

BUSINESS MEETING  
BEFORE THE  
CALIFORNIA ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

In the Matter of:                    )  
  )  
Business Meeting                    )  
  )  
\_\_\_\_\_                              )

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

WEDNESDAY, MARCH 29, 2006

10:03 A.M.

Reported by:  
Peter Petty  
Contract No. 150-04-001

COMMISSIONERS PRESENT

Jackalyne Pfannenstiel, Acting Chairperson

Arthur Rosenfeld

James D. Boyd

John L. Geesman

STAFF PRESENT

B.B. Blevins, Executive Director

Arlene Ichien for Chief Counsel

Betty McCann, Secretariat

Maura Clark

Adel Suleiman

Virginia Lew

Steve Williams

Brenda Sturdivant

Bob Eller

PUBLIC ADVISER

Margret Kim

Nicholas Bartsch

ALSO PRESENT

Philip R. Hopkins

Global Insight

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

2 10:03 a.m.

3 ACTING CHAIRPERSON PFANNENSTIEL:

4 Welcome to the Energy Commission Business Meeting.

5 Please join me in the Pledge of Allegiance.

6 (Whereupon the Pledge of Allegiance was  
7 recited in unison.)8 ACTING CHAIRPERSON PFANNENSTIEL: Before  
9 we start on the agenda in front of us, we have a  
10 couple other points to make.11 First, I'd like to take a moment to  
12 acknowledge the passing of a very strong  
13 supporter, in fact a founder, of the Energy  
14 Commission, Senator Al Alquist, who passed away  
15 this past week at an age of 97.16 Senator Alquist was, I think, certainly  
17 all Energy Commission employees know, and probably  
18 most other people know, was largely responsible  
19 for the founding of this institution.20 As Senator Alquist told the story he had  
21 envisioned a single-purpose energy agency prior to  
22 the Middle Eastern oil embargo of 1974. But said  
23 that he could not persuade then-Governor Ronald  
24 Reagan to support legislation.

25 After the oil embargo Governor Reagan

1 embraced the concept of an energy agency, and  
2 signed legislation that established the Energy  
3 Commission in January 1975.

4 The Commission's enabling legislation  
5 promoted the nation's first energy efficiency  
6 appliance and building standards, encouraged  
7 renewable energy development, charged the  
8 Commission with energy demand and supply  
9 forecasts, and established a single point for  
10 licensing thermal power plants greater than 50  
11 megawatts.

12 Looking back from today's vantage point,  
13 we see that Senator Alquist's vision was clear and  
14 insightful. California continues to lead the  
15 nation in energy efficiency, renewable energy  
16 development, energy efficient buildings and  
17 appliance standards, and a comprehensive power  
18 plant licensing process.

19 We all, I think, felt sort of a personal  
20 loss with the passing of Senator Alquist. But, in  
21 addition, I think on a more personal level we lost  
22 somebody else who was close to the Commission.

23 Commissioner Boyd would like to say some  
24 words about him.

25 COMMISSIONER BOYD: Thank you,

1 Commissioner Pfannenstiel. I'm making reference,  
2 of course, to the loss of Lloyd Forest, the  
3 Commission's first Executive Officer. It's been a  
4 very tragic week.

5 I first met Lloyd in the 1960s when we  
6 were both young, right out of college, people  
7 working in The Resources Agency or departments  
8 thereof. And we remained friends for the rest of  
9 time.

10 Lloyd, of course, was the first  
11 Executive Officer of this agency, and he was  
12 working for me at the time he accepted the job to  
13 come here and be the first Executive Officer of  
14 this agency. So I had already identified his  
15 competence, his loyalty, his dedication and his  
16 ability to work with and supervise people. And we  
17 remained close friends for all the years after he  
18 left.

19 And, of course, many of you know he was  
20 the principal champion of this subject of biomass-  
21 to-energy; pursued that vigorously all of his  
22 life. I mean literally up to the last day. And  
23 he won't be forgotten for that by many many  
24 people, and certainly people here at the agency.

25 He won't be forgotten by me for his

1 friendship and his ability to get people to work  
2 together to tackle issues and to arrive at  
3 solutions. There are very few people I've ever  
4 known who were so effective at that. And Lloyd's  
5 one of the best, if not the best.

6           Years ago, as Executive Officer of the  
7 ARB, I picked on him to chair a legislatively  
8 commissioned Commission on rice straw burning,  
9 which again is part of the biomass equation,  
10 because of his ability to get people to come  
11 together and work together. And it was a sad day  
12 for a lot of us more than a week ago to learn that  
13 he was losing his battle, his 11-year-long, I  
14 read, battle with cancer, and we were going to  
15 likely lose him.

16           I'm gratified that this agency acted to  
17 tell a living person that he was appreciated. We  
18 sent a letter from all the Commissioners that his  
19 daughter read to him, as delivered by our  
20 Executive Director, before he passed away.

21           And all I can say is many of you worked  
22 with him maybe directly more years than I did; I  
23 have notes here that indicate that you troubled  
24 through the Sun Desert Nuclear Power Plant  
25 together. Really, you who were here when he

1       launched this agency, the first of its kind, and  
2       first delved into all the things that we, as an  
3       agency, takes much credit for now today. The  
4       building standards, the appliance standards, just  
5       the whole process of licensing power plants and  
6       what-have-you.

7                   And he left a very significant  
8       contribution, I think, to the people of the State  
9       of California. He was one of the hardest working,  
10      most dedicated and honest people that I had ever  
11      met. And he will be sorely missed. But he has a  
12      legacy here at this organization in terms of  
13      having launched the superstructure and helped  
14      assemble the balance during his time here.

15                   Lloyd and I regularly had breakfast,  
16      very regularly had breakfast over at the famous  
17      offsite meeting club known as the Fox and Goose  
18      here. And I will miss that and I will miss him.  
19      And I'm sure he'll be missed by many people here.

20                   And I'm very pleased to know that all  
21      Commissioners have agreed that our first bioenergy  
22      action plan, which is due to the Governor  
23      tomorrow, has been and will be dedicated to Lloyd  
24      Forest for all that he has done.

25                   So, I know we all share his loss, and

1 the loss of Senator Alquist. And I think all of  
2 you would join with me and the Commissioners in  
3 leaving our thoughts with their families. And I  
4 hope their families know, and everyone else knows,  
5 how much both those individuals were admired by  
6 this agency and appreciated. And perhaps that  
7 will help their families through what are  
8 obviously difficult times.

9 Thank you.

10 ACTING CHAIRPERSON PFANNENSTIEL: Thank  
11 you, Jim. On a more positive note, I would like  
12 to recognize that Betty McCann, our faithful  
13 Secretariat for ten years here at the Energy  
14 Commission, is retiring tomorrow to 20 years in  
15 state service. And you go with our best wishes,  
16 Betty, and we'll miss you.

17 Now, on to the agenda. Consent  
18 calendar.

19 COMMISSIONER ROSENFELD: I move the  
20 consent calendar.

21 COMMISSIONER GEESMAN: Second.

22 ACTING CHAIRPERSON PFANNENSTIEL: In  
23 favor?

24 (Ayes.)

25 ACTING CHAIRPERSON PFANNENSTIEL: Item

1 number 2, Collaborative for High Performance  
2 Schools. Possible approval of a \$31,000 grant to  
3 the Collaborative for High Performance Schools to  
4 administer an incentive program that will cover  
5 the cost difference between a high-performance  
6 portable classroom and a standard portable unit.

7 Let me just mention at the outset that  
8 I'll recuse myself from voting on this item, since  
9 I'm the Chair of the Board of the Collaborative  
10 for High Performance Schools.

11 Maura.

12 MS. CLARK: Good morning, Commissioners.  
13 My name is Maura Clark --

14 ACTING CHAIRPERSON PFANNENSTIEL: Please  
15 be seated and turn on the mike. Thanks.

16 MS. CLARK: Good morning, Commissioners.  
17 My name is Laura Clark with the Efficiency,  
18 Renewables and Demand Analysis Division; and I'm  
19 the Program Manager of the Rebuild America  
20 program.

21 Rebuild America is a DOE grant program  
22 that has been in existence since 1997. The goal  
23 of the program is to support community-based  
24 organizations and promote awareness of the  
25 benefits of energy efficiency.

1           Each year the Energy Commission submits  
2           an application to compete for the funding; and  
3           each year the Energy Commission has been  
4           successful. The grants are typically between  
5           100,000 and 150,000 with a term of two years.

6           The Energy Commission has used the  
7           grants to seed fund several programs, projects  
8           with community-based organizations, local  
9           governments and schools.

10           This is the background for both the  
11           items that I am presenting.

12           Today I'm requesting approval to fund a  
13           grant from the 2005 DOE grant award. The purpose  
14           of the grant to the Collaborative for High  
15           Performance Schools, which is CHPS, is to plan and  
16           administer an incentive program and to provide  
17           incentives to cover the cost difference of a high-  
18           performance portable classroom versus a standard  
19           unit.

20           A high-performance portable classroom  
21           has enhanced energy efficiency features that is  
22           estimated to reduce energy use by 25 to 34  
23           percent, depending on the geographic location and  
24           climate of the zone.

25           In previous Rebuild America program

1 grant awards, CHPS has developed high-performance  
2 portable classrooms to specifications, prepared a  
3 series of best practices manuals, and trained  
4 school districts on how to specify, operate and  
5 maintain portable classrooms.

6 The goal of this grant is to facilitate  
7 the design of the high performance portable  
8 classroom and to collect the data to demonstrate  
9 to the manufacturers that there is a market for  
10 these high performance portables.

11 I will be happy to answer any questions  
12 you may have on this item.

13 ACTING CHAIRPERSON PFANNENSTIEL:

14 Questions on item 2? Have a motion?

15 COMMISSIONER ROSENFELD: I move item 2.

16 COMMISSIONER GEESMAN: Second.

17 ACTING CHAIRPERSON PFANNENSTIEL: In  
18 favor?

19 (Ayes.)

20 ACTING CHAIRPERSON PFANNENSTIEL: And my  
21 recusal will be noted.

22 Item 3, Maura.

23 MS. CLARK: Item 3 is -- and I'm not  
24 going to go through the whole background again --  
25 it is a contract for \$31,778 to Strategic Energy

1 Innovations. And the purpose of the contract to  
2 SEI is to continue as the Rebuild America Program  
3 representative for the Bay Area and the Central  
4 Valley; provide technical assistance to the  
5 existing 35 partnerships; and to facilitate the  
6 activities of the multifamily consortium.

7 The purpose of the consortium is to  
8 share program and rebate information; identify  
9 resources and technical services available to the  
10 multifamily sector.

11 Members of the Consortium consist of  
12 utilities, developers, municipalities, local  
13 governments and public and affordable housing.

14 And once again, I will be happy to  
15 answer any questions you may have on this item.

16 ACTING CHAIRPERSON PFANNENSTIEL:

17 Questions on item 3?

18 COMMISSIONER ROSENFELD: I move item 3.

19 COMMISSIONER GEESMAN: Second.

20 ACTING CHAIRPERSON PFANNENSTIEL: In  
21 favor?

22 (Ayes.)

23 MS. CLARK: Thank you very much.

24 ACTING CHAIRPERSON PFANNENSTIEL: Thank  
25 you. Item number 4, City of Los Angeles.

1 Possible approval of a \$2,950,604 loan to the City  
2 of Los Angeles to convert a portion of the City's  
3 light fixtures from incandescent lamps to  
4 induction lamps. This project is estimated to  
5 save the City approximately \$301,082 annually in  
6 reduced energy costs, and have a simple payback of  
7 approximately 9.8 years.

8 MR. SULEIMAN: Thank you, Vice Chair  
9 Pfannenstiel. Good morning to everyone.

10 The City of Los Angeles has over 242,000  
11 street light fixtures. Out of these approximately  
12 14,000 are still incandescent fixtures.

13 This loan request will help finance the  
14 conversion of 3400 of these incandescent fixtures  
15 to the more energy efficient induction lamps. The  
16 induction lamp has an efficiency of (inaudible)  
17 lumens per watt, which is approximately seven to  
18 eight times more efficient than incandescent.  
19 Plus the induction lamp has a life, useful life,  
20 of 100,000 hours-plus, or approximately 24 years  
21 where the applications can be used for versus just  
22 2000 hours or less for the incandescent lamps, or  
23 approximately six to eight months.

24 Currently the LADWP, the serving utility  
25 for the City of L.A., charges the City \$8.57 per

1 light fixtures per month, for the incandescent  
2 street light fixtures. The new rate for the  
3 induction lamp would be only \$1.20 per month per  
4 fixture. A saving of approximately -- of \$7.37  
5 per month per fixture, or approximately \$301,000  
6 annually for all 3400 fixtures.

7 In addition, the City will re-wire the  
8 converted fixtures from the existing series wiring  
9 to parallel wiring. The new wiring will result in  
10 additional savings to the City due to the  
11 elimination of LADWP monthly charge per light for  
12 these series wiring.

13 This loan request of \$2.95 million  
14 represents approximately 50 percent of the total  
15 project cost. After the project completion, the  
16 City will realize an annual energy savings of 1.8  
17 million kWh, and over \$300,000 in reduced energy  
18 costs.

19 The conversion to parallel wiring would  
20 also improve system reliability and enhance public  
21 safety.

22 The Commission Staff believes that this  
23 project is feasible, technically justified and  
24 meets all the requirements for a low interest rate  
25 loan. Staff is seeking your approval on this

1 item. Thank you.

2 ACTING CHAIRPERSON PFANNENSTIEL: I just  
3 have one question.

4 MR. SULEIMAN: Sure.

5 ACTING CHAIRPERSON PFANNENSTIEL: How  
6 does this project fit with the ongoing project  
7 with the City of Los Angeles on the replacement of  
8 traffic signals?

9 MR. SULEIMAN: As far as we understand,  
10 we have -- I have here with me a letter from Mayor  
11 Villaraigosa, Mayor of L.A., dated January 17.  
12 It's addressed to the City of Los Angeles City  
13 Council Members. And he is recommending a five-  
14 year plan of replacement of the incandescent bulbs  
15 with traffic signals to the LED.

16 And I understand that the City budget  
17 committee voted on two weeks ago and approved his  
18 recommendation.

19 ACTING CHAIRPERSON PFANNENSTIEL: So  
20 right now the City has sufficient compliant bulbs  
21 to last for a five-year period; and they're  
22 starting on their replacement?

23 MR. SULEIMAN: That's correct, as far as  
24 we understand that they have enough, sufficient  
25 legal bulbs to last them --

1           ACTING CHAIRPERSON PFANNENSTIEL: Great.

2           MR. SULEIMAN: -- during the cycle.

3           ACTING CHAIRPERSON PFANNENSTIEL: Thank  
4 you.

5           COMMISSIONER ROSENFELD: I would like  
6 enthusiastically to move item 4. I must say I  
7 think it's quite shocking that Los Angeles still  
8 has incandescent lamps. I thought they went out  
9 with World War II. This move seems about 45 years  
10 overdue, but I think it's a great thing.

11           COMMISSIONER GEESMAN: Second.

12           ACTING CHAIRPERSON PFANNENSTIEL: In  
13 favor?

14           (Ayes.)

15           ACTING CHAIRPERSON PFANNENSTIEL: Thank  
16 you.

17           MR. SULEIMAN: Thank you.

18           ACTING CHAIRPERSON PFANNENSTIEL: Item  
19 number 5, Evergreen Union School District.  
20 Possible approval of a \$623,380 loan to the  
21 Evergreen Union School District to install 158 kW  
22 photovoltaic system and energy efficiency light  
23 projects. This project is estimated to save the  
24 district approximately \$63,749 annually, and has a  
25 simple payback of approximately 9.8 years.

1 Virginia Lew.

2 MS. LEW: Good morning; thank you, Vice  
3 Chair Pfannenstiel. Good morning, Commissioners.  
4 The Evergreen Union School District is a small  
5 school district located in the City of Cottonwood  
6 in Tehama County.

7 The District was interested in finding a  
8 way to reduce its electricity bill. Its objective  
9 was to install photovoltaic systems and energy  
10 efficiency projects at its elementary and middle  
11 schools with the goal of maximizing the loan  
12 amount from the Energy Commission.

13 With assistance from its consultant,  
14 Spectrum Energy, several energy efficiency  
15 lighting projects were identified. These projects  
16 will annually save the District over 150,000  
17 kilowatt hours or about \$23,000 a year. This  
18 represents about a 20 to 30 percent reduction in  
19 electricity use for each of the schools.

20 To further reduce its annual bill, the  
21 District plans to install photovoltaic systems at  
22 both schools. These systems are estimated to save  
23 the District over \$40,000 annually in electricity  
24 costs.

25 When both the efficiency and

1 photovoltaic projects are considered the District  
2 is estimated to save over 400,000 kilowatt hours a  
3 year, or nearly \$64,000. As the total electricity  
4 bill for both schools is over \$89,000, these  
5 projects will reduce the District's annual bill by  
6 over 70 percent.

7 The total estimated cost of the PV  
8 systems and the efficiency measures is \$1.3  
9 million. The cost of the photovoltaic systems  
10 will be offset by incentives totaling over  
11 \$614,000 from the Commission's solar schools  
12 program, and PG&E's self generation incentive  
13 program.

14 The combination of the PV rebates and  
15 the Energy Commission loan will provide for 95  
16 percent of the project cost.

17 This project is a good example of how  
18 both energy efficiency and photovoltaic projects  
19 could work synergistically together to the benefit  
20 of the school district.

21 Energy Commission Staff has evaluated  
22 and determined that this loan request is  
23 technically feasible and meets all the  
24 requirements for a loan under the Energy  
25 Conservation Assistance Act and our bond fund

1 program.

2 This project will also help the state  
3 reach its goal of reducing 20 percent of its  
4 electricity from renewable resources by 2010.

5 The Efficiency Committee has approved  
6 this item and as a result staff recommends  
7 approval. Thank you.

8 ACTING CHAIRPERSON PFANNENSTIEL: Thank  
9 you, Virginia. Is there a motion?

10 COMMISSIONER ROSENFELD: I  
11 enthusiastically move the project. I'm going to  
12 make my usual comment that I think it's wonderful  
13 that energy efficiency savings are, in fact,  
14 supporting rooftop photovoltaics.

15 I want to point out, as usual, for  
16 precision that the energy efficiency projects of  
17 lighting retrofits, without a rebate, have a  
18 three-year payback time. And the solar, the PV  
19 projects, without rebates, have a 30-year payback  
20 time. But I think it's wonderful that they're  
21 working together.

22 And I repeat, I move the item.

23 COMMISSIONER BOYD: I'll second it.

24 ACTING CHAIRPERSON PFANNENSTIEL: All in  
25 favor?

1 (Ayes.)

2 MS. LEW: Thank you.

3 ACTING CHAIRPERSON PFANNENSTIEL: Thank  
4 you, Virginia.

5 Item 6, Trustees of the California State  
6 University, San Diego. Possible approval of  
7 contract 500-05-032 for \$2,416,897 to the Trustees  
8 of the California State University, San Diego, to  
9 solicit, initiate and manage research grants for  
10 the Public Interest Energy Research Program  
11 buildings program. Mr. Williams.

12 MR. WILLIAMS: Good morning,  
13 Commissioners. My name's Steve Williams and I'm  
14 Senior Supervisor with the Energy Efficiency  
15 Research Office.

16 We are requesting your approval of this  
17 proposed PIER buildings R&D grant program. This  
18 innovative program, which is 2.4 million, is a  
19 spinoff of the Energy Innovations Small Grant  
20 Program, more commonly known as EISG.

21 EISG, though, is different from this  
22 proposed program in that it focuses on proof of  
23 concept research, whereas this particular program  
24 will fill the next niche up, which is those  
25 projects which are past proof of concept but not

1 yet at commercialization.

2 We also feel that this program will  
3 bring in more small- and medium-sized researchers  
4 than we currently do through our normal  
5 solicitations.

6 This particular program will also be  
7 run, as is EISG, through the San Diego State  
8 University Foundation. So we're getting the  
9 benefit of their prior administrative management  
10 experience with having operated our EISG program.

11 Another fundamental difference between  
12 the two programs is that the EISG program, because  
13 it is focused on proof of concept, has grant  
14 limits of \$75,000 per grant. This program will go  
15 up to \$200,000. So, again, it meets the needs of  
16 the people that are seeking research funds in this  
17 particular area.

18 This particular project has been before  
19 the R&D Committee, and we would request approval.  
20 I'd be happy to answer any questions.

21 ACTING CHAIRPERSON PFANNENSTIEL: Thank  
22 you. Are there questions?

23 COMMISSIONER ROSENFELD: I move it.

24 COMMISSIONER GEESMAN: Second.

25 ACTING CHAIRPERSON PFANNENSTIEL: In

1 favor?

2 (Ayes.)

3 ACTING CHAIRPERSON PFANNENSTIEL: Thank  
4 you, Steve.

5 Item 7, SDV-SCC, Inc. Possible approval  
6 of contract 600-05-008 for \$34,436 to SDV-SCC,  
7 Inc. to provide a Clean Cities Regional Peer  
8 Exchange meeting to discuss transportation project  
9 funding. Ms. Sturdivant.

10 MS. STURDIVANT: Good morning,  
11 Commissioners. My name is Brenda Sturdivant, and  
12 we are seeking approval of this contract to host  
13 and pay for logistical support and travel expenses  
14 for 30 Clean City coordinators to attend a meeting  
15 in Sacramento on June 12th through the 14th.

16 The purpose of the meeting is to share  
17 information and experiences with people who are  
18 coordinators of alternative transportation fuel  
19 projects using Clean Cities funding.

20 This contract will be funded entirely by  
21 USDOE funds, and the Transportation Committee has  
22 recommended this for approval.

23 ACTING CHAIRPERSON PFANNENSTIEL: That  
24 sounds fine. Is there a motion?

25 COMMISSIONER BOYD: Madam Chair, I'd

1 move approval of this item. As indicated, it did  
2 pass through the Transportation Committee. And I  
3 would just note that the Clean Cities folks are  
4 the folks who act local while thinking global, and  
5 of recent date with the attention being paid to  
6 our transportation fuel crisis, hopefully the  
7 cities will be the locus of a lot of activity on  
8 efficiency and alternative fuels.

9 So let's hope them talking together  
10 moves this issue a little bit.

11 COMMISSIONER GEESMAN: Second.

12 ACTING CHAIRPERSON PFANNENSTIEL: In  
13 favor?

14 (Ayes.)

15 MS. STURDIVANT: Thank you.

16 ACTING CHAIRPERSON PFANNENSTIEL: Thank  
17 you.

18 Item 8 is going to be held until the  
19 next meeting.

20 Item 9, Niland Gas Turbine Plant - small  
21 power plant exemption, 06-SPPE-1. Possible  
22 Committee assignment for the proposed 93 megawatt  
23 Niland Gas Turbine plant SPPE.

24 This facility would be owned and  
25 operated by the Imperial Irrigation District and

1 located northeast of Niland, California.

2 MR. ELLER: Good morning, Commissioners.  
3 I'm Bob Eller from Siting Division. Staff  
4 received the application earlier this month, and  
5 we've begun our review. We are here today  
6 requesting a Committee.

7 COMMISSIONER GEESMAN: Madam Chair, I  
8 would move that we establish a Committee comprised  
9 of Commissioner Boyd and Commissioner Desmond to  
10 handle this SPPE.

11 ACTING CHAIRPERSON PFANNENSTIEL: I  
12 think I'm the only one here who can second that,  
13 so I will second that motion.

14 So, in favor?

15 (Ayes.)

16 ACTING CHAIRPERSON PFANNENSTIEL: I take  
17 it there's no further discussion on that.

18 MR. ELLER: Thank you.

19 ACTING CHAIRPERSON PFANNENSTIEL: Thank  
20 you.

21 COMMISSIONER BOYD: Ever been to Niland?

22 (Laughter.)

23 ACTING CHAIRPERSON PFANNENSTIEL: Item  
24 10, Palomar Energy Center, has been moved to the  
25 April 12th business meeting.

1                   Minutes. Is there a motion for approval  
2 of the March 15th minutes?

3                   COMMISSIONER ROSENFELD: I move the  
4 minutes.

5                   COMMISSIONER GEESMAN: Second.

6                   COMMISSIONER BOYD: I'll abstain, since  
7 I wasn't here, from the vote.

8                   ACTING CHAIRPERSON PFANNENSTIEL: Well,  
9 I think we still have a quorum.

10                   In favor?

11                   (Ayes.)

12                   ACTING CHAIRPERSON PFANNENSTIEL: Item  
13 12, we have a presentation that was, as I  
14 understand it, requested by the Natural Gas  
15 Committee. And this is with Global Insight, to  
16 provide a briefing on their study of the impacts  
17 of natural gas prices on the California economy.

18                   (Pause.)

19                   ACTING CHAIRPERSON PFANNENSTIEL: Yes,  
20 please.

21                   MR. HOPKINS: Well, good morning,  
22 Commissioners. Thank you very much for inviting  
23 me. My name is Phil Hopkins, economist for Global  
24 Insight. And we were requested by three of the  
25 natural gas facilities in California, Pacific Gas

1 and Electric, Southern California Edison, and  
2 Southern California Gas and San Diego Gas and  
3 Electric to perform a study that assessed the  
4 impacts of high natural gas prices on the  
5 California economy.

6 So the study was sponsored by the three  
7 utilities. There was collaboration with the  
8 California Energy Commission, as I'll explain in a  
9 moment. And I'll explain that the study I'm about  
10 to talk about is a Global Insight study. After we  
11 agreed early on on some price forecasts, the  
12 results, the methodology are all ours. I wish to  
13 make that clear at the outset.

14 So, Jairam, why don't we go to the next  
15 one. Within Global Insight the study was  
16 performed by two groups. My group is the group  
17 that forecasts states and metropolitan areas in  
18 California, and our energy group, Mr. Jim Austin,  
19 who's part of our energy group, could not be here,  
20 so I'll be presenting the impacts.

21 The study objective was very clear.  
22 Estimate the impact on the California economy of  
23 alternative wholesale prices of natural gas. I  
24 would say at the outset that our charge was  
25 strictly to estimate the economic impacts, not to

1 make policy recommendations which clearly are the  
2 responsibility of this group and many others.

3 We decided early on that the measure  
4 that we would use for California wholesale natural  
5 gas prices with the Topock border price. And that  
6 for the U.S. price it would be the Henry Hub  
7 price.

8 We initially determined and identified  
9 three price scenarios that we wished to analyze,  
10 and then we being, at a meeting toward the end of  
11 the summer, the California Energy Commission, the  
12 representatives from the three utilities and  
13 Global Insight.

14 For the high-price scenario the  
15 assumption there was that the Topock price, or the  
16 California wholesale natural gas price would be  
17 higher than the U.S. price. The middle scenario  
18 they would be the same. And then for the low  
19 scenario, the California wholesale price would be  
20 below the U.S.

21 None of these were identified as a  
22 baseline or most likely scenario. We simply  
23 wanted to define the feasible range of what we  
24 thought the prices would be in 2016.

25 So, the impacts that I will be

1 presenting to you his morning compare the middle  
2 scenario to the low scenario and the high scenario  
3 to the low scenario.

4           Jairam, let's go to the next one. The  
5 need for the study was pretty clear as everybody  
6 in this room knows. The average annual wholesale  
7 prices for natural gas have been rising in the  
8 U.S., and certainly in California. And so the  
9 concern by the utilities was to look forward, in  
10 this case a period of 2006 to '16, and say, under  
11 the three scenarios that we agreed to, what would  
12 the impacts be.

13           To put things in context, and certainly  
14 these numbers are more than familiar with many of  
15 you in this room, but I would just point out that  
16 we were dealing with a very large economy here.  
17 Depending on currency levels, California is, by  
18 itself, the eighth largest economy in the world.  
19 It's a large economy. It takes very significant  
20 impacts to move it one way or the other.

21           The second bullet I think is very  
22 important, and I'll come back to that later in my  
23 presentation. Earned income per household in  
24 California is well above the U.S. average. Now  
25 this is an average number, it's not a median.

1 We've discussed this issue and I think the median  
2 and the average are going to be fairly close here.

3 What we wanted to do was consider only  
4 wages and salaries that people get paid and self  
5 employed persons. So that number does not include  
6 dividends, rents, transfer payments. The reason  
7 we used that number is because that's what most  
8 people make their household budget decisions based  
9 on.

10 The remaining bullets on that slide do  
11 show you California shares of energy consumption.  
12 And the very last one I would point to, you can  
13 see the extremely large direct expenditure by  
14 final users in California. And so we have a big  
15 number that's in play here based on the prices of  
16 natural gas.

17 Study assumptions. We, the Global  
18 Insight, the CEC and the advisory group members,  
19 determined early on that what we wanted to focus  
20 on was not weekly or monthly short-term  
21 fluctuations in prices, but average annual prices.  
22 The concern here was how would households and  
23 businesses respond over time to sustained prices,  
24 high prices, low prices or in between.

25 We used the same oil price assumption in

1 all three scenarios. The purpose of doing that  
2 was to hold the oil price constant so that the  
3 impacts we were getting were due solely to the  
4 effects of natural gas.

5 You can see the prices that we decided  
6 on. And at the initial meeting what we did is we  
7 determined an end price in 2016, in constant 2005  
8 dollars, for the Topock border price. You can see  
9 those listed, the \$5, the \$7.50 and the \$10 per  
10 mBtus.

11 Then what we did is we based the U.S.  
12 prices and made some assumptions about how  
13 different the U.S. prices would be from the  
14 California wholesale prices.

15 And if we go to the next slide you can  
16 see this slide I think presents it a little more  
17 understandably. The top solid green line is the  
18 California natural gas wholesale price. You can  
19 see under it the dashed green line is the Henry  
20 Hub price. The difference between those two lines  
21 is 75 cents per mBtus. And we assumed that under  
22 the high-price scenario that that difference was  
23 constant over time, starting in 2007 to the end of  
24 the study.

25 We assumed no difference in the middle-

1 price scenario. So in that scenario the  
2 California wholesale natural gas price and the  
3 U.S. whole natural gas price were assumed to be  
4 the same. The bottom, the U.S. price, is higher.

5 This just presents the nominal prices.  
6 And if you're interested, at the very far right  
7 under these assumptions the nominal gas price, the  
8 green line in 2016 is \$12.81; it's \$9.61 in the  
9 middle-price scenario. And then for the low-price  
10 scenario it's 6.41.

11 We wanted to make sure that we had a  
12 wide enough range in 2016 that it really covered  
13 what we thought would be the reasonable likely  
14 price scenarios over time.

15 This simply presents information that we  
16 used to set the context for our study. This is  
17 information, I believe, from the Energy  
18 Information Administration. It may differ  
19 slightly with your own. But it was important for  
20 us to get an understanding of how natural gas is  
21 used by the major end-user groups in California,  
22 and how those patterns have changed over time.  
23 And certainly the yellow bars at the top indicate,  
24 you know, how the use by electric utilities has  
25 changed.

1                   Now, immediately prior to this study we  
2                   had performed a study at the U.S. level that  
3                   looked at the economic sectors that are heavily  
4                   dependent on natural gas intensive users. That  
5                   is, these are sectors that use a lot of natural  
6                   gas, and that the cost of the gas that they use is  
7                   a very high share of what they produce.

8                   The timing of this was very helpful  
9                   because it helped us identify which structures in  
10                  California were most likely to be affected as  
11                  natural gas prices went up.

12                  I would also add that one of the  
13                  advantages of this study was that it gave us a  
14                  pretty early heads-up on how industries would  
15                  respond. And what we found in this study that  
16                  there were really four ways that industries are  
17                  going to respond to natural gas prices over time.

18                  The first is fuel substitution,  
19                  conservation. Second, they're going to change  
20                  technology, efficiency improvements. Third,  
21                  operational changes, reduce production. And then  
22                  finally, relocation, displacement. They may  
23                  decide to build elsewhere.

24                  Now, methodology. This involved a  
25                  series of very large models maintained by Global

1       Insight.  What we did, in sequence, the first  
2       bullet I've talked about, we determined what  
3       prices we were analyzing to 2016.

4               Once we had determined the Topock price  
5       then Global Insight went off and did the study.  
6       And at that point, from there on out it was our  
7       study and our methodology, once we agreed on the  
8       prices.

9               We prepared an energy forecast for each  
10       of the three scenarios, because not only do we  
11       need wholesale prices, we also need retail prices.  
12       Because we ultimately had to determine what the  
13       impacts were on end users, both in the U.S. level,  
14       and also in California.

15              We then prepared three forecasts of the  
16       U.S. economy.  We used those forecasts in our  
17       enhanced California model to finally determine the  
18       economic impacts.  And the way we enhanced our  
19       California model was we went in a modified a  
20       series of equations to make sure that,  
21       particularly in the sectors that use a lot of  
22       natural gas, that the price effects would flow  
23       directly into those sectors in California.

24              And finally, as part of that, Jim  
25       Austin, my colleague, conducted a number of

1 interviews with end users, major end users of  
2 natural gas to try and get, from a behavioral  
3 sense, you know, how you responded to natural gas  
4 prices and how are you likely to do so in the  
5 future.

6 Now, economic effects, in a study like  
7 this, are driven by the direct effect which is  
8 obviously what are you going to spend to purchase  
9 natural gas. And we did estimates of what the  
10 expenditures would be under each of the three  
11 scenarios by the major end-user groups. And as  
12 you can see, they're very large numbers.

13 The numbers in that slide are presented  
14 in constant 2000 dollars. In our report we have  
15 some in nominal dollars.

16 The sequence of the direct effect is  
17 pretty clear. Businesses and households will  
18 adapt to higher natural gas prices in a variety of  
19 ways. Businesses cut output; employment falls.  
20 The price effects we were very concerned about and  
21 we'll talk about that. As businesses reduce  
22 employment, wage and salary income declines.  
23 Personal income is lower.

24 And then ultimately what, for us, is  
25 probably the most useful variable is what's known

1 as real gross state product. And when you -- real  
2 gross state product is the California equivalent  
3 of gross domestic product. A number that you see  
4 in the paper a lot. And it represents the value  
5 of goods and services produced in California.  
6 It's the best overall measurement of how the  
7 California economy, in our judgment, would be  
8 affected.

9 And finally, we conducted the analysis  
10 using real prices because we needed to correct for  
11 inflation.

12 This slide presents the major, some of  
13 the major economic impacts by the three scenarios  
14 in 2016. And I'll talk about the impacts prior to  
15 that in just a moment. But just to point out a  
16 couple, make sure that we understand the numbers.

17 Under employment what we're saying is  
18 that if prices under the high scenario were to  
19 prevail, the total employment in California -- if  
20 the middle scenario prevailed, the total  
21 employment in California would be 97,700 jobs less  
22 in 2016 than they would be under the low  
23 scenario. And then under the high scenario  
24 employment would be 163,300 jobs lower.

25 As we move down the table you can see

1 the declines in real wage disbursements; what  
2 people get paid when corrected for inflation.  
3 Real personal income. And then finally the  
4 indicator that I talked about before at the very  
5 bottom, real gross state product. And what we're  
6 saying is that under the high-price scenario, the  
7 last column on your right, if that scenario  
8 prevails over the next ten years, that the value  
9 of real gross state product in California would be  
10 \$30.4 billion less than it would be if the low  
11 prices prevail.

12 Fairly significant impacts. In part  
13 they're large simply because the size of the  
14 California economy is very large.

15 I would mention that within this the  
16 impacts will be more significant in the  
17 manufacturing sector. As a basis of comparison,  
18 real gross state product in manufacturing in 2016  
19 under this high-price scenario will be 3 percent  
20 lower than it would be under the low scenario.  
21 And employment would be 2.1 percent lower.

22 There's a point to be made about  
23 manufacturing. The manufacturing sector has been  
24 declining in relative importance in the U.S. and  
25 in California for reasons that we all know.

1 That's going to continue under any of the three  
2 scenarios. Globalization, economic structural  
3 change and so forth. But what would happen here  
4 is that the prices would make that decline a  
5 little greater if the higher prices would prevail.

6 ACTING CHAIRPERSON PFANNENSTIEL:  
7 Commissioner Geesman.

8 COMMISSIONER GEESMAN: Did you  
9 include --

10 MR. HOPKINS: Yes.

11 COMMISSIONER GEESMAN: -- electric  
12 generation in manufacturing?

13 MR. HOPKINS: It would show up -- it  
14 would flow into our model because the  
15 manufacturing sectors would be affected by the  
16 costs of the various inputs that they use. So, as  
17 higher natural gas prices affect, are translated  
18 into higher electricity prices, that would flow  
19 through.

20 COMMISSIONER GEESMAN: Yeah, but was the  
21 generating sector, itself, considered part of  
22 manufacturing?

23 MR. HOPKINS: We had a separate breakout  
24 for the generating sector.

25 COMMISSIONER GEESMAN: So your

1 manufacturing numbers already take out the  
2 influence of the generating sector?

3 MR. HOPKINS: Correct.

4 COMMISSIONER GEESMAN: Okay. I take it,  
5 though, you did include the refining sector?

6 MR. HOPKINS: The refining, we did the  
7 study for each of the major, what are known as  
8 three-digit -- code manufacturing sectors in  
9 California, so we did include the refining sector.

10 All of the manufacturing sectors got  
11 specific treatment in terms of price effects being  
12 introduced, so the answer would be yes.

13 COMMISSIONER GEESMAN: Do you have  
14 backup data that includes manufacturing, or that  
15 isolates the refining sector?

16 MR. HOPKINS: Yes, I've got it with me  
17 and we --

18 COMMISSIONER GEESMAN: Okay.

19 MR. HOPKINS: -- can certainly make it  
20 available. We have spreadsheets that have all  
21 that information. And we have that over time, so  
22 we'd be happy to provide that.

23 COMMISSIONER GEESMAN: Okay, thank you.

24 MR. HOPKINS: Sure.

25 One of the concerns certainly on the

1 part of obviously of the three sponsoring  
2 utilities, as well as the CEC, is how will  
3 households be affected as not only prices for  
4 natural gas go up, but also prices for electricity  
5 going up, recognizing, as you full well know, that  
6 about half the electricity generated in California  
7 is obtained by burning natural gas. So we  
8 recognize that the flow-through effect of higher  
9 natural gas prices would have an impact on  
10 purchases of electricity by households.

11 You can see the increases, and this  
12 represents in nominal dollars, so that's the  
13 dollars in the years for which they're presented,  
14 which is now households would base their  
15 decisions, these represent then the dollars that  
16 the households will pay for natural gas and  
17 electricity under each of the three scenarios.

18 And I'll show you the, just to give you  
19 a little -- here we are, on this table. This  
20 gives you a little more detail. So what we were  
21 saying in our study, we'll go to the far column on  
22 the right under high, that under that scenario,  
23 the high scenario, households in 2016 will spend  
24 \$673 per year on average for natural gas. And  
25 that that number is \$233 higher than it would be

1 under the low-price scenario.

2 ACTING CHAIRPERSON PFANNENSTIEL: Excuse  
3 me. Did you have any elasticity in here? Or has  
4 that already been accounted for?

5 MR. HOPKINS: That's embedded all  
6 throughout the models.

7 ACTING CHAIRPERSON PFANNENSTIEL: Okay,  
8 thanks.

9 MR. HOPKINS: The electricity spending  
10 numbers, as we go down, we are saying that under  
11 the high-price scenario the average household in  
12 California would spend \$1203 for electricity in  
13 that year. And that that number is \$106 higher  
14 than it would be under the low scenario.

15 Let me mention a couple footnotes here  
16 that I think are very important to note. I'm  
17 sorry, let's talk earned income first, and then  
18 I'll go back to the footnotes.

19 We finally then note that earned income  
20 per household in California under the high-price  
21 scenario will actually be lower than under the  
22 low-price scenario. The reason is that the higher  
23 natural gas prices result in higher inflation at  
24 higher nominal prices. You've got the economic  
25 impacts that we talked about, the loss of the

1 163,000 jobs and the decline in gross state  
2 product.

3 And so what we are saying in that bottom  
4 row that the earned income per household in  
5 California in 2016, so we're going out ten years,  
6 would be \$113,148, and that's considerably less  
7 than it would be under the low-price scenario.

8 Now, it's important to realize that that  
9 number is a residual and affects everything we're  
10 talking about. It affects not only the changes in  
11 expenditures presented above, but also all of the  
12 cumulative economic impacts that have flowed  
13 through over time.

14 The second bullet is a point that the  
15 advisory committee, particularly the members of  
16 the three gas utilities, wanted to make sure that  
17 it was understood. Our models are based on  
18 definitions on natural gas use as used by the  
19 Energy Information Administration. Because all of  
20 our models, state and U.S. are based on that.

21 There are some differences in how  
22 industrial gas used by utility, by industrial  
23 users that cogenerate power in California and then  
24 sell it back to utilities. It's defined a little  
25 differently.

1           The members of the advisory committee  
2           wanted to make sure that we understood, and that  
3           the readers of the report understood, that we  
4           recognize that higher natural gas prices for  
5           industrial users, and as they use that to  
6           cogenerate electricity, and then pass that price  
7           increase along to the utilities that buy it, and  
8           it flows on to the consumers, that the price  
9           impacts could, in fact, be a little higher than  
10          what we've presented in our study, depending on  
11          how much of that higher natural gas price is  
12          passed along from the industrial cogenerator to  
13          the utility, and ultimately to the customer.

14                 Now, let's go to -- we wanted to look at  
15                 how energy consumption per household would change  
16                 under the three scenarios over time. And you can  
17                 see the numbers there. These are -- this is  
18                 consumption in Btus, equivalent for both  
19                 electricity and natural gas, per household. And  
20                 you can clearly see what economic theory would  
21                 suggest, that the decline is much greater under  
22                 the high-price scenario than it would be under the  
23                 middle and the low.

24                 It was actually kind of interesting,  
25                 when this result came out after months of running

1 many models, it confirmed to us that a lot of what  
2 we had done before was, in fact, correct. Because  
3 here ultimately was economic theory and  
4 consumption working as economic theory says it  
5 should. And it certainly gets back to the  
6 elasticity question that was posed.

7 Now let's go to -- now some conclusions.  
8 Some of which I've already touched on, and some  
9 others I haven't.

10 Clearly the obvious conclusion is that  
11 the level of economic activity in California will  
12 be, by 2016, will be noticeably lower with higher  
13 natural gas prices than low. And that's certainly  
14 a very obvious conclusion.

15 The job changes we've talked about,  
16 obviously one issue is 163,300 jobs is a lot of  
17 jobs. But this is also a big economy. And so on  
18 a percentage term they're fairly low. Is that  
19 significant or not significant? Well, clearly, if  
20 you're one of those 163,000 it's obviously very  
21 significant. And we can talk about significance  
22 or not. But my intent here is to make sure you  
23 understand both the level and the context.

24 Real GSP declines. Manufacturing I've  
25 talked about. And the last bullet, the interviews

1       that Jim conducted did confirm that natural gas-  
2       intensive industries in California have already  
3       responded to high natural gas prices. So to a  
4       certain extent some of the economic impact has  
5       already occurred. And I guess to use an analogy,  
6       the low-hanging fruit has been taken, some of the  
7       changes have been realized. Energy efficiency has  
8       been increased and so forth.

9                Next slide. Households are adversely  
10       affected by higher energy expenditures and lower  
11       personal incomes. The expenditure numbers I  
12       alluded to previously. Clearly under the high-  
13       price scenario because employment goes down and  
14       wages go down, that's an additional impact on  
15       households.

16               The third bullet I did talk to. And  
17       there's a more extended discussion of that issue  
18       in our report, but to the credit of the advisory  
19       group, they wanted to make sure that people really  
20       understood that it's a bit of a complex issue  
21       about because a fairly large amount of power is  
22       cogenerated in California and sold to the  
23       utilities, that there's a potential pass-through  
24       effect that's very difficult to model.

25               And the last bullet I've talked about.

1                   Now, let me just give you kind of the  
2                   economist's view of what happens when prices go  
3                   up. What our study showed was that the marginal  
4                   effects decline as prices go up. And what that  
5                   really means is that as prices start to rise,  
6                   businesses take action investing in new equipment,  
7                   laying off people, and so forth. And beyond a  
8                   certain point there really isn't much additional  
9                   savings to be obtained. That's really the message  
10                  here.

11                  So that as we go from the low-price to  
12                  the middle-price to the high-price scenario, each  
13                  additional one percent increase in price has less  
14                  of an incremental effect. But that is as you  
15                  would expect. And certainly the reverse is true.  
16                  If it turns out that prices decline, then you get  
17                  an effect going the other way, because a lot of  
18                  those savings go immediately to the bottomline and  
19                  frees up resources for businesses and households  
20                  to spend in other ways or to invest in other ways.

21                  Jairam, let's go to the next one. Our  
22                  study clearly showed, and there are tables in  
23                  there to support it, that the impacts of sustained  
24                  higher natural gas prices increase over time. And  
25                  as what we did is we compared differences between

1 2010 among the three scenarios, and differences in  
2 2016 in the three scenarios. And uniformly, the  
3 impacts, both in percent and absolute terms, were  
4 greater by 2016.

5           You can see in the second bullet, for  
6 example, the loss in real gross state product per  
7 job is substantially greater over that period.  
8 Well, the reason is obviously is that over time,  
9 as prices stay high, businesses continue to adapt,  
10 and they continue to adapt. So it's a very  
11 dynamic process of investing in new equipment,  
12 making different decisions, fuel substitution and  
13 so forth. And those impacts build over time.

14           The other point I would make is that the  
15 impacts that we're showing in 2016 are the  
16 cumulative result of everything that's happened  
17 the prior 10 years. You just all of a sudden  
18 don't get an immediate drop of \$30 million in  
19 gross state product by 2016. That occurs over  
20 time as households and businesses adapt.

21           Okay, let's go to one of the things that  
22 we did find out, and we expected this going in,  
23 but it confirmed it, is that California's economy  
24 is more sensitive to the price of natural gas than  
25 the U.S. economy. I use the term slightly. It

1 wasn't greatly more sensitive, but it's clearly  
2 more sensitive.

3 In part, that's because the natural gas-  
4 intensive sectors in California, particularly  
5 electric generation, obtain a lot more of their  
6 energy input, on a percent basis, from natural gas  
7 than comparable sectors in the U.S. economy.

8 The last bullet I've alluded to  
9 previously. The potential flow-through effect of  
10 the higher natural gas prices, cogeneration and  
11 the selling of the price back.

12 COMMISSIONER GEESMAN: Let me ask you a  
13 question.

14 MR. HOPKINS: Sure.

15 COMMISSIONER GEESMAN: Why are the  
16 cogenerators any different than any other third-  
17 party electric generator?

18 MR. HOPKINS: I may have to ponder that  
19 one, and that's a question where I wish my  
20 colleague, Mr. Austin, was here, who is the expert  
21 in that area. And the advisory committee members  
22 are certainly here.

23 As I understand it, the concern,  
24 depending on the contract between the industrial  
25 cogenerator and the utility purchasing, there's a

1 question of if natural gas prices go up for  
2 industrial customers, and if they're cogenerating  
3 electricity, their costs of generation obviously  
4 go up. Then the question is how much of that  
5 higher cost of their electricity, first of all,  
6 goes to the purchasing utility, and then how much  
7 of that additional cost will the utility be able  
8 to pass on to the customers.

9 COMMISSIONER GEESMAN: But isn't that  
10 true in virtually every generating contract that  
11 exists in California today between a generator and  
12 the utility?

13 MR. HOPKINS: I would certainly think  
14 so. The concern here was the advisory committee  
15 wanted to make sure that there was a potential  
16 price effect that could be in addition to what we  
17 were estimating, depending upon how you break out  
18 the natural gas use by industrial users, that is  
19 cogeneration, as opposed to simply process use for  
20 generating steam --

21 COMMISSIONER GEESMAN: Right.

22 MR. HOPKINS: -- or heating a boiler.

23 COMMISSIONER GEESMAN: Okay. Who was on  
24 your advisory committee?

25 MR. HOPKINS: Oh, there are a number

1 of -- it's in our report. Let's see, we've got --  
2 I can give you the list.

3 COMMISSIONER GEESMAN: Were there  
4 cogenerators on there?

5 MR. HOPKINS: I don't -- I mean there  
6 were certainly the utilities who have to purchase  
7 the power obviously were on the committee. I  
8 don't believe there were any cogenerators, per se,  
9 on there.

10 But to their credit, that was an issue  
11 that they wanted to make sure that we brought to  
12 your attention.

13 Now, the final conclusions. We don't  
14 think the structure of California's economy is  
15 going to be fundamentally affected by higher  
16 natural gas prices. As I've talked about, the  
17 manufacturing sector is going to decline  
18 regardless.

19 Part of the reason for the structure of  
20 the economy not being greatly affected simply by  
21 natural gas prices is there are so many other  
22 factors that are affecting both the U.S. economy  
23 and the California economy, in terms of trade,  
24 trading partners and so forth.

25 And finally, to close with this, we were

1       also asked to look at the impacts in northern  
2       California and southern California. There is a  
3       map in our study that shows what we define as  
4       northern and southern.

5                 We found that the impacts would be more  
6       significant in southern California simply because  
7       they have a larger concentration of natural gas-  
8       intensive industry, so therefore, the price  
9       effects there would be more significant than in  
10      the northern part of the state.

11                With that, I believe our study is  
12      available on the website. Hopefully you've had  
13      copies, a chance to read it. I would certainly be  
14      happy to answer any questions; or if you have any,  
15      they can certainly forward them to Jairam and we'd  
16      be happy to respond to them.

17                ACTING CHAIRPERSON PFANNENSTIEL: Mr.  
18      Hopkins, I have two.

19                MR. HOPKINS: Sure.

20                ACTING CHAIRPERSON PFANNENSTIEL: One  
21      has to do with the negative cumulative impact, or  
22      the cumulative effect of the negative impacts, I  
23      guess, to put it better, your sense is that -- or  
24      your analysis is that over time the situation is  
25      worsened as these, what you describe as negative

1 impacts, --

2 MR. HOPKINS: Right.

3 ACTING CHAIRPERSON PFANNENSTIEL: --

4 continue. Wouldn't you expect that over time  
5 there would be some offsetting positive impacts?  
6 For example, I'm thinking of when the prices go  
7 up, the businesses and households might invest in  
8 energy efficiency equipment, for example, that has  
9 a payback then, a shorter payback. And over time  
10 reduces their consumption, but in a positive way?  
11 Did you build anything like that in, I guess is  
12 what I was asking.

13 MR. HOPKINS: Well, in the slide that  
14 talked about the household expenditures and the  
15 declining energy use, I guess what we're saying is  
16 that while the -- let's take households -- while  
17 the decrease in energy use by households, while  
18 energy use under the high scenario would go down  
19 because of the higher prices, that would not be  
20 enough to offset the nominal increase in prices.

21 So the net effect is overall negative.

22 We certainly agree that over time  
23 businesses will take exactly the kinds of actions  
24 that you're talking about. But what we're saying  
25 within the context of this study, and taking the

1 high-price scenario that we used, that under that  
2 scenario the negative effects, once you take all  
3 this into account, will outweigh the positive  
4 effects.

5 ACTING CHAIRPERSON PFANNENSTIEL: So you  
6 did take into account the likely investment of  
7 businesses and households in cost effective, by  
8 definition --

9 MR. HOPKINS: Right.

10 ACTING CHAIRPERSON PFANNENSTIEL: -- if  
11 these measures are cost effective, then they  
12 should be offsetting, more than offsetting the  
13 negative effects?

14 MR. HOPKINS: That would certainly be  
15 what was reflected and captured in our model. So  
16 what we're saying, in response to your question,  
17 is yes, that's in there. It's not enough to,  
18 certainly under the high-price scenario, to offset  
19 the overall negative effects. But clearly that's  
20 going to happen over time.

21 I think, looking at one of the  
22 surprising things in the study to me, was that the  
23 impacts weren't more significant in percentage  
24 terms. And I think that's, in fact, from exactly  
25 the reasons you're alluding to. That they would,

1 in fact, be greater if the kinds of things you're  
2 talking about did not happen over time.

3 ACTING CHAIRPERSON PFANNENSTIEL: My  
4 other question had to do with the allocation of  
5 the cost to retail customers. Did you assume that  
6 the cost increases were passed equally, or on  
7 current allocations, to all classes of customers,  
8 to business and residential in both gas and  
9 electric? So you assume that if there was a 10  
10 percent increase, then all customer retail prices  
11 would be increased that way? Or what did you  
12 assume for that?

13 MR. HOPKINS: I would have to go back  
14 and look at what the numbers were specifically.  
15 But what we did in our forecasting process is that  
16 we realized that we had to forecast retail prices  
17 for electricity and natural gas by the major end-  
18 user categories, which we defined households,  
19 industrial, commercial and electric generation.

20 So, clearly the retail prices would have  
21 been reflected in the end-use price for the  
22 commercial end users that we used in our model.  
23 What I would have to do is go back and look at and  
24 see what the differences are between the  
25 commercial price and the wholesale prices, and see

1 just, you know, what pass-through occurred.

2 ACTING CHAIRPERSON PFANNENSTIEL: But it  
3 just seems like there would be --

4 MR. HOPKINS: The models attempt to take  
5 that into account, but I don't have at the top  
6 right here what that percentage difference is.

7 ACTING CHAIRPERSON PFANNENSTIEL: It  
8 just seems like there would be a very big  
9 difference in impact if, for example, residential  
10 rates are held constant, not allowed to increase,  
11 and all of the increase in natural gas prices, or  
12 the electric rates increases were all passed on  
13 to, you know, the manufacturing sector, for  
14 example.

15 MR. HOPKINS: Oh, I would certainly  
16 agree. And in our energy models that we use to  
17 forecast the retail prices in California for  
18 natural gas and electricity, do take that into  
19 account. And we could certainly give you the  
20 information that show what those differences were.

21 ACTING CHAIRPERSON PFANNENSTIEL: We'll  
22 look at that in the model. Thank you.

23 MR. HOPKINS: Sure.

24 COMMISSIONER ROSENFELD: I have a  
25 question, too. It sounds like a question; I think

1       it's really a comment. But, of course, you'll  
2       probably want to respond.

3               We don't have as much experience, or I  
4       don't, with natural gas. But we know a hell of a  
5       lot about what happened way back when gasoline  
6       prices went up from 60 cents a gallon in 1973 to a  
7       couple of bucks by -- in the 1980s.

8               And there were, of course, huge  
9       technological changes which allowed households and  
10      businesses to respond.

11              So in 1974 the average fuel economy was  
12      14 miles per gallon; by 1985 it was 28. So people  
13      could respond because policies changed and the  
14      fuel economy doubled, and you could buy efficient  
15      cars.

16              When natural gas prices go up, the same  
17      analogous sorts of things are going to happen.  
18      But I don't know how you put that into economic  
19      models. That is that long-range elasticities are  
20      always going to be a lot faster than what you're  
21      taking them to be in times of stability.

22              MR. HOPKINS: Two responses to that.  
23      Within the industrial section of our economic  
24      models, both at the U.S. level and at the state  
25      level, particularly when we're looking at the

1 manufacturing sector, one of the things that is  
2 embedded in those models is how much energy is  
3 used to produce a unit of output.

4 So, clearly, as technology advances,  
5 prices go up, the amount of energy used, strictly  
6 Btu terms or in prices, as a share of the value of  
7 what you produce, has, in fact, been going down.  
8 And that is included, embedded in our models, so  
9 we do attempt to take into account, and we try to  
10 make some judgments as to where we think  
11 technology is going, particularly as it relates to  
12 energy use in certain sectors that are large  
13 users.

14 The other point that I would make is  
15 that, and you've seen these studies as much as I  
16 have, is that with all the discussion recently  
17 about the impact of high oil prices, one of the  
18 things that's become very clear is that we use  
19 much less energy to produce a unit of output now  
20 than we did 10 or 15 years ago.

21 So, as a result, you know, the price  
22 effects of energy are not as significant as they  
23 used to be. And that's, in part, due to the very  
24 things that you talked about.

25 But it is included. We can give you

1 more information as to how we take into account  
2 increasing energy efficiency by both households  
3 and businesses over time. And it's a bit of a  
4 guessing game, to be sure. But we also have a lot  
5 of historical data that allows us to look back and  
6 say, this really has changed over time.

7 COMMISSIONER BOYD: This was one of the  
8 two areas that were going through my mind, the  
9 discussion with Commissioner Rosenfeld, that is  
10 what technology creep versus just plain technology  
11 leaps are considered in an analysis like this.

12 And you touched upon transportation  
13 fuel, but what I've been thinking as we've talked  
14 along here for some time now, is we kind of talk  
15 about two legs of the three-legged energy stool.  
16 The transportation fuel piece you referenced  
17 lightly.

18 But I'm really wondering now if you  
19 looked at a composite picture of the California  
20 economy what the transportation fuel cost is doing  
21 to the cost of manufacturing, in concert with what  
22 you've already laid out here. And whether or not,  
23 as we debate internally a lot, there can be  
24 technology advancement in that third arena.

25 We've been unable to move some of the

1 efficiency measures as much as we would like in  
2 that arena. Unlike the authorities we have in the  
3 gas arena to move efficiency in this state.

4 So, you've just added to the case of  
5 puzzlement for me in terms of what we're doing to  
6 the California economy.

7 MR. HOPKINS: Well, --

8 COMMISSIONER BOYD: And I guess that's  
9 what we paid you to do, so.

10 MR. HOPKINS: Well, as I mentioned at  
11 the outset, we wanted to make sure that we could  
12 really precisely isolate the price effects of  
13 natural gas. And so to do that we had to hold the  
14 price of oil constant. Obviously it would be a  
15 whole different and much more complex analysis if  
16 we started that, because then that would have  
17 exactly the effects you're talking about.

18 So I think you'd have to say, at least  
19 in this study, that that transportation cost  
20 effect as it relates to the price of oil and  
21 gasoline, to the extent we could, we held it  
22 constant. Because we really wanted to focus on  
23 the natural gas price effect.

24 COMMISSIONER BOYD: I assumed as much,  
25 yes.

1                   COMMISSIONER GEESMAN:  What changes did  
2                   you assume would happen in the electric generating  
3                   fleet?

4                   MR. HOPKINS:  Oh.  I can get you --I  
5                   don't mean to punt on your question; this is where  
6                   I wish my colleague, Dr. Austin, was here.  As I  
7                   mentioned, we did a whole series of energy  
8                   forecasts, both for the U.S. and for California.  
9                   Embedded in that are a number of assumptions about  
10                  changes in the generating mix, changes in fuel  
11                  prices and so forth.  We could certainly get you  
12                  that information --

13                  COMMISSIONER GEESMAN:  Yeah, I would  
14                  like to see that.

15                  MR. HOPKINS:  I would be a little  
16                  reluctant to speculate on that right now.

17                  ACTING CHAIRPERSON PFANNENSTIEL:  
18                  Further questions from the Commissioners?

19                  MR. HOPKINS:  Thank you very much for  
20                  your time.

21                  ACTING CHAIRPERSON PFANNENSTIEL:  Thank  
22                  you very much.

23                  MR. HOPKINS:  Okay, sure.

24                  ACTING CHAIRPERSON PFANNENSTIEL:  
25                  Excellent presentation.

1                   COMMISSIONER BOYD: Thank you, yes.

2                   ACTING CHAIRPERSON PFANNENSTIEL: Before  
3 we move off of Committee reports, I'd just like to  
4 note that there was, yesterday, I thought a very  
5 effective symposium held here on water/energy  
6 issues. It was jointly orchestrated by this  
7 Commission, the Public Utilities Commission, the  
8 Department of Water Resources and the California  
9 Independent System Operator.

10                   It was really, from our perspective, I  
11 believe work kicked off by the 2005 IEPR, where  
12 they really started peeling back some of the  
13 water/energy relationships. This involved  
14 speakers from water agencies, water utilities,  
15 energy people, as we all try to learn some common  
16 vocabularies and tools.

17                   I think the conclusion was that  
18 everybody learned a lot, and that there's a lot of  
19 work for both agencies, both the PUC, in their  
20 obligations, and the Energy Commission, left to  
21 do. It was excellent, and I think that the Energy  
22 Commission Staff people who helped put it together  
23 should be commended.

24                   Item 13, Chief Counsel's report.

25                   MS. ICHIEN: I'm Arlene Ichien sitting

1 in for Bill Chamberlain. I have nothing new to  
2 report today.

3 ACTING CHAIRPERSON PFANNENSTIEL: Thank  
4 you, Arlene.

5 Executive Director's report.

6 EXECUTIVE DIRECTOR BLEVINS:  
7 Commissioners, for the purpose of the record, I've  
8 been sitting here thinking about the earlier  
9 comments at the beginning of the meeting. And I  
10 just wanted to add one addendum relative to the  
11 comments about Senator Alquist.

12 Clearly, everyone, I think, appreciates  
13 that he's known for having created the Commission.  
14 A smaller circle of people know that he was a  
15 defender of the Commission. And I think it's a  
16 very small circle, quite frankly, that knows that  
17 there was a single moment in time in which he was  
18 the savior of the Commission.

19 I think everyone sitting at the dais and  
20 in the room knows that almost as soon as it was  
21 created the Commission was the target of, you  
22 know, potential elimination. And some of those  
23 efforts were half-hearted, and some of them were  
24 very serious.

25 There was, however, a single moment in

1       that continuum of 10 to 12 years in which there  
2       was a very serious likelihood that that was going  
3       to happen. And to his credit, Senator Alquist was  
4       the last remaining standing entity to keep it from  
5       happening. And against intense political and  
6       personal pressures, he showed the fortitude to  
7       stand behind his vision.

8                   And while he's certainly remembered for  
9       being the creator of the Commission, I just think  
10      for purposes of the record people need to know he  
11      defended it and actually saved it. So, that's all  
12      my comment was.

13                   ACTING CHAIRPERSON PFANNENSTIEL:

14      Thanks, B.B.

15                   COMMISSIONER ROSENFELD: As an  
16      uninformed Commissioner who was happily teaching  
17      physics in Berkeley at the time, can you say a few  
18      more words about that incident?

19                   (Laughter.)

20                   ACTING CHAIRPERSON PFANNENSTIEL:

21      Carefully.

22                   EXECUTIVE DIRECTOR BLEVINS: Can I share  
23      that with you later?

24                   COMMISSIONER ROSENFELD: Yes, with  
25      pleasure.

1 EXECUTIVE DIRECTOR BLEVINS: Okay, I'll  
2 be certain to do that.

3 COMMISSIONER BOYD: You can put a  
4 timeframe on it and let people figure it out for  
5 themselves.

6 (Laughter.)

7 ACTING CHAIRPERSON PFANNENSTIEL: All  
8 right, Leg Director's report.

9 COMMISSIONER GEESMAN: Madam Chair, I  
10 did have a question for --

11 ACTING CHAIRPERSON PFANNENSTIEL: Sorry,  
12 of course.

13 COMMISSIONER GEESMAN: -- B.B. It came  
14 to my attention I think the night before last that  
15 the CPUC, at its March 15th meeting, adopted a  
16 consent calendar item involving comments to FERC  
17 that would be developed by the energy division of  
18 the CPUC and the legal division, regarding the  
19 lifting of the must-purchase obligation under  
20 PURPA.

21 The gist of the comments, as I  
22 understand it, are to be that the must-purchase  
23 obligation would go away once the ISO MRTU day-  
24 ahead market was in place.

25 Seems to me a fairly peculiar mechanism

1 to use to make such a major policy shift in  
2 California. And it quite obviously is 180 degrees  
3 different in direction from our recently adopted  
4 recommendations in the IEPR.

5 And I'm wondering, because of our  
6 monitoring of the PUC meetings, and our staff  
7 collaborative effort with the energy division on  
8 procurement-related matters, just what awareness  
9 we had of the matter. And what steps we took or  
10 didn't take, as a staff, to influence the matter.

11 And I'd ask that you respond to us  
12 either by memo or at our next business meeting.  
13 But I'm a little bit perplexed that there is a  
14 good answer to it, either we didn't know and we  
15 should have; or we did know, and we failed to  
16 bring it to the appropriate attention here at this  
17 Commission.

18 I'm told that the deadline for the  
19 CPUC's comments was today. So this is a matter  
20 where the horse is already out of the barn. But I  
21 think it's a pretty serious problem that we're  
22 likely to face as we go forward.

23 EXECUTIVE DIRECTOR BLEVINS: We'll  
24 certainly respond to your request, and probably my  
25 preference is to do it by memo, because I can get

1       you the information probably quicker that way than  
2       waiting two weeks, so your request is heard.

3               COMMISSIONER BOYD:  A consent item,  
4       that's troubling.

5               COMMISSIONER GEESMAN:  I think on one  
6       level, from a utility lobbyist standpoint, I think  
7       it's worthy of the Hall of Fame.  But at the same  
8       time I think it's a fairly deplorable way to make  
9       that kind of shift in state policy.

10              The must-purchase obligation has been a  
11      cornerstone of our supply system for the last 25  
12      years.  And I think, as you and I both know, from  
13      the extensive hearings that we held in the IEPR  
14      process on this topic, there is a significant  
15      remaining potential in the cogeneration sector.  
16      Our consultant reports identified that as about  
17      5400 megawatts between now and the year 2020.

18              The concerns raised in our hearings were  
19      what happens if you don't cogenerate.  What  
20      happens to that thermal load.  Are people going to  
21      bring in steam boilers again to address this  
22      thermal load, as they have started to do already  
23      in California.  Or are those jobs simply going to  
24      migrate to some other more hospitable jurisdiction  
25      elsewhere.

1 I think it's very troubling.

2 COMMISSIONER BOYD: Well, and to what  
3 extent it keeps faith with the Energy Action Plan.

4 COMMISSIONER GEESMAN: Well, and every  
5 time we get together and you've got Commissioners  
6 in the room, you hear all of these hosannahs about  
7 how wonderful cogeneration is. You look at state  
8 Public Utilities Code or the Public Resources  
9 Code, the Legislature has made pronouncements on  
10 this topic area several times before about the  
11 desire to encourage cogeneration.

12 But in the dark of night, on consent  
13 calendar, we apparently are prepared to make 180-  
14 degree shifts in state policy. I think it's very  
15 troubling.

16 COMMISSIONER BOYD: If you were looking  
17 for Energy Action Plan quarterly meeting issues,  
18 perhaps, Mr. Executive Director, you've found one.

19 ACTING CHAIRPERSON PFANNENSTIEL: Got  
20 that. Leg Director report. We have no Leg  
21 Director, we have no report.

22 Public Adviser report.

23 MR. BARTSCH: Speaking for Public  
24 Adviser Margaret Kim, we have nothing to report.

25 ACTING CHAIRPERSON PFANNENSTIEL: Thank

1       you.  Public Comment.  Anybody here have a  
2       comment?

3                   We will be adjourned, thank you.

4                   (Whereupon, at 11:18 a.m., the business  
5                   meeting was adjourned.)

6                                   --o0o--

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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 Business Meeting; 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 meeting, nor in any way interested in outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 5th day of April, 2006.

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