
10 renewable energy project developers. That's an
11 unlevered, meaning no debt in that 10 percent
12 internal rate of return calculation.
13 And it basically says, you know, it
14 understands that there are different resource
15 quality levels in different places. So it says
16 that 10 percent IRR is calculated at the 70
17 percent resource quality level.
18 So, for example, in California you would
19 have your 100 percent level would probably be, for
20 solar would probably be out in the Mojave Desert.
21 So you take 70 percent of that level; you run your
22 10 per IRR calculation; and you've come up with
23 your rate that you need to set your feed-in tariff
24 at.
25 So, I would encourage KEMA and the staff

1 consultants to definitely take a look at the
2 Congressman Jay Inslee's national feed-in tariff
3 bill.
4 And, by the way, we've run the numbers
5 on that, and that calculation for California would
6 result in about a 30 cent per kilowatt hour for
7 PV. Just to throw a number out there that
8 actually matched pretty well with what the
9 gentleman from LADWP said.
10 And then finally, I just want to let you
11 all know that Greenvolts is working on an analysis
12 with a team out of UC Berkeley to basically show
13 that the cost impact to the ratepayer is
14 neutralized when you implement a feed-in tariff.
15 And what we're doing is we're basically
16 running the numbers using about a 25 cent per
17 kilowatt hour price for PV. We're assuming that
18 we've reached the 20 percent by 2010 obligation by
19 2012. So we're giving a couple extra years there.
20 And we're saying we're going to get -- we're at 12
21 percent, we need to get to 20, so we need to grow
22 the use of PV by 8 percent of total delivered
23 energy, that's 2 percent a year.
24 So we're saying 2 percent additional PV
25 is offsetting 2 percent of natural gas usage in

1 California. And if you look at the elasticity
2 impact of the natural gas, the reduced demand, it
3 drives the price down. A small price reduction,
4 but over a large volume that overwhelms the price
5 premium that you're paying, even at 25 cents a
6 kilowatt hour for all PV, over a very small
7 volume.
8 So, we're going to share that analysis
9 when we have the results in a more formalized
10 form. But preliminary results are very very
11 favorable to basically neutralize cost impact.
12 CHAIRPERSON PFANNENSTIEL: Who's doing
13 the analysis?
14 MR. LEWIS: A team from UC Berkeley.
15 CHAIRPERSON PFANNENSTIEL: It will be
16 interesting to see that. We'll look forward to
17 that.
18 MR. LEWIS: Great. So, that concludes
19 my comments. Again, I appreciate the opportunity
20 to share them, and I thank you for your
21 leadership, again.
22 COMMISSIONER BYRON: You're to be
23 commended, having navigated the RFO process. I
24 believe your project, you told me once, was a
25 megawatt or a megawatt and a half?

1 MR. LEWIS: It's 2 megawatts.
2 COMMISSIONER BYRON: Two megawatts.
3 Forgive me. But it's very difficult, obviously.
4 And so here you are coming out in favor, have been
5 in favor of feed-in tariffs for awhile.
6 Not wanting to jeopardize your
7 contractual arrangement with the IOU or any future
8 ones, you're now saying that you'd rather go down
9 this path than go down the competitive path?
10 MR. LEWIS: We don't see that doing
11 project development at 20 megawatts and under in
12 California is a viable path for renewable project
13 developers without a feed-in tariff type of
14 approach. It's got to be standardized, got to be
15 must-take.
16 You've got to take that risk of, you
17 know, is that project actually going to be taken
18 by the time you build it. You've got to take that
19 risk off the table. And that's what a standard --
20 that's what a must-take feature does.
21 And then obviously standard contract
22 eliminates all the proposing and negotiating and
23 contracting time, energy and money that's involved
24 in that process. And that process also delays the
25 point in time at which you can actually get your

1 financing done. Because you can't get financing
2 done until you've got a contract.
3 The beautiful thing about a feed-in
4 tariff is that the contract is de facto. You
5 don't have to have a signed contract because
6 everybody knows that's playing in this market,
7 including the investors, that you build the
8 project and it will get taken.
9 COMMISSIONER BYRON: You indicated
10 you're the first to negotiate that process. Do
11 you know, are you the only one thus far?
12 MR. LEWIS: There was another project
13 that got approved from the CPUC at the same time
14 in December 2007. So just about a year ago. But
15 we're ahead in terms of the build-out process.
16 COMMISSIONER BYRON: Well, yeah, I
17 didn't mean to look at it from that competitive
18 point of view. Just really that there's not very
19 many of those projects --
20 MR. LEWIS: Well, yeah.
21 COMMISSIONER BYRON: -- that are making
22 it through.
23 MR. LEWIS: Yes, really there's two that
24 I know of for sure. And Greenvolts being one of
25 them. So not very many.

1 COMMISSIONER BYRON: Thank you for being
2 here with your comments.
3 COMMISSIONER DOUGLAS: Just so folks
4 know, I have two more cards from people in the
5 room, and two from people on WebEx. The next card
6 is Tom Faust with Redwood Renewables.
7 MR. FAUST: Good afternoon. Thank you
8 for letting me present. I come from Marin, and
9 the name of our company is Redwood Renewables.
10 You can see it on the web, www.redwoodrenewables.
11 We do integrated solar roofing.
12 And just this last week, Tuesday, in
13 Marin County I was there at a Marin County Board
14 of Supervisors' meeting. And a utility company
15 was there with a last-minute proposal. And what
16 happened is the utility company hired the
17 consultants, former supervisors, former
18 assemblymen, to represent them.
19 And what happened is five supervisors in
20 Marin County voted against the utility last-minute
21 proposal. And they all said, we're going to have
22 a countywide clean energy. They were so desperate
23 they wanted to stop global warming.
24 The most recent scientific evidence that
25 I've read is the parts per million is in excess of

1 388, almost 390, parts per million. And they say
2 we're only 12 points away from reaching the
3 tipping point which pushes us into a point where
4 all of California will be jeopardized. All of our
5 streams and snowfall and water will be put in a
6 crisis mode. There will be year-round forest
7 fires.
8 We need not to put off or curtail action
9 on doing ever step possible to get a renewable
10 energy system, just like Europe. The tactics such
11 as Constellation Energy, they were arguing fear,
12 uncertainty and doubt in the commercial markets.
13 Craig from Greenvolts was saying the
14 exact opposite, and he has personal experience --
15 his company has personal experience. I would
16 argue that Craig Lewis' arguments are extremely
17 believable.
18 The auto manufacturers fought California
19 for ten years, and the people of California didn't
20 believe them. The people of California, right now
21 80 percent of cars, according to NPR this morning,
22 are foreign built because we rejected the pleas
23 from Detroit.
24 The status quo is not changing fast
25 enough. We've kind of danced around what are the

1 probable rates that will be possible with a feed-
2 in tariff in California. And this morning it was
3 brought to our attention that Gainesville would be
4 28 cents a kilowatt hour for everything.
5 Gainesville, Florida is about ten degrees latitude
6 further south than Los Angeles. So their solar
7 radiation is higher than it is in California.
8 So I would argue that a rate system
9 would be just like the Europeans where they have
10 broken down the rates into wind, solar,
11 terrestrial, and BIPV. And a system like that has
12 been footnoted in the consultant's report.
13 Australia has a system where it's 36
14 cents for BIPV in Australia. And so does New
15 Zealand. And surprisingly France and Spain.
16 Germany's a lot higher, but those countries -- for
17 example, Spain is closest to our latitude and they
18 have -- let me just toss this out.
19 They have a rate system of 36 cents for
20 BIPV on rooftop. For field farms something like
21 around 22 cents, or 25 cents. Concentrating solar
22 around 24 cents. And with each year it goes down,
23 there's a digression rate where it goes down.
24 So, 42 percent of the energy in Germany
25 is generated from solar rooftops. And what you do

1 is you have farmers, you have homeowners, everyone
2 wanting to produce energy because it helps on
3 their bottomline. They use their property, their
4 land to generate electricity.
5 This is the greatest motivating force in
6 the world to use your own property to generate
7 electricity. You don't have to use expensive
8 distribution lines. And what you do is you create
9 power that goes out to your local community. It
10 is the most efficient, and it's clean power as
11 opposed to carbon-based central utility systems.
12 So, that's -- the central utility system
13 is from the dinosaur age, distributed power, as
14 Craig Lewis has argued, that's the way of the
15 future.
16 And that's the way that 450 million
17 people have aligned their economies. Just this
18 last week the Queen of England gave her
19 endorsement for a feed-in tariff for England. Not
20 that the Queen of England has the ultimate say
21 here in California, --
22 (Laughter.)
23 MR. FAUST: -- but what I'm saying is
24 societies that have older beliefs change and adopt
25 modern strategies for selling electricity.

1 So, I don't want California to turn into
2 Detroit. I want California to be a leader. And
3 that means implementing feed-in tariffs not next
4 year. On a small scale why not this next month in
5 December implement for anything under 5 megawatts
6 immediately as a start incentive.
7 Just this last month, six weeks ago
8 Senator Baucus and the rest of Congress voted to
9 put homeowners, commercial businesses and
10 utilities all on a level playing field. They gave
11 everyone a 30 percent ITC.
12 Now, the French are even more
13 interested, although they have 80 percent nuclear
14 power they gave a 50 percent ITC this last week.
15 So they have the highest incentive, and they also
16 get a feed-in tariff of 36 cents. So the French
17 are the most aggressive, I would say, in the whole
18 world for incentivizing.
19 But, anyway, those are my comments. Any
20 questions? I'd be happy to answer your questions.
21 COMMISSIONER BYRON: No. It's very nice
22 of you to come and provide these comments. I
23 appreciate you not using the word paradigm again
24 as our previous two speakers did use it.
25 Thank you very much.

1 COMMISSIONER DOUGLAS: Our next speaker,
2 the last card I have from somebody in this room is
3 Marci Burgdorf with Southern California Edison.
4 MS. BURGDORF: Hi, good afternoon. My
5 name's Marci Burgdorf with Southern California
6 Edison. Thank you for the opportunity to be here.
7 We also wanted to say thank you to the
8 consultants. We appreciate the effort that's been
9 put into developing this report. That's quite a
10 task to take all the comments and feed everything
11 together into a readable document. And it is
12 that.
13 We continue to support policies for
14 renewable growth. I think, as outlined in the
15 report, this is evident by the development of our
16 biomass standard contracts.
17 And as also mentioned, we have proposed
18 expansion of these contracts to all renewable
19 generators up to 20 megawatts. So we are
20 continuing to move forward.
21 There's a few comments that I have.
22 Just a couple comments on the report, itself. In
23 terms of any tariff, particularly the feed-in
24 tariff, one of the biggest concerns that we have
25 is insuring that there's performance obligations

1 tied to the tariff.
2 You know, if the goal is to reduce risk
3 to ratepayers and actually serve as a mechanism to
4 contribute to the RPS, there should be certainty
5 that these generators are going to deliver the
6 power that's expected. So that's of critical
7 importance, especially in terms of our planning
8 and scheduling, as well.
9 Secondly, with regard to cost, in terms
10 of spreading the cost equally to all customers,
11 and users that actually benefit from the tariffs,
12 so the State of California in general. This is a
13 feature that was discussed earlier and seen in the
14 German feed-in tariffs where it was spread
15 nationally, the costs were spread nationally.
16 And then also I know there was some
17 discussion of the activity on feed-in tariffs here
18 in the United States. And we started doing a
19 little bit of research ourselves on what's
20 happening in other states.
21 And in Michigan, even though the bill
22 hasn't passed through yet, they have proposed a
23 non-bypassable surcharge that would be paid by all
24 classes of customers. So it's somewhat of a
25 similar model that we would propose to see here in

1 terms of the feed-in tariffs.
2 And that's it.
3 COMMISSIONER BYRON: If I may. One of
4 the comments that I remember seeing was that --
5 and, of course, thank you for reminding us about
6 the biomass standard offer contracts, which you've
7 done before.
8 As I recall, you got, what, about 11 or
9 12 megawatts in place, and I forget how many
10 projects that are being considered.
11 I thought I read that there was a
12 megawatt limit by the end of this year, whichever
13 came first, you were going to probably no longer
14 do these contracts. Has Southern California
15 Edison agreed to continue to do these standard
16 biomass contracts into '09?
17 MS. BURGDORF: Well, what we proposed is
18 that we would expand those contracts; we would
19 develop contracts in 2009 that would expand that
20 program to all generators. So, feasibly it would
21 just carry over into those contracts.
22 COMMISSIONER BYRON: So you're going to
23 continue doing them?
24 MS. BURGDORF: Yes.
25 COMMISSIONER BYRON: You're not going to

1 stop them. The other thing that you said just a
2 moment ago, Ms. Burgdorf, is about performance
3 standards for renewables. How do you propose to
4 have performance standards for intermittent
5 generation?
6 MS. BURGDORF: Well, that's definitely
7 been challenging, but there are certain provisions
8 that can be written into the contract that insure
9 a certain percent of the contract capacities
10 delivered. Or that there is notification for
11 nonperformance. If there's maintenance or
12 scheduling that has to be done. There is -- I
13 know communication so that we are aware if there
14 is an unscheduled flow of electricity, or if there
15 is a considerable drop in electricity. So that
16 we're able to make up for that and accommodate it
17 in the long run.
18 So it's written into the contract. I
19 believe penalties are in the form of a cost per kW
20 in terms of what's lacking. And it's something
21 that's reviewed on an annual basis.
22 COMMISSIONER BYRON: There was also a
23 comment in, I believe, that came from Southern
24 California Edison about concern for grid
25 reliability. So I had a little trouble with that

one, given the press release that I read earlier this morning about the 250 megawatts of photovoltaic that's being added on SCE's system over the next number of months or years, I don't know.

I doubt that you addressed grid reliability when you entered into that agreement.

MS. BURGDORF: I'm not familiar with that application, so I don't know in terms of how grid reliability was addressed. I know that those are connecting at the distribution level in different areas. So, it's a little bit different than a large project that is transmitting quite a long distance to get power to the grid.

COMMISSIONER BYRON: Okay. I believe the grid reliability comment by SCE had to do with a feed-in tariff which would have likely been more on the distribution side. So, I just --

MS. BURGDORF: Well, I --

COMMISSIONER BYRON: -- I had a little problem matching those two things up, that comment and the fact that obviously SCE had no problem accepting this rather large project.

MR. KINOSIAN: Maybe I can jump --

COMMISSIONER BYRON: And whether or not

it addressed grid reliability when it accepted it. Go ahead.

MR. KINOSIAN: Maybe I can jump in here. I think you're referring to the proposal Edison has for its -- photovoltaics. That project has not been approved by the PUC yet. They are still moving ahead with the pieces, looking at it.

One aspect of what Edison would be looking into, if the project is approved, is grid reliability at these various locations where they might have 1, 2, 3, or 4 megawatts at a site hooking up to the distribution system.

So, grid reliability is a part of the project they've put forth at the PUC.

COMMISSIONER BYRON: Okay, so that's included in the proposal?

MR. KINOSIAN: Right. Their proposal is for up to 250 megawatts. One of the things they'll be looking at as they implement it is the impacts on grid reliability and whether or not there are problems with distributed generation resources at these sites.

COMMISSIONER BYRON: Thanks. Thank you.

COMMISSIONER DOUGLAS: Thank you. All right, we're moving on to our WebEx comments,

1 beginning with David Townley.
2 MR. TOWNLEY: Can you hear me?
3 MR. LEAON: Yes, we can hear you. If
4 you could state your name and organization.
5 MR. TOWNLEY: Very good. Thank you for
6 this workshop and the opportunity to speak. I'm
7 David Townley with the Infinia Corporation.
8 Infinia is a solar electric technology
9 manufacturer, specifically of a modular dish
10 Stirling system, headquartered in Kennewick,
11 Washington. We have California-based -- and
12 service organization.
13 Five quick points. One. Infinia
14 supports the draft recommendations in this report
15 to immediately implement the cost-based
16 technology-specific feed-in tariff for projects up
17 to 20 megawatts, connected to the existing T&D
18 system.
19 And certainly we would support going
20 beyond 20 megawatts as conditions warrant, and as
21 soon as practical.
22 Two, utility must-take feature is very
23 important. With any T&D system upgrades then it's
24 handled by rate-based processes.
25 Three, Infinia will certainly be pleased

1 to respond to a proposal from the CEC or PUC for
2 the tariff pricing and any adjustments. And we
3 think that's an expeditious manner to handle that,
4 through a proposal with your staffs and response
5 from interested parties.
6 Four, Infinia believes that the proposed
7 feed-in tariff approach is complementary to the
8 existing RPS. It does require the utilities to
9 respond to the market must-take, rather than the
10 utility controlling the market development through
11 RFPs and bilateral negotiations.
12 And finally, on a lighter note I'd say
13 that Infinia certainly thanks the Commission and
14 the staff for reinforcing the use of solar
15 electric and solar electric systems, rather than
16 referring to a specific solar electric technology
17 such as PV as a euphemism for solar electric.
18 Infinia plans to submit comments on the
19 draft report, certainly supporting the draft
20 recommendations. Thank you for the opportunity to
21 speak.
22 COMMISSIONER BYRON: Mr. Townley, this
23 is Jeff Byron, and I acknowledge your point and I
24 apologize for only referring to photovoltaic.
25 Actually Chairman Pfannenstiel and I, just this

1 last Monday, were in southern California visiting,
2 doing an initial site visit on a rather large
3 Stirling engine project. And so I apologize for
4 that.
5 MR. TOWNLEY: No apology necessary.
6 Thank you for using solar electric, we like that.
7 COMMISSIONER DOUGLAS: Very good. The
8 next speaker from WebEx is Toby Couture of NREL.
9 MR. COUTURE: Is this --
10 MR. LEAON: Yes, go ahead, Toby.
11 MR. COUTURE: Okay. I have just a
12 comment -- the National Renewable Energy Lab.
13 Very interested to see these workshops
14 taking place and I've been following since they
15 started in June. And I think California is
16 sending a pretty powerful signal with these
17 workshops, on the hand, and to implementing a
18 feed-in tariff on the other.
19 We've been tracking feed-in tariffs,
20 trying to keep up with developments both in Europe
21 and in the U.S., the progress taking place --
22 proposed, as well as some of the developments.
23 I'll try to keep my comments relatively short
24 and succinct.
25 Just a few quickly about the

1 transmission issues area. There was discussion of
2 the feed-in tariff not addressing some of the
3 transmission concerns. And just two good points
4 on that.
5 First things that some of the research
6 in Europe has started to show is that FIT can
7 actually help defer some of the transmission and
8 distribution upgrades that are required. So it
9 can actually help solve some of those problems
10 instead of creating more. So that's one point to
11 bear in mind, that it can actually defer those
12 upgrades by using existing capacity that is under-
13 utilized.
14 And other advantages with the smaller
15 scale systems that it incentivizes. You get
16 renewables closer to load centers, which has good
17 qualities and properties for utility serving loads
18 in that area.
19 Another one that was on transmission,
20 real quickly, is a lot of it can be addressed
21 through guaranteed cost recovery. If utilities
22 are granted cost recovery for any upgrades that
23 they do have to make, based on project proposals,
24 then there should be no opposition to these --
25 utilities, provided they can be insured that they

1 will be recovered costs.
2 Those are probably a legal issue, I
3 guess, or a regulatory one. It's similar to
4 what's happening in Texas with the -- zones, the
5 renewable energy zones, where they've essentially
6 gotten around that by guaranteeing cost recovery.
7 Something similar could be included in the
8 FIT bill.
9 A second issue, and this is perhaps the
10 more important, as a point that hasn't been raised
11 yet, though there's been some allusion in that
12 direction, is the issue of costs.
13 One of the things that we've been struck
14 by here at NREL is that when you do the research
15 and the analysis on some of the cost differences
16 between an RPS and a FIT, research has
17 consistently shown that FITs deliver lower cost
18 renewable development. And that, I think, is a
19 pretty crucial insight, crucial fact that the
20 evidence has started to bring forth.
21 There's recent reports from the
22 International Energy Agency that outline cost
23 differences as large as 30 to 40 percent between
24 jurisdictions using RPS -- policies and those
25 using feed-in tariffs.

1 So, in particular, if you look at
2 countries that have used RPS as a renewable
3 obligations, they've been contracting power in as
4 large as 13 to 17 U.S. cents per kilowatt hour.
5 Whereas, countries (inaudible) about 9 to 11.
6 There's a sizeable difference there in the actual
7 delivery costs of energy.
8 And we started doing research into why
9 that might be. And started to find a lot of it
10 hinged upon risk. One of the things that an RPS
11 might create is a lot more risk for the developer,
12 which actually drives up the cost of capital.
13 So we start -- it actually makes it
14 harder to draw on debt financing, which
15 significantly drops the actual cost of developing
16 projects.
17 As Wilson Rickerson mentioned earlier,
18 from KEMA, in the European case most of the
19 projects are financed by debt capital instead of
20 equity, which is the predominant mode in the U.S.
21 here.
22 So, shifting, by offering stable terms
23 included within feed-in tariffs, you can actually
24 dramatically reduce the cost of capital for
25 developing renewable energy technology, which is a

1 powerful incentive to move in that direction for
2 jurisdictions that want least-cost renewable
3 development.
4 So that starts to conflict with some of
5 the comments raised by Mary Lynch from
6 Constellation Energy. I was very appreciative of
7 those, and I think she had a number of crucial
8 issues in her comments.
9 But I think when you start to take a
10 step back and you actually look at the delivered
11 cost of energy, FITs are found to be more
12 effective and cost effective.
13 And comparing some other countries like
14 the U.K., Belgium and Italy, that are still using
15 RPS-style policies for their wind development,
16 they've actually not only paid more for it, in
17 some cases up to twice as much, they've had lower
18 levels of development. Partly for the same
19 reasons that are plaguing California's RFO
20 process.
21 And some of those issues can be resolved
22 by having a more streamlined procedure. And with
23 a streamlined procedure that the state offers, you
24 actually do make it a lot easier for project
25 developers which has all those cost reduction

1 impacts for the actual kilowatt hours delivered.
2 One more point that's worth underscoring
3 is that from a societal perspective FITs a lot
4 more inclusive; and this has been one of the
5 dramatic things in Europe is it's driven, one of
6 the reasons why it's effective in such dramatic
7 job creation and deployment impacts is that
8 anybody can participate.
9 And so from homeowners to business
10 owners to utilities, there are no limitations.
11 And as far as the utilities can participate, that
12 got around a lot of the opposition there. And
13 they can be guaranteed the same purchase prices
14 that are guaranteed to other developers. So it
15 sort of levelized the playing field between who
16 can participate or be eligible for project
17 development, to meeting all the protocols and the
18 interconnection requirements.
19 So, by leveling that playing field you
20 actually are able to leverage capital from a wider
21 diversity of investors, which can also help reduce
22 the cost of capital.
23 And in the U.S., now just one final
24 point really is that with the dependence on the
25 PTC, ITC structure for renewable development

there's an incentive to -- we see tax equity essentially dried up, with a number of different energy and research forums on that with different companies, different investors on that front.

And one of the threats against the renewable energy industry, which is quite significant in California, of all states, is that tax equity drying up due to financial crisis could actually jeopardize some of the renewable target objectives.

So, with all those considerations in mind, it seems to create an even more compelling argument in favor of implementing a lower risk and a more stable policy forcing renewables to move forward.

And this is all just from research that we've been conducting here, and finding that momentum around the world is increasing. And how we're trying to track a lot more closely what is happening in the U.S. So it's interesting to see that this is at the stage that it's at in California.

And one final note on that. We are currently wrapping up a report, a comprehensive report, on policy design options for feed-in

1 tariffs. So that should be out by January for
2 stakeholders interested in researching these
3 issues further, and some of the questions that
4 have been raised, and some of the concerns are
5 treated, are addressed in that report. So, again,
6 that's scheduled to be out at this point in
7 January.
8 So, I'll leave it at that for now and
9 let the discussion continue.
10 COMMISSIONER DOUGLAS: Thank you for
11 your comments. Our last commenter is Andy Katz
12 with Breathe California.
13 MR. KATZ: Hi, thank you. Can you hear
14 me?
15 COMMISSIONER DOUGLAS: Yes.
16 MR. KATZ: Thanks. Andy Katz, Breathe
17 California. I served on the panel in the last
18 workshop and I made an observation that the
19 (inaudible) and I want to congratulate them for
20 making some excellent recommendations. So in
21 response I will be relatively brief.
22 One of our concerns with enhancing the
23 tools for deploying renewable energy as soon as
24 possible. The impacts on the climate, our
25 environment and our health.

1 Problems with the current system, as
2 have been stated today, high barriers to entry for
3 projects, particularly small projects. A lot of
4 risk and uncertainty, lack of incentive for
5 renewable energy, delivery prior to the RPS
6 guidelines, perhaps even after the deadline.
7 California's not generating renewable
8 energy fast enough. And not leveraging potential
9 resources -- projects that can fit in under 20
10 megawatts.
11 There's some great advantages to a feed-
12 in tariff program, reducing transaction costs,
13 reliable funding streams for projects, and more
14 rapid development of renewable energy.
15 Just to respond to some of the
16 criticisms of interfering with the market. I
17 think feed-in tariff is a market-driven policy.
18 It does use market signals to provide incentives
19 for renewable energy. So in that way it is
20 working with the market.
21 But renewable energy is policy, and
22 we're looking to the Energy Commission to develop
23 this important policy direction for more renewable
24 energy.
25 Point out that for considering ratepayer

1 -- that consumer protection and equity measures
2 that this would (inaudible) those are also
3 important policies. It would be a good idea for
4 further work would be as to how those translate to
5 a FIT program or it's just a good place for carbon
6 credit revenue (inaudible), as well.
7 To comment on some of the issues that
8 came up. I think the report covers many of these
9 issues very well. To paraphrase, I think cost of
10 production is the best indicator of (inaudible).
11 Many of the other factors are (inaudible) which is
12 the big reason why it has so many advantages.
13 For future innovation of which -- come
14 up, digression rates and experience -- the
15 European experience which the digression rates
16 would be a way to look at how those rates
17 incorporated for future research and innovation.
18 Interconnection. While -- point out
19 that most factors point to having interconnection
20 beyond the project developer side. I want to
21 raise that, you know, Ontario, there was a problem
22 in this area. And I think what we can learn from
23 Ontario's experience is that if interconnection is
24 not properly factored into FIT rates, or if it's
25 not properly perceived by the project developer,

1 then interconnection does become an issue. But I
2 think that this can be solved by making sure that
3 these are properly communicated and internalized.
4 The report discusses legislation. And I
5 think it is appropriate that the Energy Commission
6 recommend legislation in the area. But I think
7 it's also important to recognize that the Public
8 Utilities Commission has broad constitutional
9 authority.
10 And so while legislation is very
11 important for showing clear policy direction, it
12 may also be a good idea to recognize that there is
13 this constitutional authority out there.
14 As far as scope, trigger mechanism, to
15 avoid arbitrary limits on the program. I think
16 the advantages of providing a greater amount of
17 certainty. And so I think having a full scale
18 where (inaudible).
19 Another issue brought up in the revised
20 report is cost sharing among utilities. This is a
21 factor (inaudible) multiple utility service areas.
22 It wouldn't be fair for one service area to
23 experience a lot of feed-in tariffs charges, but
24 for another service area to have the renewable
25 energy benefits, but to not have the costs shared.

1 So I think this would be an important
2 area to continue to study. I don't think it's
3 easy to come up with an answer for how to
4 integrate (inaudible) utilities do a cost sharing
5 idea. But I think, you know, that may not be
6 necessary, but I think it's worth a discussion of
7 what is cost sharing, what are the options for
8 cost sharing among utilities.
9 Also with regard to performance
10 standards, Germany has an interesting way of
11 looking at performance standards (inaudible).
12 They take into account the first two years of
13 energy generation at the baseline. And that
14 becomes a major factor in how the rates are set.
15 So I would encourage a further look at that
16 mechanism if performance standards are of
17 interest.
18 Clearly, I think it's about setting
19 rates that are projected to generate the
20 appropriate amount of energy, and that sets the
21 goals for performance standards. But it's about
22 setting the rates. I don't think it's interfering
23 with project development.
24 So other than that I would like to --
25 for the recommendation for the staff report and

1 encourage the Energy Commission's excellent work
2 on this.
3 COMMISSIONER DOUGLAS: Thank you very
4 much. We do have one more card; it's from Molly
5 Sterkel of the CPUC.
6 MS. STERKEL: Hi. Good afternoon,
7 everybody. Sorry to chime in here at the last
8 minute when you all thought that the last speaker
9 was the last to hear.
10 I wanted to just say I know that Bob
11 Kinosian, I heard was in the room earlier. And I
12 just wanted to say thank you very much for the
13 report. And although I'm not with you in person I
14 was in person at the last workshop. It's a
15 reflection of our interest in the issue, and more
16 of a reflection of the California Energy
17 Commission's excellent remote participation
18 technology capability that I didn't join you
19 today.
20 And we have been enjoying the WebEx and
21 being able to listen to all the callers. And I
22 just wanted to make sure that in particular, since
23 the California Public Utilities Commission has
24 often been referred to in today's and other
25 hearings, but at least you know from the staff

level that we are listening. And that we are interested in the revised report, as well as in, you know, the future recommendations that come from the Energy Commission.

I did want to -- I don't have time, obviously, to comment on every comment I heard today, but there was one particular issue that Wilson mentioned in his update about the Gainesville feed-in tariff that I wanted to bring to your attention.

And that is that the Gainesville feed-in tariff is for 1 megawatt of solar in Florida. And California has installed 111 megawatts of customer and -- generation in 2008. And if we do anything on a feed-in tariff it's going to be on an order of magnitude never before seen or contemplated.

So, with all due respect to my colleagues in Gainesville, who I applaud them for taking the big step forward that they took for Gainesville, keep in mind that it's only for 1 megawatt.

And so when we talked about a feed-in tariff in California, we're talking about billions, not millions, of dollars. And hundreds, not 1 megawatt. And so it's an order of scale.

1 And it brings me to sort of the last
2 point that I want to make which is -- really only
3 one thing that I see. I wish I had made this
4 comment. I apologize to KEMA, to my colleagues at
5 KEMA -- I really wish that this report had
6 commented a little bit more about California's own
7 experience with feed-in tariffs. Because we did
8 the feed-in tariff in the 1980s. And I know I
9 made some comments about a fact -- last workshop.
10 But we did it. And there's a huge California
11 history there with feed-in tariffs.
12 And so while this report is very
13 purposely looking at what our colleagues are
14 currently doing in other countries, I really think
15 that it would have been nice if we could have
16 contextualize that with our own experience here in
17 California.
18 And it's just something that comes up
19 constantly as we actually try to consider a feed-
20 in tariff in California, is what happened the last
21 time. And so I don't know that there's any chance
22 to revise it at this point, but that's something
23 that I wish, in retrospect, I'd made that comment
24 a little bit clearer at the last workshop.
25 But, again, even that comment

1 notwithstanding, this is an excellent piece of
2 work, and it's very helpful and clear. And I kind
3 of echo the other comments saying to that regard.
4 So, thank you for letting me chime in at
5 the last minute. I hope everybody has a great
6 afternoon.
7 COMMISSIONER DOUGLAS: Thank you for
8 that comment. We do have one more card, and I
9 guess I wanted to point out sometimes in
10 California we get carried away with talking about
11 the greatness and far-reaching leadership that we
12 provide.
13 In the case of feed-in tariffs I
14 wouldn't say that what we're looking at is an
15 order of magnitude greater than ever has been
16 done. It's certainly an order or several of
17 magnitude greater than what's been done in
18 Gainesville. But we also have the examples of
19 Germany and Spain and other countries that have
20 gone considerably further than our draft
21 recommendation that's before us today.
22 I did want to --
23 (Parties speaking simultaneously.)
24 COMMISSIONER BYRON: And, Ms. Sterkel,
25 Jeff Byron. I daresay there's no one in this room

that remembers back to the '80s and the feed-in tariffs. You're certainly not old enough to remember that, either.

MS. STERKEL: I know, I'm not old enough to --

CHAIRPERSON PFANNENSTIEL: Speak for yourself, Jeff.

MS. STERKEL: -- remember it. However, I did move to the beautiful state. Out of the trend of respect I had learning about the strides forward that California had taken in the 1980s to implement more renewable energy than any other state in the country.

And upon arriving in the state I learned from all my elders, but there was some consternation that the renewable energy development had stopped.

And so I spent a lot of the beginnings of my career trying to figure out why that had happened. So that's the only reason I know anything about it. But I've learned a lot from others. And just hope we don't make any of those mistakes again.

Thanks.

COMMISSIONER DOUGLAS: Very good. Thank

1 you, thank you for your comments. We had one more
2 card trickle in from Gregg Morris at Green Power
3 Institute.
4 MR. MORRIS: I want to thank you,
5 Commissioners, for the opportunity to talk. It
6 took me a little while to figure out how to get
7 into the queue.
8 I just have a couple of brief remarks.
9 One is in comment to the people who say let the
10 competitive market process do the job.
11 Unfortunately, the competitive market process so
12 far is not doing the job. And I think it's a good
13 time to look at these feed-in tariffs as an
14 opportunity to provide maybe -- that will do the
15 job. So I think I want to encourage everybody
16 very much to continue to pursue this option.
17 I want to put in a special word for
18 option five, which is the biomass option. We
19 still haven't done much in California to implement
20 the Governor's biomass executive order. And the
21 feed-in tariff program is an excellent opportunity
22 for doing this.
23 Now one can say that in option six you
24 have the opportunity to go technology-specific,
25 but one of the advantages of five is that you can

1 go beyond 20 megawatts for biomass, which is also
2 necessary to produce a project that's big enough
3 to have its economies of scale.
4 But no matter what you do, I always like
5 to make or emphasize the bottomline of these
6 things, which is that a feed-in tariff program,
7 like any other program, only works if the prices
8 and the terms and conditions are conducive to
9 project development.
10 And unfortunately we just talked a few
11 minutes ago about the SCE program in biomass.
12 It's wonderful that they have a program for
13 biomass, but it hasn't really accomplished very
14 much, maybe four small contracts, as I understand
15 it, because they're not offering the kind of terms
16 and conditions that would be conducive to the
17 development of biomass projects. And I just say
18 that apparently based on the market response.
19 So we have to be realistic about what it
20 will take. We hear a lot about we don't want to
21 over-burden the ratepayer. And certainly I don't
22 want to over-burden the ratepayer, as an
23 environmental consumer advocate.
24 But then, again, I think we're greatly
25 hurting the ratepayer by not accomplishing the

goals of the RPS program. So there's two sides to the coin. And it's really very simple, you get what you pay for.

So we have to be realistic. I don't want to be overpaying at very high levels that the German and Spanish programs began with. But then, again, we have to take an amount that will solicit a market response.

And it's not fair to say that transmission is the only thing that is impeded in our development of renewables. Transmission is only one of the problems.

Finally, I'd like to close by saying that I want to disagree with the previous speaker who said that if we can't make 20 percent by 2010, we shouldn't even think about 33 percent by 2020.

I just have to disagree with that. First of all, unfortunately there's no way we're going to make 20 percent by 2010. Everybody knows that at this point. There's only two years left. And you can't do things that quickly considering where we are today.

On the other hand we have 12 years to make 2020, and in 12 years a great great deal can be done. So I encourage people to keep looking

1 beyond the fact that we haven't really gotten off
2 the ground very much right now. Hopefully the
3 feed-in tariff program can give us that
4 opportunity.
5 Thank you very much.
6 COMMISSIONER BYRON: I don't know that
7 the pervious speaker was actually saying that we
8 wouldn't make 2020 if we can't make 2010. I think
9 it was more of a "remember the Alamo" kind of
10 statement.
11 MR. MORRIS: Okay.
12 MR. LEAON: Okay. At this point I would
13 like to ask staff to unmute the phone lines. And
14 if there is anyone that's listening over the
15 phone, this would be your opportunity to chime in
16 and offer any comments you might have.
17 And if you would like to speak, if you
18 could identify yourself and your organization.
19 MR. LANGENBERG: Joseph Langenberg,
20 Central California Power.
21 MR. LEAON: Hello, Joseph.
22 MR. LANGENBERG: How are you this
23 afternoon?
24 MR. LEAON: Very good, thank you.
25 MR. LANGENBERG: Okay, all I want to do

is amplify the fact that feed-in tariffs should be expanded to include any size generation. We shouldn't stop at 20 megawatts.

Again, other people have mentioned economics of size, and I don't want to dwell on things that anyone else has said.

So I just wanted to support my colleagues who have said that the feed-in tariffs should be expanded beyond the 20 megawatt limit. And we should do it now.

We should be bold; we should take the steps now because evidently the system of procurement we have has not done the job.

Also I'd like to compliment Mr. Morris. The statement he made -- he is making has a great deal of merit. That renewable energy is going to cost. They found this out in Europe, I think. California found this out years ago back in the 80s when the cost of renewable energy was quite a bit in excess of what we're trying to get it for today. And certainly I believe the success rate for renewable energy was a whole lot better than it is today.

And that's just about all I have to say because just about everyone else has said

1 everything, I think, that had to be said.
2 I thank the Commission for taking this
3 step and getting the people together in this
4 workshop, getting the quality of report. And
5 thank Mr. Rickerson for his comments. The
6 gentleman has certainly given me a complete
7 understanding of what feed-in tariffs are all
8 about. And the progress that has been made when
9 they have been used in other lands.
10 All I'm saying is that I believe that
11 California should immediately adopt the feed-in
12 tariff program, and expand it, as I've said. And
13 that's just about it.
14 Thank you for letting me speak.
15 MR. LEAON: Thank you, Mr. Langenberg.
16 Any questions for the speaker? All right.
17 Do we have anyone else on the phone that
18 would like to make any comments?
19 MR. COUTURE: This is Toby here again
20 from National Renewable Lab. Just the point
21 that -- to get around to the size issue, and I
22 realize I left it out at the other of my
23 comments. And I think I -- the previous point
24 about that, removing the size requirement.
25 I think that that's on for a number of

1 reasons, going back to some of the cost issues
2 that Joe was talking about, that is you can
3 deliver kilowatt hours, as you can differentiate
4 the tariffs properly, I guess this is really where
5 the crucial element comes in -- if you can
6 properly differentiate the tariffs, feed-in
7 tariffs can encourage projects at all sales, and
8 not limited arbitrarily to a 20 megawatt ceiling.
9 I guess that's a question I would
10 attribute strictly is where does that 20 megawatt
11 threshold come from. Is that a distribution cap.
12 But just as a parenthesis there.
13 But if the projects can be developed
14 more cost efficiently, both small and large
15 scales, under feed-in tariff, why limit it at 20
16 megawatts. If you can capture it for all project
17 sizes, and that goes for biomass, CSP projects,
18 wind projects, some of the other technologies
19 included in European feed-in tariffs, if the
20 tariffs are differentiated appropriately for
21 taking into account economies of scale, then you
22 can have a more cost-efficient policy.
23 One of the consequences of introducing
24 caps that happened in Ontario in Canada, is that
25 some developers have actually broken up their

1 larger projects into smaller ones, so under the 10
2 megawatt cap in Ontario. And by doing that
3 they've actually increased the cost efficiency of
4 the renewable development. Because instead of
5 having one 40 megawatt or 50 megawatt project,
6 they've broken it up into three or four or five 10
7 megawatt projects, which makes more substation
8 interconnection points, which actually increases
9 the overall cost of renewable development.
10 So, it could be argued, based on
11 evidence that we've seen, that introducing a cap
12 on actual project size is less cost efficient than
13 just removing the cap all together. Because you
14 can actually benefit from those economies of
15 scale.
16 MR. LEAON: Yes. Basically the thought
17 was, in response to your question on the cap, was
18 that it would help projects that don't require new
19 transmission to connect to the grid. That would
20 help facilitate development of projects that could
21 connect at the distribution level.
22 But your comments on that point are
23 appreciated.
24 MR. COUTURE: Okay, thank you.
25 MR. LEAON: Any other comments on the

1 phone?

2 Okay, hearing none I just have a couple

3 of points to make, and then I'll turn it over to

4 the Chairman Douglas for closing remarks from the

5 Commissioners.

6 For written comments we would like the

7 stakeholders to submit written comments by 5:00

8 p.m. on Wednesday, December 10th. And we'll be

9 taking your feedback from today, and in addition,

10 direction from our Commissioners, and revising the

11 reports based on today's testimony.

12 We hope to have the final consultant

13 reports published sometime in January. I would

14 like to thank the KEMA team for their excellent

15 work on this project. Karin Corfee, Bob Grace,

16 Wilson Rickerson. Would also like to thank CEC

17 Staff, Drake Johnson, the Project Manager, as well

18 as Kevin Baker, Rachel Salazar and Joe Fleshman in

19 the renewable energy office.

20 And with that, I turn it over to

21 Commission Douglas.

22 COMMISSIONER DOUGLAS: Thank you very

23 much. My closing comments will be very brief. I

24 was -- Chairman Pfannenstiel and I were with the

25 Governor and a large group of people, as he signed

1 the executive order calling for 33 percent RPS in
2 2020, to mobilize, to achieve that target. As
3 well as get as close as we can to our 2010 goal
4 really requires us to look at all of the tools at
5 our disposal. And think about how they can be
6 applied, and how they will make sense in terms of
7 helping us reach that target.
8 I think I didn't hear any disagreement
9 in the room really that the status quo isn't
10 getting us there. And so I also commend the staff
11 and the consultant for their hard work in helping
12 us develop and better understand how feed-in
13 tariffs might fit into this system. And how they
14 might help us to get there, whether it's for the
15 large utility-scale projects; whether it's for the
16 more distributed wholesale distributed generation,
17 as one of our commenters classified it, the 20
18 megawatt and under.
19 Or a transitional strategy where we
20 continue to look at feed-in tariffs for
21 everything, but begin with something like under 20
22 megawatts.
23 So I think it's essential that we all
24 think hard about how we really make this work.
25 And feed-in tariffs very well may have an

1 important role to play. They certainly have in
2 other settings. And the evidence that has been
3 brought to us on that has been very helpful and
4 very revealing to a lot of us.
5 So, again, I appreciate your work. And
6 I very much appreciate the involvement of
7 stakeholders, and look forward to seeing your
8 comments as we finalize this report.
9 Other closing comments?
10 CHAIRPERSON PFANNENSTIEL: No.
11 COMMISSIONER BYRON: You know, I really
12 commend the Renewable Committee here at the
13 Commission for carrying the water on this issue
14 for a long time. I think before I came to this
15 Commission.
16 And there's a number of excellent IEPR
17 recommendations that have been made in the past.
18 I think the body of this work is extremely
19 helpful. The staff's done an excellent job.
20 There has been legislation to move forward on
21 FITs. And as was presented today, we now also see
22 it at the federal level, as well.
23 So, I think demonstrated by today's
24 workshop we're going to continue to see a mix of
25 interests represented in all the commenters here.

1 But I'd like to thank all of you for your very
2 thoughtful comments. I found most all of them
3 very constructive and helpful.
4 But we are committed to moving
5 renewables forward in the state. As Commissioner
6 Douglas indicated, the Governor, having just
7 signed this executive order, makes it very clear.
8 And feed-in tariffs are a proven and
9 effective way to doing that. So, I think for the
10 most part, this Commission's work is about done in
11 this area. Except that I am committed, as Chair
12 of the IEPR Committee this next year, to continue
13 to work with the Public Utilities Commission and
14 the Legislature, if necessary, to see that we
15 implement FITs well.
16 So, I'd like to make my commitment to
17 the representative from the PUC's Commissioners
18 here, that my office will certainly be working
19 with the PUC Commissioners. And Ms. Sterkel, I'm
20 sure staff will be more than available to assist.
21 But I think we all know that the feed-in tariffs
22 are going to be an extremely important part of
23 implementing the Governor's, and possibly very
24 soon, the Legislature's renewable portfolio
25 standard.

1 COMMISSIONER DOUGLAS: Very good.
2 MR. LEAON: All right. I'd also like to
3 thank the Commissioners for your input and
4 guidance during this process. And I hope we've
5 delivered reports that will help through the IEPR
6 process in developing a feed-in tariff for
7 California.
8 And also I want to thank the
9 stakeholders for your thoughtful comments. And
10 with that, the workshop is adjourned.
11 (Whereupon, at 3:00 p.m., the workshop
12 was adjourned.)
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CERTIFICATE OF REPORTER

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

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

IN WITNESS WHEREOF, I have hereunto set my hand this 16th day of December, 2008.