

DOCKET	
06-IEP-1L	
DATE	<u>Sep 22 2006</u>
RECD.	<u>Oct 11 2006</u>

COMMITTEE WORKSHOP

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

In the Matter of:)	
)	
Preparation of the 2007 Integrated)	Docket No.
Energy Policy Report (IEPR) and the)	06-IEP-1L
2006 IEPR Update)	Land Use/
)	Energy
_____)	

CALIFORNIA ENERGY COMMISSION

HEARING ROOM A

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

FRIDAY, SEPTEMBER 22, 2006

9:03 A.M.

Reported by:
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Gina Barkalow

Suzanne Phinney
Aspen Environmental Group

PRESENTERS

Terry Roberts
Governor's Office of Planning and Research

Pat Stoner
Local Government Commission

Elisa Barbour
Public Policy Institute of California

David Goldstein
Natural Resources Defense Council

Jim Parks
Sacramento Municipal Utility District

PRESENTERS

Chuck Angyal
Chuck Angyal FAIA

Timothy Burroughs
ICLEI

Tom Richman (via teleconference)
LEEDND Core Committee

Malcolm Lewis
CTG Energetics

Susan Freedman
San Diego Association of Governments

Dan Flynn
Consultant

Reza Navai
CalTrans

Holly King
Great Valley Center

ALSO PRESENT

John Kelly
Gas Technology Institute

John Nimmons
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Sustainable Energy Strategies

Craig Christianson (via teleconference)
National Renewable Energy Laboratory

Bob Keebler (via teleconference)

Mary Deming
Southern California Edison Company

Jane Turnbull
League of Women Voters

Michael Meacham
City of Chula Vista

ALSO PRESENT

Bernie Orozco
Sempra Energy

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P R O C E E D I N G S

9:03 a.m.

ASSOCIATE MEMBER GEESMAN: I'm John Geesman, the Associate Member of the Commission's Integrated Energy Policy Report Committee. Today's workshop is on land use and energy. I think I'll turn things over to Suzanne Phinney before I get myself in trouble.

MS. PHINNEY: Thank you, Commissioner Geesman. Good morning. I'm Suzanne Phinney with Aspen Environmental Group. And I have some opening remarks, but first I have to go through the housekeeping items.

For those of you who are not familiar with this building, the closest restrooms are located just outside the doors over in that corner. But please do not go out through those doors at anytime because an alarm will sound.

There's a snack bar on the second floor under the white awning. And we also will have a list of restaurants in the back for during our lunch break.

In the event of an emergency, and if the building is evacuated please follow Energy Commission employees to the appropriate exits. We

1 will reconvene in Roosevelt Park, which is across
2 the street, located diagonally from the building.
3 Please proceed calmly and quickly, again following
4 any of the employees here to make sure we safely
5 exit the building.

6 For those of you who are on the phone,
7 no need to exit, but please put your phone on mute
8 so that we don't hear any background noise in the
9 room.

10 To start out, the Energy Commission's
11 Integrated Energy Policy Report Committee has
12 identified land use and energy as one of its three
13 main issues for the 2006 IEPR update.

14 California's population is expected to
15 grow by 20 million people in the next 50 years.
16 How this growth is accommodated will affect
17 climate change and impact energy demand; in turn,
18 climate change and energy considerations like fuel
19 availability will shape land use. Obviously
20 they're very interrelated.

21 The interaction of the state's energy
22 systems with land uses and land use planning is
23 critical to the implementation of the state's
24 energy goals and initiatives and is closely linked
25 to the other key 2006 IEPR issues, AB-1007 and the

1 renewables portfolio standard.

2 The Energy Commission is holding this
3 workshop on land use and energy to better
4 understand the relationships between these two,
5 and what actions and policies can enhance smarter
6 land use developments, ones that reduce energy
7 needs and enhance energy planning.

8 Outcomes of the workshop will be
9 incorporated in the 2006 IEPR update; and we
10 anticipate further opportunity for dialogue in
11 workshops during preparation of the 2007 IEPR.

12 We have four panels planned for today,
13 two in the morning and two in the afternoon. The
14 panels will focus on California's overall land use
15 planning system and in particular smart growth
16 initiatives; the current role that utilities play
17 in land use planning and development and the
18 resulting challenges and opportunities; the kinds
19 of energy research that will allow further
20 integration of land use and energy; and possible
21 actions that will enhance the ability of land use
22 developments to advance state energy goals and
23 policies.

24 Each of our speakers will talk for 15
25 minutes, thereabouts. Because of the compressed

1 nature of the workshop our public comment period
2 will be after the second panel, right before
3 lunch; and after the fourth panel before we
4 adjourn. So if you have any time constraints and
5 you would like to speak, well, for anyone who
6 would like to speak, please fill out one of the
7 blue cards that is located by all of the workshop
8 materials; and Pat Perez will take your card and
9 will make sure that the Commissioners get it. But
10 if you do have a time constraint and would like to
11 speak in the morning public input part, please
12 identify that.

13 We will also make sure that we check
14 with those of you on the phone to see if you have
15 any comments.

16 If you're commenting here in the room,
17 please remember to give the court reporter your
18 business card. And I'll remind you all that
19 written comments must be submitted by 5:00 p.m.
20 next Tuesday, September 26th.

21 With that, we are ready to go with panel
22 one, which is looking at California's land use
23 planning system, smart growth and energy. Our
24 first speaker is Terry Roberts. She serves as the
25 Director of the State Clearinghouse in the

1 Governor's Office of Planning and Research,
2 overseeing its three primary functions: to
3 coordinate the state level review of environmental
4 documents pursuant to CEQA; to provide technical
5 assistance on land use planning and CEQA matters;
6 and to coordinate state review of certain federal
7 grant programs.

8 She has also worked as a private
9 consultant to municipalities and developers
10 preparing environmental assessments and financing
11 permit acquisition -- facilitating permit
12 acquisition for proposed development projects.

13 Terry, you want to come up here? Everybody needs
14 their coffee in the morning.

15 (Laughter.)

16 MS. ROBERTS: Good morning,
17 Commissioners; good morning, everyone. I'm very
18 pleased to be invited to speak to you today about
19 land use and energy. In my office we deal with
20 city and county governments all the time on their
21 land use planning issues, trying to provide
22 technical assistance and information on the myriad
23 of issues that local governments have to deal
24 with, among them energy.

25 Now, today you're going to hear from a

1 number of experts in the fields of local planning,
2 regional planning, transportation planning and
3 energy development. My intent is to sort of set
4 the stage with an overview of how land use
5 planning works in California; and to point out
6 instances where energy used, specifically
7 addressed in state planning law, and in the local
8 planning process. Can everybody hear me okay?

9 MS. PHINNEY: I want to make sure that
10 they can see your slides, so --

11 (Pause.)

12 MS. ROBERTS: I'm going to cover three
13 broad topics starting with an overview of state
14 planning law, how general plans work basically.
15 I'm going to make some comments on local land use
16 planning and development processes; and I'd like
17 to conclude with some comments about opportunities
18 that we have to make land use planning more
19 responsive to the state's energy needs.

20 Here's some basics. In the brief time
21 that I have I can't possibly go through all of the
22 nuances and you probably don't want to hear about
23 all the nuances. But I'm going to give you some
24 basics, looking at the statutory framework for
25 planning in California.

1 State law dictates the process of local
2 land use planning and decisionmaking. Every city
3 and county, every local government, must have a
4 policy document called a general plan that lays
5 out the parameters of the physical development of
6 the community.

7 Generally speaking, cities and counties
8 have to adopt local regulations that implement
9 that general plan and its policies. The local
10 regulatory instrument is known as the zoning
11 ordinance, and it regulates specific uses on a
12 parcel-by-parcel basis. And it also establishes
13 site-specific development standards.

14 It's also very common for local
15 governments to adopt something called specific
16 plans, another creation of state law, that
17 implements the general plan by laying out a
18 comprehensive and detailed plan for a discrete
19 geographic portion of the community; complete with
20 an infrastructure plan and development standards.

21 Once these plans and ordinances are in
22 place the local government can proceed with
23 processing development permit applications which
24 are subject to another set of review processes,
25 review analysis, making of findings before they

1 can make a final decision on a project.

2 I'd also like to -- I will be briefly
3 mentioning some state planning priorities that
4 apply not to local governments, but to state
5 government only. But these are important to note
6 because we need to be aware that the state has
7 established a framework for land use planning
8 which can influence local policy decisions. I'm
9 going to talk about each of these things a bit
10 more in the next slides.

11 Now, land use in California, land use
12 control is at the local level. The California
13 Constitution gives local governments the authority
14 to make land use decisions within the context of
15 state policy objectives. It's the police power of
16 local government to protect the public health,
17 safety and welfare that is the basis for their
18 land use regulatory authority.

19 When, where and how development occurs
20 is controlled largely by city and county boards
21 and commissions. Local governments control the
22 allowable uses of land through their general
23 plans, through their zoning for their specific
24 plans. And they regulate individual development
25 projects through their permits and other

1 entitlements.

2 But the state legislature has mandated
3 that certain issues of statewide importance be
4 addressed at the local level through the general
5 plan. Local governments cannot exercise their
6 land use authority in conflict with these state
7 objectives.

8 And for example, some of these are
9 provision of housing, protection of endangered
10 species, planning for adequate water supply and
11 planning for transportation.

12 Although it's not covered in state
13 planning law, there is something called a LAFCO,
14 local agency formation commission, a creation of
15 the state that exists in each county; one per
16 county. And the LAFCO is the agency that
17 regulates boundaries; boundaries of cities,
18 boundaries of service districts.

19 And as we all know, the provision of an
20 infrastructure, backbone, services, transportation
21 really influences where and how we grow. So
22 LAFCOs are important consideration here.

23 They decide city incorporations, whether
24 a community may or may not incorporate as a city.
25 They decide whether annexations may be approved.

1 And they also decide the boundaries of service
2 districts like water districts and sanitation
3 districts. And it is their charge in statute to
4 promote orderly growth, make sure that fiscal
5 impacts are neutral, and to consider the premature
6 conversion of agricultural land and the effect of
7 the boundary change on housing.

8 So I'm just mentioning LAFCOs because
9 they are another agency, not necessarily a city or
10 county government, that has an influence on where
11 and how we grow.

12 So what goes into these general plans
13 that I've talked about. What issues do those
14 plans address. And is energy one of them.

15 The general plan is supposed to be a
16 long-range policy document that guides the
17 physical development of a community and virtually
18 every subsequent land use decision and permit
19 decision made by the local government has to be
20 consistent with that general plan.

21 State law mandates that every general
22 plan covers seven particular issues or elements:
23 land use, housing, transportation, open space,
24 conservation, which could include conservation of
25 energy, safety and noise.

1 None of these elements directly speak to
2 energy or energy efficiency. But I want to note a
3 couple of things. Within the housing element
4 there is a statutory requirement for the housing
5 element to analyze opportunities for energy
6 conservation in residential development.

7 In the circulation element, which deals
8 with primarily transportation-type circulation, it
9 is supposed to address, as well, local public
10 utilities and facilities. And OPR has interpreted
11 this to include energy systems, as well as water
12 circulation systems, storm drainage circulation
13 systems.

14 Now, 53 cities and counties, that is 30
15 cities and 23 counties in the State of California
16 have opted to adopt an energy element. I must say
17 that I think the primary reason why we have any
18 energy elements in local general plans is due to a
19 program by the Energy Commission some years ago
20 where the Commission actually funded local
21 governments to prepare these optional energy
22 elements.

23 But 53 out of 534 some local
24 jurisdictions, that only represents about 10
25 percent of all the cities and counties in

1 California that have any discrete policies on
2 energy. And some of those energy elements only
3 deal with production of energy, protecting, for
4 example, the production of oil and gas in Kern
5 County. Other energy elements look more broadly
6 at a variety of policy issues, not just
7 generation, but also distribution, energy
8 efficiency and conservation.

9 Now, OPR, in giving advice to cities and
10 counties on how to develop a good general plan, we
11 do encourage the adoption of energy elements. In
12 our publication called The General Plan
13 Guidelines, we have a whole section there on what
14 sorts of issues could and should be addressed.

15 And I'll just point out a couple of
16 things that we recommend to cities and counties.
17 We believe that the energy element should look at
18 efficient land use patterns. We should look at
19 the transportation and circulation systems to find
20 ways to reduce energy consumption.

21 We encourage local governments to look
22 at their subdivision design and make the maximum
23 use of solar orientation. We recommend that they
24 look at their energy siting policies and
25 distributed generation, as well as building

1 standards and how to more efficiently provide your
2 water and wastewater services. Because we know
3 that those particular types of services demand a
4 lot of energy.

5 Should also point out that more than
6 half of cities and counties in California have
7 general plans that are over ten years old. Some
8 of these general plans are 15, pushing 20 years
9 old. So we try to encourage updates, but of
10 course, that can be a very difficult challenge for
11 local government with limited resources, since
12 updating the general plan can be a lengthy and
13 costly endeavor.

14 Now going to the development approval
15 process, once a local government has its policies,
16 its general plan, its zoning ordinance in place,
17 it can proceed to make development decisions.

18 In addition to reviewing development
19 projects or applications for development, for
20 consistency with the general plan and zoning, the
21 local government has to consider other rules and
22 regulations that are set forth in either state or
23 local laws. And a couple examples of these are
24 the Subdivision Map Act and specific plan law.

25 The Subdivision Map Act, as I briefly

1 mentioned before, has a requirement in it that the
2 design of a subdivision must provide, and I'm
3 quoting, "to the extent feasible for future
4 passive or natural heating or cooling
5 opportunities." So we're trying to promote solar
6 orientation of new subdivisions. And that, we
7 know, is an energy efficient measure.

8 But we're not sure how well the
9 implementation is going of that. My office does
10 not review subdivision plans, and we haven't
11 really surveyed local governments to see how well
12 they're implementing this provision of the Map
13 Act.

14 UNIDENTIFIED SPEAKER: Why not?

15 MS. ROBERTS: Where did that come from?
16 Well, perhaps we should investigate that, and that
17 is something that we can do. OPR does survey
18 cities and counties every year to find out what's
19 going on in their planning arena. And I'll take
20 that as a suggestion that we investigate that.

21 Now, CEQA's another process that has to
22 be completed before development project can be
23 approved. And what is CEQA? It's state law that
24 requires public agencies to consider the adverse
25 environmental consequences of their decisions

1 before they make those decisions. And to mitigate
2 any significant adverse environmental impacts.

3 Now, CEQA sort of tangentially mentions
4 energy. CEQA requires an analysis of impacts on,
5 of course, the land, air, the water, species, but
6 it also requires the lead agency, the public
7 agency, to look at impacts of a development
8 project on utility systems, which includes energy.

9 And, in fact, in the CEQA guidelines
10 there is an appendix that gives advice to public
11 agencies on how to analyze energy impacts and how
12 to mitigate those impacts.

13 However, what it says in CEQA is that
14 you have to develop mitigation measures for
15 reducing, and I'm quoting, "wasteful, inefficient
16 and unnecessary consumption of energy."

17 So, three problems with this CEQA
18 requirement. Number one, there's no definition of
19 wasteful and inefficient. Well, I need this much
20 energy to run my project, so that's what I need.
21 It's not wasteful or inefficient.

22 Many jurisdictions don't think of energy
23 impacts to be significant because sort of the
24 presumption is well, we built it and the power
25 company will provide service to it. Just like we

1 used to think about water; however that has
2 changed.

3 Thirdly, many jurisdictions feel that
4 compliance with Title 24 energy standards are
5 sufficient to mitigate impacts. But as we know,
6 that really just looks at building structures.

7 State planning priorities. Here's
8 another policy statement in state law that applies
9 to state agencies, not local governments, but can
10 be an influential tool in how local governments
11 make planning decisions and permitting decisions.

12 These state planning priorities, and I'm
13 just really captioning these, are to promote
14 infill and redevelopment, to protect environmental
15 and agricultural resources, and to encourage
16 efficient development patterns. The word energy
17 is not anywhere in those planning priorities, but
18 I believe it is implied.

19 In the local planning arena there are
20 many progressive local communities who are
21 thinking more holistically about planning.
22 Planning is more than just adopting a general plan
23 and a zoning ordinance and looking at development
24 standards for individual parcels. Planning is
25 really more than just the sum of these parts.

1 Communities are trying to breathe life
2 back into their eroding urban centers. They're
3 trying to improve the general quality of life by
4 thinking about planning in terms of creating a
5 community and a sense of place.

6 There are several examples of local
7 governments that are moving towards something
8 called form-based codes, which looks at planning
9 more holistically in terms of urban design and
10 use. Another trend we're seeing is regional
11 collaboration among local governments who are
12 becoming more aware that some of their local
13 problems are really regional problems. And
14 therefore, require regional solutions.

15 And smart growth is a term that's been
16 around for a long time. I think there are a lot
17 of supporters of the principles and philosophy of
18 smart growth. I still think that there is sort of
19 a failure on the part of a lot of local
20 governments to understand how they can take it
21 from principle to practice. How do you actually
22 implement smart growth.

23 I know that other speakers are going to
24 be talking about this, so I'm just going to really
25 quickly go through this slide. Smart growth is

1 commonly associated with compact mixed-use infill
2 oriented community design that encourages walkable
3 neighborhoods. And offers a variety of housing
4 types and transportation options.

5 In the literature that I've seen energy
6 is not specifically called out as an objective of
7 smart growth. But I do believe that it is a
8 natural byproduct or indirect effect of smart
9 growth type planning.

10 Now there's plenty of examples of local
11 efforts to implement smart growth and to become
12 more energy efficient. Here are just three
13 examples that I found, one in the Monterey Bay
14 region, one in Shasta County, one in the City of
15 Indio.

16 I picked these because they represented
17 a broad range of city and county, region, urban,
18 rural, you name it; it's northern, central,
19 southern California. It is happening throughout
20 the state, but it's not being done by everyone.

21 Putting energy on the agenda. Here's
22 where I'd like to make some comments. Suzanne has
23 already mentioned the tremendous population growth
24 that we're expecting. Twenty million people by
25 2050. There's projections that we'll have about

1 46 million residents by 2025; that's only 20 years
2 away and that's about a 20 percent growth in our
3 population. It's the equivalent of about half a
4 million people per year every year for the next 20
5 years.

6 A lot of this growth is going to happen
7 in southern California, Inland Empire. This is
8 the more arid, dry, warm part of the state where
9 we know that growth is going to require a lot of
10 energy development.

11 So how do we accommodate the coming
12 growth. Planning professionals are struggling
13 with where and how to grow. But how do we guide
14 that development so that it is of high quality,
15 environmentally friendly and energy efficient.

16 There is a lot of information out there
17 already on smart growth. I think we need to
18 highlight the importance of smart growth as it
19 relates to energy efficient land use patterns and
20 community design. There are plenty of resources
21 out there; however, planners at the local level
22 are not energy experts. They need tools; they
23 need information; best practices. They need to
24 see how to take the concepts of smart growth and
25 implement them in a practical way.

1 There's a lot of support being provided
2 by the state and regional governments, local
3 governments. I think that we can all work
4 together to make energy efficiency and good energy
5 planning higher on the priority list for planners.

6 Thank you.

7 MS. PHINNEY: Thank you, Terry. And I'll
8 just remind those of you who are on the phone that
9 we do have two separate, two discrete public
10 comment periods. So if you could hold your
11 remarks until then.

12 And also this workshop is being webcast
13 since its inception. And all of the slides are
14 available for viewing as the speakers make their
15 presentation.

16 Next up we have Pat Stoner. He's a
17 Resource Conservation Program Director for the
18 Local Government Commission. LGC is a nonprofit
19 organization that provides inspiration, technical
20 assistance and networking opportunities to local
21 elected officials and community leaders working to
22 create healthy, walkable and resource efficient
23 communities.

24 LGC's recent energy programs have
25 provided energy efficiency design assistance for

1 new residential development plans, help for local
2 governments to procure, finance and install
3 renewable energy systems and assistance to
4 counties and cities in establishing energy offices
5 and assistance to communities investigating
6 community choice aggregation.

7 Pat has 73 slides, but he has promised
8 me that he's practiced and he can do this in 15
9 minutes. And you will learn everything you ever
10 wanted to know about smart growth.

11 (Laughter.)

12 MS. PHINNEY: If I can get it on the
13 screen. Thank you, Pat.

14 MR. STONER: First of all I want to say
15 thank you for inviting us to be part of this
16 workshop today. I was asked to talk about smart
17 growth and the energy implications of it. And as
18 you said, I have a lot of slides, so I'm going to
19 jump right into it.

20 There are a lot of different definitions
21 of smart growth. The one we use is just that it's
22 development that doesn't compromise a community's
23 future. And it's not about stopping growth, but
24 managing it, and managing it in a way that
25 provides choices in where we live and work and how

1 we get around.

2 Some common things of smart growth
3 definitions is you want to use land more
4 efficiently, so that means doing infill first and
5 compact development in new areas next.

6 Mixing uses so that you don't have to
7 use a car for every trip that you make.
8 Supporting walking and bicycling, and that means
9 building slower, safer, narrower and more pleasant
10 streets. And then also supporting transit which
11 generally means doing denser development.

12 LGC is one of the many authors of smart
13 growth principles. Ours are called the --
14 principles for resource efficient communities.
15 And they were developed in 1991 by a group of
16 architects and planners. And they focus on
17 compact mixed use communities that conserve
18 resources. And also promote transit, biking,
19 walking and mixed-income and cross-generational
20 housing. And you need that if you, you know, if
21 you want to have your people who are doing service
22 industry stuff not having to drive 20 or 30 miles
23 every time they go to work.

24 This is the way we used to build
25 communities with vibrant downtowns. And this is

1 the way we've been doing it since about the second
2 world war.

3 Shopping malls have replaced downtowns,
4 and everybody has to drive to get to them. This
5 parking lot was developed for the number of
6 shoppers on the day after Thanksgiving, but other
7 times of the year it's mostly empty. And it's
8 generating lots of heat for the surrounding
9 neighborhood. And it's not very pedestrian
10 friendly.

11 Nor is this, or this, and there's a
12 pedestrian out there in the middle trying to cross
13 the street.

14 (Laughter.)

15 MR. STONER: Or this. I mean where are
16 you going to walk along this street.

17 So our communities have been designed
18 for the benefit of the car and not for people.
19 And so we're using a lot more energy than we need
20 to.

21 This graphic shows each half of that is
22 showing the way we used to develop it on the left,
23 and the way we currently develop on the right.
24 Both sides have the same number of housing units;
25 they're the yellow pieces there. And the same

1 square footage office and commercial, and
2 institutional like school space.

3 The graphic on the right, the community
4 on the right requires the use of a car for almost
5 every trip. Can you imagine a parent sending
6 their child from one of these yellow subdivisions
7 out on these very very busy streets, either by
8 walking or by bicycle in order to go to school in
9 one of the other areas over there. But a lot of
10 biking and walking trips are possible on the left.

11 Studies back up this move towards the
12 car. This one, in its 20-year period the U.S.
13 population increased by 20 percent. But the
14 number of trips per household increased by 50
15 percent. And that's because our communities that
16 we live and work in are less walkable than they
17 used to be.

18 And on top of that, the vehicle miles
19 traveled have increased by over 80 percent. And
20 so not only are we making more trips, but each one
21 is longer.

22 There's similar results in California.
23 And as the percentage of car trips increases, the
24 percentage of walking trips has decreased.

25 This study was done in San Diego and it

1 compared a number of auto-related variables for
2 people living in infill development versus those
3 living in new suburban development. And you can
4 see the vehicle miles traveled and time spent in
5 the car is about 50 percent for people in infill.
6 I'm not sure how they measured congestion, but it'
7 a quarter of the other. And the pollution
8 associated with cars is about 60 percent.
9 Infrastructure costs about 10 percent; and that
10 makes sense if you're not having to build new
11 roads and sewer systems and water delivery systems
12 and so forth and utilities. And then the
13 household travel costs are about 60 percent.

14 Just realized I didn't put my glasses
15 on. That's better. So, smart growth encourages
16 downtowns instead of shopping malls; encourages
17 narrow streets instead of wide ones. And there
18 are a number of energy benefits out of narrow
19 streets, from the initial lower embedded energy
20 costs for developing them, building them, to also
21 they're being able to be shaded sooner and more
22 fully to cool the surrounding neighborhood.

23 Encourages parking structures instead of
24 large lots. This parking structure on the left
25 takes up less space, generates less heat, and it's

1 also located in a neighborhood where people can
2 come and park once and attend to multiple errands
3 without having to get back in their car and drive
4 again.

5 Encourages mixed use instead of single
6 use. And, again, you can park once and walk after
7 that. And this development on the left, it looks
8 like it may even have housing on the upper levels.
9 Encourages walking and transit instead of the use
10 of the car for every trip. And more compact
11 development that can support transit and more
12 walking.

13 There are ten kind of generally accepted
14 principles of smart growth. I'm going to focus on
15 the first seven which have some energy
16 implications.

17 And the first one is to preserve open
18 space. These landscapes on the right have a lot
19 of benefit for the state from flood control and
20 groundwater recharge and agriculture, which is a
21 big part of our economy; but also we preserve them
22 and it forces us to grow more compactly.

23 There have been several studies on the
24 cost of sprawl. This one from the 1980s. Found
25 that the capital costs for smart growth housing

1 was about half that of low density sprawl. And
2 it's even about a third of the cost of that sprawl
3 if it's not contiguous with existing development.

4 This study found that the cost of roads,
5 utilities and schools was higher. That's from the
6 1990s.

7 The second principle you want to do
8 infill first. You want to rethink what you've got
9 and reuse it. This is an old office building in
10 San Diego that was converted to housing.

11 These are some of the benefits of
12 infill: you can revitalize neighborhoods; provide
13 more housing options again for those service-
14 industry people or seniors who may not want to
15 have to drive for everything. Supports transit;
16 reduces infrastructure costs, among other things
17 that it does.

18 This is an example, or I'm going to give
19 you a couple of examples of infill. This is a
20 small project in Davis, in the downtown area of
21 Davis. Even though it's very small it has three
22 different types of housing for different income
23 levels and ages. It also has a small retail
24 center which you can see in the back. This is the
25 single family housing. These are cottages which

1 are good for people who need smaller space or have
2 smaller incomes like students and maybe seniors.
3 And there's some duplexes in this project, as
4 well. This is the commercial center.

5 Metrosquare. This is the first -- this
6 is in midtown Sacramento. It was the first kind
7 of major infill project downtown in decades. It
8 was done in the '90s. And it was so successful
9 that it sold out. There were like 46 houses, I
10 think, in one square block they built that was
11 empty. And it sold out in the first day. And so
12 it's really been kind of an impetus for a lot of
13 the other developments going on in Sacramento.

14 This is another project in San Diego.

15 You want to build compactly. Probably
16 it's pretty obvious that when you have multistory,
17 multifamily housing that's going to be more energy
18 efficient per unit than detached single-family
19 housing, because of the insulating benefit of
20 shared walls and ceilings. It also helps to
21 support transit, this kind of density.

22 Compact development also encourages
23 walking. If you've ever been to Savannah, you
24 know how nice it is to walk around and sight-
25 seeing, visit the parks and so forth. People can

1 come and park once and then walk. But it's kind
2 of hard to imagine very many walking trips in this
3 part of Irvine, which takes up the same area as
4 the Savannah map.

5 These are some compact development
6 strategies. Apartments; they can be for any kind
7 of income level. Smaller lot housing. This is a
8 new project in Santa Ana which is a live/work
9 project. This is a subdivision that was built in
10 the '90s in Mountain View along traditional models
11 with narrow streets, separated sidewalks and
12 smaller lots.

13 Mixed land uses. This is probably the
14 most important that you can do if you want to save
15 on transportation energy. I live in midtown
16 Sacramento and I work downtown. And I walk or
17 ride my bike to work every day. In fact, I walked
18 here this morning. And, you know, I often walk to
19 neighborhood restaurants and shops, as well.

20 These are some examples. This is an
21 older building in Sacramento. A new one in Davis.
22 This is in Brea. They're redoing their downtown.
23 I think they're actually taking an old shopping
24 mall and making a new downtown out of it.

25 This is in Florida. And in Salinas.

1 This is Sacramento again. This is the new Safeway
2 that was built at 19th and S. The Safeway is kind
3 of on the right there with the big arch. And this
4 is the building that's facing S Street. And since
5 it's been taken all these lower stores have been
6 rented, and their housing right above them.

7 You want to provide housing for all
8 kinds of income levels, ages and family sizes.
9 Again, if the only option for a senior is to buy a
10 house in Rancho Murietta or Sun City in Lincoln,
11 they're going to have to use their car most of the
12 time.

13 These are some alternatives to the
14 single family detached house. This is actually --
15 these are ADU, additional dwelling units or inlaw
16 apartments or granny flats on this alley. On the
17 main streets on both sides of this alley there are
18 single family detached larger houses. But, again,
19 this provides housing for somebody who may not be
20 able to afford something else in the neighborhood.
21 It also provides more safety for alleys, because
22 there are eyes looking on the street. And that's
23 one of the concerns people don't like about
24 alleys, that they're kind of abandoned and ripe
25 for crime.

1 This is attached single family housing
2 in Petaluma. And the Local Government Commission
3 does something called the community image survey
4 where we help out people in the communities trying
5 to envision what their future is going to look
6 like.

7 And this is one of the slides that we
8 use in that survey. And right across the street
9 from this development is the more conventional
10 housing development with larger houses, more
11 expensive houses and two- or three-car garages
12 facing the street. And invariably when we show
13 this picture and the other picture, we don't show
14 them in the same slide, this gets much higher
15 rating than the one that's more conventional and
16 more expensive. When you build compactly you can
17 have room for extra things like parks.

18 You want a great walkable community,
19 that means mixing uses, building compactly and
20 making it safe and pleasant to be there. These
21 are some communities we like to visit and stroll
22 around in.

23 And we can retrofit what we don't like.
24 We can make it more pleasant to be there; more
25 energy efficient; and eventually transform those

1 strip malls into more vibrant neighborhood
2 centers.

3 Streets have been designed for the use
4 of the car with little thought for the other
5 people using the right-of-way. And we want to
6 change that. You want to build streets that are
7 narrow. You want to separate pedestrians from
8 moving cars by parking cars along the streets and
9 putting planting strips between the street and the
10 sidewalk. That allows you to shade the street
11 more fully and more quickly. And also this kind
12 of tree canopy there creates what we call the
13 outdoor room which makes the drivers automatically
14 drive more slowly. That makes the street safer.

15 This study was done in Colorado. And of
16 all the variables they tested, the one with the
17 greatest correlation to injury accidents was
18 street width. And you'd expect to see a
19 difference between a 40-foot street and a 24-foot
20 street because of the drivers are driving much
21 slower. But there's even quite a difference
22 between a 40-foot street, which is typically what
23 you find in new suburban subdivisions, and a 36-
24 foot-wide street. It's about half the number of
25 accidents per mile per year.

1 If you shade those streets and you have
2 a place to put the street trees, and so putting
3 them between the sidewalk and the street helps you
4 to shade that street sooner and more fully. And
5 it also makes it safer for pedestrians.

6 You want to provide a variety of
7 transportation choices, which means building more
8 compactly and also connecting transportation uses,
9 so you can bike, too, and use a bus. And then you
10 can walk to and from light rail stops and so forth
11 to more common destinations.

12 You want to put transit near housing.
13 And you want to make transit safe and convenient
14 and people will then use it.

15 Thanks.

16 MS. PHINNEY: Thanks very much. Our
17 next speaker, I'm so pleased, was able to make it
18 because she, along with a lot of other people,
19 were caught in that horrible I-80 traffic jam.
20 So, let me introduce Elisa Barbour. She's a
21 Policy Analyst at the Public Policy Institute of
22 California where her research focuses on local
23 government, urban and regional development and
24 related policy topics. She holds an MA in city
25 and regional planning from the University of

1 California at Berkeley.

2 Let me pull you up, Elisa.

3 MS. BARBOUR: Thank you. Good morning.

4 I'm going to discuss blueprint planning in
5 California. The topic is based on research that
6 Michael Teitz and I conducted last year for the
7 Public Policy Institute that resulted in a report
8 which I have available here.

9 First, why did we study blueprint
10 planning. Because it's a major innovation in
11 regional smart growth planning that emerged
12 independently in California's main metropolitan
13 area starting in the 1990s. And now it's being
14 systematized through state support through a
15 program launched in 2005 by the Business,
16 Transportation and Housing Agency, which is
17 funding, providing grants for the blueprint
18 planning across the state at \$5 million annually.

19 And if the housing bond should pass this
20 fall, a far more substantial boost would be
21 provided. Of course, with more than \$1 billion in
22 funds for infill development and transit-oriented
23 development, the sort of land uses that are
24 advocated in the blueprint plans.

25 So, I'm going to consider what is

1 blueprint planning and why did it emerge. How is
2 it practiced and has it been effective.

3 So what is blueprint planning. A
4 consensus-building process to define a preferred
5 scenario for regional development that integrates
6 transportation, land use and environmental
7 planning at the regional and local scales; that
8 relies on scenario modeling of measurable outcomes
9 in a broad-based visioning process that engages
10 regional and local planners and officials and
11 other interest-group stakeholders.

12 And so far it is being implemented
13 through incentives that are mainly derived from
14 regional transportation funds to promote local
15 land uses with regional benefits.

16 Why did it emerge. It's useful to step
17 back just briefly and think about the origins of
18 our growth planning system. After World War II
19 growth management was fractured at the regional
20 scale in large part as the state governments took
21 over building the large infrastructure facilities.
22 And then later regulating environmental
23 consequences. And meanwhile land use decisions
24 were left to local governments.

25 Now that system worked quite well. When

1 the main strategy to accommodate growth was to
2 build large-scale infrastructure on the one hand,
3 and home on the other. But by the 1980s and '90s
4 conflicts had emerged between pro-growth and anti-
5 growth forces, between environmental and economic
6 resource uses.

7 I'm thinking of conflicts such as air
8 quality versus rising VMT. The needs of suburbs
9 versus inner cities. Transit versus highways.
10 The need for new facilities versus no new taxes.

11 Open space and habitat versus housing.
12 Affordable housing versus NIMBY.

13 Now, these conflicts arose because
14 fiscal and environmental constraint are creating
15 pressures that prompt the need now for more
16 coordinated action to overcome such conflicts.
17 And in this regard land use and housing policy are
18 viewed today as critical.

19 For example, to produce mobility and air
20 quality benefits through transit-oriented
21 development. To address the need for affordable
22 housing, jobs/housing balance and to help preserve
23 open space environment and habitats.

24 And it's in this context that blueprint
25 planning has emerged. It helps address these

1 concerns by providing a new framework for
2 coordination. Now, this framework has the
3 political advantage that it's based on a
4 collaborative approach across levels of government
5 and across the public/private and nonprofit
6 sectors.

7 And that is an advantage because it can
8 made it possible to reconcile and align interest
9 across the main growth management policy areas,
10 and across levels of government and sectors in the
11 economy without challenging local land use, which
12 remains, of course, a cherished prerogative.

13 COGs and MPOs are the vehicle for
14 blueprint planning. Now, as I'm sure most of you
15 know, councils of government are COGs; were
16 created in the 1960s and '70s by federal mandate,
17 or in response to federal mandate, to gain local
18 government input on regional plans.

19 And metropolitan planning organizations,
20 or MPOs, were created around the same time in the
21 larger regions to gain input on transportation
22 plans. In California, MPOs and COGs generally
23 coincide.

24 Now, during the 1990s the COG MPOs in
25 California gained more authority and

1 responsibility. Authority over transportation
2 investment planning was devolved to them through
3 federal and state changes, while at the same time
4 they were also required to conform their
5 transportation plans to air quality mandates.

6 And that nexus of new power and
7 responsibility has been a key driver of blueprint
8 planning.

9 COGs and MPOs have strengths and
10 weaknesses when it comes to coordination.
11 Collaborative institutions, by nature, they are
12 valuable for consensus building. In fact, they
13 provide perhaps the best institutional connection
14 that we have right now among land use
15 transportation and environmental authority at the
16 regional scale.

17 They combine two elements that are
18 critical to effective regional planning, namely a
19 systems focus of the MPOs. By that I mean
20 focusing on a regional functional system; and in
21 this case, that's transportation, with the broad
22 participation that the COG model embodies.

23 COGs generally operate as voluntary
24 membership organizations for local governments
25 with floating on a one-government/one-vote basis.

1 But COG MPOs have no land use control. And this
2 introduces a real challenge. Furthermore, that
3 governance structure that I just described is a
4 challenge. It makes it hard to enact policies
5 that redistribute resources and create winners and
6 losers.

7 So the governance structure, which
8 embodies a collaborative framework, also sets up a
9 challenge for devising new policies.

10 Here are the four major blueprint
11 processes that we studied, led by the COG MPOs in
12 the four largest metro regions in our state, the
13 Bay Area, Sacramento, San Diego and L.A. areas,
14 all during the last few years.

15 Now, I'll describe blueprint planning
16 and practice. The concrete focus has been the
17 long-term population and land use projections that
18 COGs and MPOs develop for their transportation
19 investment and air quality plans.

20 Now these projections generally extend
21 20 years forward. And COG MPOs have been doing
22 these for a very long time. But, what's new now
23 in blueprint planning is that by considering land
24 use alternatives regionally, not just locally, and
25 by altering land use scenarios in order to produce

1 regional benefits, the traditional planning
2 relationship has been changed.

3 In the past local land uses were taken
4 as a given in transportation modeling by the MPOs.
5 Transportation options were modeled to address
6 needs in response. But in blueprints, land use is
7 what's being altered in the modeling. Alternative
8 scenarios are considered for their projected
9 impact on transportation, environmental and
10 quality-of-life outcomes; and then a preferred
11 development scenario is selected and incorporated
12 into the transportation plan.

13 A scenario, and here's the key point,
14 which may not conform to existing level of plans.
15 To make this work effectively requires a broad
16 conversation, a consensus-building process by the
17 COGs and MPOs. And that is because such smart
18 growth strategies that are being considered and
19 adopted cannot be realized on the ground without
20 local support. They must make sense locally, not
21 just regionally, in order to be adopted.

22 And so blueprint planning has relied on
23 a broad-based, multi-stage, so-called visioning
24 processes.

25 There are five major stages in the

1 blueprint planning process. First, a preparation
2 stage in which new institutional and technical
3 capacities developed. That means, for example,
4 parcel-based maps and data; interactive modeling
5 programs such as Place-3 (phonetic), which provide
6 participants with real-time feedback on future
7 development scenarios and their potential
8 consequences.

9 Institutional capacity is equally
10 important. And that has meant getting commitment
11 from the COG MPO board for a long-term process.
12 And integrating decisionmaking with local
13 officials and planners and other outside
14 stakeholders.

15 The next stage of the visioning in which
16 a preferred regional development scenario is built
17 up from the bottom up at public workshops held
18 over a period of a few years. In these workshops
19 and in between, alternative land use scenarios are
20 considered and evaluated against indicators such
21 as for air pollution, transportation modal splits,
22 transit access, vehicle miles traveled, hours
23 spent in delay, jobs/housing balance, housing
24 affordability and others.

25 Keys to success in this stage have been

1 engaging local planners and officials throughout
2 the process. And facing tradeoffs squarely.
3 Those steps insure that real buy-in and momentum
4 may be built in reaching a preferred scenario.
5 And also that unpleasant tradeoffs and conflicts
6 are not postponed and considered only later on in
7 the process.

8 The next stage is adoption. Now, this
9 is one that COG MPO considers and ideally adopts
10 the preferred scenario that resulted from the
11 public workshops as its official projections.
12 Success here depends on whether the earlier steps
13 were followed. And we have examples of great
14 success and some setbacks and obstacles here in
15 the state.

16 The next stage is implementation. Now,
17 that's critical to success in blueprint planning,
18 because these preferred scenarios are only
19 advisory to local governments. COG MPOs have no
20 land use authority.

21 Now, this stage, the implementation
22 stage is the current stage of regional blueprint
23 planning today in California. The basic
24 implementation strategy has been to target
25 priority development areas and come up with

1 criteria for targeting resources. And then
2 directing those resources, which have included
3 technical assistance, competitive grants for
4 support of local projects, and conditioning new
5 transportation investment on support of land use,
6 which means, for example, an MPO saying we will
7 not extend a subway line, or a light rail line, or
8 a new bus route unless you adopt supportive land
9 uses.

10 Funds for this implementation have come
11 mainly from regional transportation dollars. So
12 what's going on here is that local governments,
13 through the COGs, are collectively devising new
14 criteria to allocate their regional transportation
15 dollars. And that can be contentious.

16 COG MPOs face a basic dilemma here,
17 whether to concentrate scarce funds on a smaller
18 number of projects that might maximize overall
19 impact on the one hand, or on the other, to spread
20 resources more thinly, which can help maintain
21 political buy-in.

22 The final stage is assessment which can
23 involve, for example, producing regional
24 indicators reports. And there a key question is
25 also how to turn regional blueprint planning into

1 an ongoing iterative process, and connect it to
2 existing regional processes such as the regional
3 housing needs assessment and local general plan
4 process and regional transportation planning
5 process. That's what COG MPOs are facing today.

6 I'd also just like to note that what
7 some of the benefits of the smart growth scenarios
8 that were adopted have been. All the development
9 scenarios adopted in the regional blueprints did
10 provide reductions in vehicle miles traveled, air
11 pollutants, auto share of trips and along with
12 that, an increase in transit share, and open space
13 to be developed for housing.

14 Again, these are modeled future benefits
15 of the scenarios that were adopted. But you be
16 asking, what about energy. Well, the fact is that
17 although many transportation indicators have been
18 modeled in the blueprint planning, and also in
19 housing and urban space environmental indicators,
20 energy has not been a primary focus. In fact,
21 even in the transportation modeling, for example,
22 of decline in VMT, there hasn't been much in the
23 way of a cost/benefit analysis about, you know,
24 what increase in transit use versus declining car
25 usage might mean in terms of energy use.

1 And this is definitely an area where
2 this Commission might want to think about working
3 with COG MPOs in the future; to think about how to
4 measure energy usage and cost/benefit more
5 generally.

6 So now I'll conclude with a few comments
7 on effectiveness. Local governments are
8 participating in implementation. We survey
9 planning directors in the regions we study. More
10 than half indicated their city is targeted for
11 land use changes in the regional blueprint.
12 Unfortunately, a small share didn't know whether
13 their city was targeted. Those cities were all in
14 the L.A. and Bay areas.

15 Two-thirds of the planning directors in
16 the targeted cities consider the blueprint
17 compatible with local policies, but two-thirds
18 would also need to change general plans and zoning
19 to conform. Now that discrepancy actually makes
20 perfect sense, because blueprints are all about
21 altering current local land use to support smart
22 growth goals. Half of planning directors in those
23 cities are working directly with COG MPO staff on
24 implementation.

25 The survey results showed a major

1 difference between larger and smaller regions when
2 it comes to blueprint effectiveness. In the two
3 larger regions only about one-fifth of planning
4 directors were very familiar with the blueprint
5 process, compared to about three-quarters in the
6 smaller regions.

7 Respondents from the larger areas were
8 also much less likely to be engaged in
9 implementation. They were less likely to consider
10 the process effective and influential, and to
11 support metropolitan planning in general.

12 To summarize our findings, it's early
13 yet to determine outcomes on the ground. However,
14 blueprint planning is changing how people see
15 urban development. It's creative, innovative and
16 is helping reinvent growth management in the
17 state.

18 I would like to note here this is one of
19 the only cases that we have where real resources
20 are being put currently in the state to support
21 smart growth infill strategies. That, of course,
22 will change dramatically in November if the
23 housing bond should pass.

24 And the blueprint process is also doing
25 this in a way that suits our political realities.

1 But substantial obstacles remain. COGs and MPOs
2 have institutional weaknesses. Larger regions
3 face organizational challenges because at the sub-
4 regional scale institutions are lacking with that
5 key connection that I noted earlier between the
6 systems focus and the broad participation.

7 State support is needed to get the job
8 done because the state creates the incentives and
9 mandates that guide this whole effort.

10 Development in greenfield areas has not received
11 sufficient attention because so much attention
12 right now is on infill. So what's going on at the
13 suburban fringe is neglected.

14 Related to this, although environmental
15 planning is the third leg of the blueprint stool,
16 it's not very well advanced.

17 Finally, I'll note key ingredients in
18 our view of effective regional strategies. State,
19 regional and local priorities and plans need to be
20 aligned. So far the state has been perhaps the
21 least involved in accomplishing this through the
22 blueprints, although that's changing.

23 Local governments need real incentives
24 to participate. And, again, the state plays a
25 major role in this.

1 And blueprint planning should be an
2 ongoing process, not just a status vision that was
3 developed in 2004. And then got put on the shelf.

4 The key elements of what we view as a
5 promising recipe are to support institutions
6 combining systems focus and broad participation
7 with action strategies combining performance
8 criteria and flexible implementation.

9 Thanks.

10 MS. PHINNEY: Thank you. And our last
11 speaker will connect the smart energy and -- or
12 smart growth and energy link there.

13 David Goldstein has worked on energy
14 efficiency and energy policy areas since the early
15 1970s. He currently co-directs NRDC's energy
16 program. Dr. Goldstein has been instrumental in
17 the development of energy efficiency standards for
18 new buildings and appliances.

19 He initiated and directed research on
20 how urban structure affects the usage of
21 automobiles. And originated the location
22 efficient mortgage to implement the results.

23 He received a PhD in physics from the
24 University of California at Berkeley; and also
25 received a MacArthur Fellowship in 2002. David.

1 DR. GOLDSTEIN: Thank you very much,
2 Suzanne, for the invitation. Thank you,
3 Commissioners, for having this hearing. And I
4 wanted to thank my fellow panelists.

5 Usually I like going last -- the
6 Commissioners will get a kick out of this --
7 because it's a chance to refute all the people
8 who've gone before me. And in this case it's a
9 chance to connect the dots, because really we're
10 seeing some very consistent points here. And I'm
11 going to try to frame the issue in a way that
12 brings out many of the points that the previous
13 speakers have made, and really suggest some
14 directions for Commission research so that we can
15 implement the kinds of ideas that we've seen
16 before.

17 I'm going to address first what is known
18 technically, quantifiably, about the effect of
19 land use and related transportation infrastructure
20 on energy use. And second, what isn't known, and
21 where some additional research would be valuable.

22 And then I'm going to describe how
23 little is really known about the market failures
24 and market barriers that are preventing a strong
25 desire for smart growth on the part of the

1 consumer from being realized in California.

2 First of all, what does this have to do
3 with energy. Transportation energy use is more
4 than half of California's greenhouse gas
5 emissions. Why is it so high? Well, it's because
6 the Commission and the Public Utilities Commission
7 has done such a great job over the past 30 years
8 at reducing everything else, that transportation
9 sticks out like a sore thumb. We actually emit
10 about the same greenhouse gases per capita, or per
11 GDP, as the rest of the country, slightly less.

12 Land use is the primarily determinant of
13 personal transportation energy, which is the
14 lion's share of overall transportation energy.

15 The potential is immense. Smart growth
16 can reduce travel by 50 percent or more. And by
17 smart growth I mean real projects of the type that
18 you saw in previous presentations. Stuff that is
19 being built.

20 How do you define smart growth? I'm
21 going to define it rather circularly, as smart is
22 the extent to which it reduces transportation use
23 or energy consumption. And that loses out on some
24 quality of life aspects that are important, but I
25 think it focuses on what the Energy Commission is

1 interested in.

2 The next bullet is kind of the potential
3 study. If you could snap your fingers and make
4 all new growth in California smart growth, at the
5 current rate of housing construction, after ten
6 years we'd be cutting 10 million tons of CO2
7 emissions annually; we'd be saving \$200 billion of
8 present value. About as big as all the other
9 efficiency programs we're doing in the state
10 combined. And we'd be saving 60,000 barrels of
11 oil a day.

12 These benefits increase in time because
13 neighborhoods have a life span of well over 100
14 years. So, everything you build right now is
15 right for the next 100 years and the next decade's
16 savings just add to that.

17 This is the result of a study that tries
18 to quantify the benefits of smart growth by
19 looking at transportation energy use as a function
20 of the two most important variables. Let me point
21 this out here. The height above the grey is how
22 much energy or emissions or costs you're going to
23 incur. They're all pretty proportional to each
24 other.

25 This is graphed in costs so that it has

1 an emotional impact. \$8000 for suburban sprawl
2 annually on transportation expenses. And that was
3 when gas was \$1.50 a gallon.

4 As you increase compactness down this
5 axis you see a very steep slope. So the denser
6 the housing development the less you drive. As
7 you increase transmit down this direction you have
8 a very sharp slope. You show that good transit
9 will reduce driving by 30 percent whether you
10 build it around suburban sprawl or whether you
11 build it in a dense urban neighborhood. That's
12 several times bigger than conventional wisdom
13 would have it.

14 So, this graph basically says here are
15 the two most important things you can do to reduce
16 energy use by changing land use and transportation
17 patterns.

18 So basically what this graph says is we
19 know what smart growth looks like and we know what
20 dumb growth looks like. This is an example of
21 smart growth, the most dense neighborhood west of
22 the Hudson is on the left. Moderate density in
23 the middle, or on the right of this slide. These
24 happen to be from San Francisco, but you would see
25 similar pictures from other urban areas, as well.

1 These are some other images. Images of
2 dumb growth. The pedestrian over in the middle of
3 the street, which obviously we stole the slide
4 from the same source, but this points out some of
5 the quality of life disadvantages in addition to
6 the energy disadvantages of dumb growth.

7 So the point is we know what smart
8 growth looks like, at least for housing. And we
9 know what dumb growth looks like. We know the
10 difference in terms of land use, and we know the
11 difference in terms of transportation.

12 But we don't really know what commercial
13 land uses would do. We saw these great pictures
14 of shopping malls. Obviously that increases
15 transportation energy, but how much. We can't
16 quantify it. We have an intuition that building
17 compact downtowns reduces transportation energy
18 use. How much? We don't know.

19 Is there an optimum size. If you build
20 too much in downtown, like in New York, is that
21 bad or is that good? We don't know.

22 Second thing is the market appears to
23 want smart growth because how do you measure
24 whether housing is attractive. You measure it by
25 the price in a free market. And while there isn't

1 formal study, there's pretty good informal
2 evidence that the smarter the growth, the higher
3 the cost of housing. Sometimes the higher the
4 cost absolutely. San Francisco has the highest
5 cost of housing in the state, and the smartest
6 growth and the lowest transportation energy.

7 I bet if you did more detailed study,
8 you'd find an even stronger correlation, but that
9 hasn't been done yet. And that's per unit. If
10 you did it per square foot it would be even a
11 stronger correlation.

12 So what this is saying is that we ought
13 to look at this as the same intellectual model
14 that we use for conventional energy efficiency.
15 That market barriers and market failures are
16 getting in the way of the optimum answer. That
17 consumers would want smart growth; they're buying
18 it up as fast as it's offered. All the speakers
19 are saying that.

20 And somehow the market system, which is
21 very complicated, is not providing what consumers
22 want.

23 I talked about transportation energy
24 use, but we can speculate about how smart growth
25 reduces other types of energy use in a very

1 significant way. Certainly smart growth reduces
2 water use because there's fewer hard surfaces and
3 smaller areas for outdoor watering. And water is
4 20 percent of California's electricity. So this
5 could be a big deal.

6 Secondly, smart growth requires lower
7 use of energy-intensive construction materials
8 like paving, roofing materials. But we haven't
9 quantified that. There were some studies that
10 previous speakers brought up. Did you catch the
11 dates? 1980-something; some from the 1970s. So
12 this needs to be updated and put on a firmer
13 quantitative basis.

14 I've heard a plausible hypothesis that
15 the majority of industrial energy use goes to
16 providing the materials for construction to
17 support sprawl lifestyle. And so possibly there's
18 a very big industrial energy use savings if we
19 were building smart growth. But we don't really
20 know.

21 Now, if it's bad that we don't know
22 that, what we really really don't know is the
23 policy changes that are necessary to get us there.
24 You saw from the first presentation, actually from
25 all three presentations, that the decisions on

1 land use are made by a very complex combination of
2 government regulation and market forces. They're
3 affected by government incentives, some
4 intentional, a lot of them unintentional, at the
5 national level, state level, regional level and
6 local level.

7 Transportation infrastructure
8 investments are made by defined government
9 agencies, but the process is Byzantine. The one
10 thing that we know about the process is that it's
11 guided by transportation models that predict the
12 impact of different scenarios. And we know that
13 those models are inadequate.

14 That Monterey graph that we saw earlier,
15 which is the result of real statistical research,
16 if you ran the models you wouldn't get that graph.
17 You'd get a much flatter graph that shows it
18 doesn't make that much difference if you do
19 anything.

20 So, all the great results you saw, other
21 than Sacramento, where they're a little bit ahead
22 of the curve in model improvements, all those
23 improvements you saw from the regional discussions
24 of the previous speaker was saying, those actually
25 under-estimate the benefits of the preferred

1 scenario. In other words, they got to the
2 preferred scenario even with the benefits
3 undervalued.

4 Assembly Bill 1020, which is on the
5 Governor's desk awaiting signature, would require
6 the MPOs to update their models under the
7 supervision of CTC. So we're hoping that that
8 will be signed and that we can work with the
9 agencies in a public process to get models that
10 will fully reflect this reality and prevent some
11 of the barriers to smart growth.

12 One barrier, other speakers mentioned
13 this, NIMBY-ism. You build a project with lots of
14 high density housing and the models say this will
15 increase traffic; the neighbors say we don't want
16 increased traffic, cut the density or kill the
17 project. And this happens.

18 What if the models are wrong? What if
19 the project won't increase traffic at all; it'll
20 actually decrease traffic? Well, then that's a
21 real easy solution. But there's a lot of other
22 solutions that are much more complex that we have
23 to start looking at.

24 Land use decisions are influenced by a
25 wide variety of regulations. And you heard about

1 some of the local and state regulations from our
2 first speaker. But what we haven't looked at much
3 is private sector regulations and informal
4 regulations.

5 What's an informal regulation? If I
6 wanted to buy a home in San Francisco and I wanted
7 to take some of that \$8000 a year that you saw I'm
8 going to be saving on transportation, and buy a
9 more expensive home than I could get here in, you
10 know, in Fairfield or Suisun or something, the
11 bank would say, we don't really care; that isn't
12 real; we're going to loan you the same amount of
13 money whether you're trying to go to a high-priced
14 area of a low-priced area, independent of how much
15 money you use on transportation.

16 That \$8000 difference capitalizes to
17 \$150,000, which is a big difference when you're
18 looking at the cost of suburban sprawl versus
19 smart growth in any of the metro areas. So this
20 private sector regulation, which forces consumers
21 to get a so-called cheaper house where they don't
22 even really want to be, maybe one of the reasons
23 that the Inland Empire is growing at the expense
24 of the traditional settled areas in southern
25 California.

1 It's not just regulations on the buyer,
2 though. There's private sector regulations on the
3 developer. Anyone who's worked with smart growth
4 developers knows that they have a lot of problems
5 getting projects approved because it's not the
6 cookie-cutter thing that everyone has approved
7 before.

8 There are regulations or agreements
9 within the real estate industry that certain types
10 of projects, which happen to be sprawl projects,
11 are just like other ones that have made money in
12 the past, so, yeah, we'll stamp those approved
13 right away. And if you do something different
14 you're going to have to jump through a whole bunch
15 of hoops, maybe get a less favorable interest
16 rate, maybe have all these other conditions on the
17 loan. So that sort of regulation can also be a
18 barrier to smart growth.

19 These regulatory influences not only are
20 not well understood, they're not even catalogued.
21 We don't have a comprehensive list of what they
22 are. And providing one would be a very
23 interesting Commission function.

24 One of our speakers mentioned street
25 width. And sometimes there are informal

1 regulations on street width. Fire truck access,
2 for example. And it's really hard to explain why
3 this narrower street which has all these
4 advantages is something that you're actually going
5 to get away with building.

6 So, opportunities for the California
7 Energy Commission to intervene here. How does
8 commercial land use affect personal transportation
9 energy use. Simple things like job/housing
10 balance. We know if you build housing near where
11 the jobs are that's going to reduce transportation.

12 What if you try to do the other thing,
13 if you build jobs where the bedroom suburbs are?
14 Well, some people think that that's going to help.
15 I happen to think it's going to make things worse.
16 And we can argue all day, but none of us has the
17 data to prove our point.

18 How does land use affect freight
19 transportation? Stands to reason that more
20 compact land uses also allow freight
21 transportation reduction. But I don't think
22 anyone's studied it. There's certainly not
23 anything you can use quantitatively.

24 And I mentioned how does land use affect
25 the use of water- and energy-intensive materials;

1 how does it affect urban heat islands.

2 The more interesting questions, I think,
3 are the policy questions because so little work
4 has been done on a comprehensive view of what
5 these regulations are. In other words, something
6 oriented at answering the question what are the
7 barriers to markets realizing the desire for smart
8 growth; what are the failures of markets.

9 Regulation is a key factor. As one
10 smart growth article quoted a planning
11 commissioner who said, you know, I've been on the
12 planning commission for 15 years and I have never
13 once had a developer come up to me and say he
14 wanted to build less density than was allowed.

15 If higher density, at least when you're
16 going to build beyond a certain level is smarter
17 growth, then regulations are a barrier. And maybe
18 there are reasons for them, but we need to
19 quantify, we need to look analytically at where is
20 the regulation getting in the way of the market;
21 and is that a good thing or a bad thing.

22 So, it's very interesting.
23 Commissioners, you've heard me come many times
24 before you talking about the areas in which
25 regulation is the solution. This may be an area

1 where regulation is also part of the problem.

2 I mentioned private sector regulation
3 and informal private sector regulation. People
4 don't look at these things. This, I think, would
5 involve focus groups of developers or lenders or
6 other players in state and local government to
7 figure out, on the ground, what is it that makes
8 it hard to do smart growth development.

9 Or, if you're going to do smart growth
10 to one extent, why can't you make it even smarter.
11 What are the barriers to taking a project that
12 would have reduced transportation by 40 percent
13 and instead make it reduce transportation by 70
14 percent.

15 Parking regulation is a prime example of
16 that. You saw these slides about pedestrian
17 unfriendly areas covered with parking. That
18 parking is probably provided in response to a
19 private sector regulation that says if you don't
20 provide this much parking, we're not going to
21 finance your project.

22 And in some cases it's provided due to
23 local regulations that say you can't build this if
24 you don't provide a minimum of that much parking,
25 as opposed to letting the market decide.

1 So the structure of this study would be
2 what are the barriers to markets functioning for
3 smart growth development, and how can they be
4 overcome.

5 A related question would be if we
6 removed all these barriers does that get us where
7 we want to go. In other words, do we need
8 affirmative government policies to promote smart
9 growth land use, or do we simply ask government to
10 get out of the way. I don't know the answer to
11 that. But I'm not sure anyone else does, either.
12 So, these are areas that I think would be very
13 interesting ways of moving forward with the kinds
14 of material that all four of us have been
15 presenting this morning.

16 Thank you very much.

17 MS. PHINNEY: Thank you. I'll ask our
18 panelists to stay seated for any questions from
19 the Commissioners.

20 PRESIDING MEMBER PFANNENSTIEL: Thank
21 you, Suzanne. I actually have a couple. Why is,
22 this is directly to David, you talked about land
23 use planning being able to reduce personal
24 transportation energy use. And you commented that
25 this was a major part of the transportation energy

1 use.

2 Do you know that? Is that statistically
3 demonstrated, or is that kind of intuitive?

4 DR. GOLDSTEIN: No, that's statistically
5 demonstrated. The curve that I demonstrated
6 showing the relationship between density and
7 transit service on transportation was a study that
8 I participated in, the lead author was John
9 Holtzclaw, about five years ago, that looked at
10 3000 traffic analysis zones in California as the
11 unit of measurement; 2000 in the L.A. area, 1000
12 in the Bay Area.

13 And that's a complete census of all of
14 the TAZs all the way out to the most remote
15 suburbs. And looked at auto ownership per capita
16 as measured by the census, and vehicle miles
17 traveled per year as measured by the smog checks.
18 We got confidential access to the data actually
19 through Energy Commission intervention.

20 So that you could sort the two-year
21 readings by zip code. And have an actual
22 measurement as opposed to estimation of vehicle
23 miles traveled.

24 And then we did a statistical best-fit.
25 We said here are the variables that we think are

1 significant, and they're the ones you saw on the
2 smart growth presentation. And we said, let's try
3 to fit each one of these, what's most
4 statistically significant. Okay, that's the first
5 variable. Now, let's look at what's second-most
6 important. And keep going until adding one more
7 variable doesn't improve the statistical fit.

8 The statistics were incredibly good.
9 For car ownership the R-squared was 90 percent for
10 the Bay Area. You never see that in the social
11 sciences for 1000 degrees of freedom. That's
12 unheard of.

13 For vehicle miles traveled per car it
14 was 40 percent R-squared, which is still
15 incredibly significant.

16 So the only assumption you have to make
17 to turn that into energy is assume a miles per
18 gallon based on the VMT. So if there's some
19 correlation between the size of car and where you
20 live, that's not accounted there. But it would
21 probably just strengthen the effect, because if
22 you live in a dense urban neighborhood there's no
23 place to park an SUV anyway.

24 So, you know, you do have to make a few
25 assumptions along the way, but they're pretty

1 straightforward, and the error wouldn't be very
2 big.

3 PRESIDING MEMBER PFANNENSTIEL: Thanks.
4 And then my other question is really to anybody on
5 the panel who'd like to address it.

6 We heard a lot about government
7 regulation, local government and state government.
8 We didn't hear a lot about the potential for
9 regional; we heard a little bit. I think several
10 panelists mentioned, well, there isn't quite as
11 much regional interaction on these areas as there
12 could be.

13 And then, David, you raised the question
14 at the end, should government just get out of the
15 way.

16 But I'm coming back to is it a regional
17 question. Are there more opportunities for
18 regional planning, and might that make a
19 significant difference?

20 MS. ROBERTS: Terry Roberts, OPR. I'd
21 just like to respond to that. We've got plenty of
22 models for regional collaboration, let's say. Not
23 necessarily having a regional governmental body to
24 lead the collaboration, but there are instances
25 with habitat conservation plans for habitat

1 preservation. There's watershed planning efforts
2 being undertaken, either under the auspices of
3 certain government agency, whether it's a state
4 agency or a regional agency.

5 But oftentimes these are sort of self-
6 selected groups of government agencies or even
7 private nonprofit groups who get together and come
8 up with a regional plan for, as I mentioned,
9 habitat, watershed planning.

10 We have regional water planning
11 agencies, as well. So, it seems logical that we
12 should be able to put something together where we
13 look at energy more specifically on a regional
14 basis.

15 And I think that's necessary if you're
16 going to be tackling the issues, not only of
17 energy efficiency and land use patterns, but also
18 in how you generate the energy and how you
19 transmit the energy. Because those things are
20 going to be issues where you have to look beyond
21 the city limit lines or the county political
22 boundaries.

23 PRESIDING MEMBER PFANNENSTIEL: Any
24 other comments on that? Commissioner Geesman.

25 ASSOCIATE MEMBER GEESMAN: Just a

1 somewhat generalized observation. The state
2 obviously has identified an attempted, over
3 several decades, to act upon what it considers to
4 be statewide interests in housing, particularly
5 the provision of affordable housing that a variety
6 of people don't feel that our current system of
7 local planning has properly addressed.

8 My subjective evaluation has been that
9 the state has been less than successful in those
10 efforts to try to inject statewide or regional
11 considerations into the local planning process.

12 In the energy area, and particularly
13 assuming that the various climate change bills are
14 signed, and that we end up heading into a more
15 prescriptive environment on the part of state
16 government, I wonder what each of you think our
17 prospects are for trying to inject a more
18 statewide or regional, or perhaps global energy
19 orientation on the local planning process.

20 Anybody want to speak up for heavy-
21 handed regulatory approach versus an informational
22 approach versus a simple development of better
23 tools approach.

24 MS. BARBOUR: Well, our study of the
25 regional blueprint processes suggest that an

1 approach that has been effective is combining a
2 real clear focus on a performance-oriented outcome
3 for policy with flexible implementation
4 techniques.

5 I mean that, in a way, is what the
6 blueprints, themselves, embody. I mean they got
7 going in part because of air quality mandates,
8 health-based mandates. But that are, you know,
9 being implemented in very flexible ways through
10 transportation investment choices that are being
11 made at the regional scale.

12 And I would also point to programs like
13 the NCCP, the Natural Communities Conservation
14 Planning program, as another example of a case
15 where you've got a clear policy goal there that's
16 outcome-oriented, performance-oriented in terms of
17 the health of species. And then flexible
18 implementation techniques.

19 And I'd also like to note, actually in
20 response to the previous question, that although
21 these regional blueprints so far have focused on
22 transportation and housing primarily, the COG MPOs
23 almost all do intend to incorporate other regional
24 plans, environmental plans.

25 And I would direct your attention to San

1 Diego's regional comprehensive plan which already
2 also includes an energy element in its integrated
3 infrastructure strategy, as a model of the way
4 that might be done.

5 Again, collaboratively with the state,
6 the regional agencies and the local governments.

7 DR. GOLDSTEIN: I want to add onto that.
8 I agree with the first comment very strongly. And
9 one of my colleagues in a different environmental
10 organization has suggested that the state set a
11 mandatory goal for MPOs of a 10 percent VMT
12 reduction by a date certain, compared to business
13 as usual. So that would be a perfect example of a
14 mandate with flexible implementation means that we
15 think would be practical.

16 I wish I had a more comprehensive answer
17 to your question, and my challenge to the
18 Commission really is to be the convener that tries
19 to put together a set of policy solutions.
20 Because I don't think we have -- I certainly don't
21 feel comfortable with any good example of where we
22 need more statewide mandates, and where we need
23 less. Or where we just need to change them.

24 I would note, in terms of affordable
25 housing, that the climate solution is going to

1 complement and make workable the affordable
2 housing solution. Right now affordable housing
3 means subsidized, and that may be a great program
4 but there's a limit to how much subsidy money
5 we're going to have available. And you're never
6 going to solve the housing problem through
7 subsidies, because we just don't have enough money
8 to do it. You need something else in addition.

9 And that something else, seems to me, is
10 just basically affecting the supply and demand.
11 California houses are expensive because the demand
12 exceeds the supply; and it exceeds supply the most
13 in the smartest growth areas. So the more smart
14 growth we build the more we take pressure off the
15 housing markets in the places that it needs most.

16 In my neighborhood, which is the densest
17 in California, I noticed that new housing costs
18 about, it's pushing \$1 million for a new
19 apartment. And they're all big. Why are they all
20 big? You'd think that \$1 million isn't very
21 affordable; instead of \$1 million for 1300 square
22 feet, maybe they want to build \$300,000 for 300 or
23 400 square feet, as they do in places like Hong
24 Kong, where the income is almost as high as ours.

25 Well, I can think of one hypothesis as

1 to why they don't do it, and that's because they
2 are allowed to build a certain amount of square
3 feet by the floor area ratio zoning, and they're
4 allowed to build a certain number of units by the
5 zoning. And it's not -- you don't need a
6 spreadsheet to figure out that the way to make the
7 most money off the development is make the units
8 as big as you possibly can.

9 So, is that a universal problem, or is
10 that just one little anecdote. I don't think we
11 know.

12 PRESIDING MEMBER PFANNENSTIEL: Are
13 there other questions on the dais?

14 ASSOCIATE MEMBER GEESMAN: Let's hear
15 from Pat.

16 PRESIDING MEMBER PFANNENSTIEL: Oh, yes.

17 MR. STONER: Sorry. I was just going to
18 say, too, I think there is a need for education
19 for local governments. We did a project for about
20 five years with Public Utilities funding, looking
21 at connecting smart growth with energy efficiency
22 in housing.

23 And the law that was mentioned earlier
24 about subdivision act where people are supposed to
25 be not approving plans that don't maximize passive

1 heating and cooling. Of all the probably 40-some
2 plans we looked at, only one had maybe more than
3 half the houses oriented properly, and the rest
4 were much less than that.

5 And it's not because people are
6 purposely doing that. It's just that local
7 governments don't even know you're supposed to be
8 doing that.

9 And I would agree, too, if you can get
10 some of the studies that you were suggesting
11 earlier that would be really helpful for local
12 governments making those decisions, as well. And
13 giving them other tools to model what they need to
14 model in order to make it an easier decision for
15 them.

16 PRESIDING MEMBER PFANNENSTIEL: Terry.

17 MS. ROBERTS: Well, your question was
18 what are the prospects for success in making some
19 headway in this area. And you sort of made the
20 comparison with housing and affordable housing.

21 I think you're in a much better position
22 here to have some success on the energy side,
23 because I think that people see personal benefit
24 in doing something; and there's public benefit.

25 I'm not sure that more regulations are

1 going to help. I was going to say that we should
2 use our -- apply our existing regulations more
3 effectively, but we're not even sure which
4 existing regulations would be effective. So maybe
5 we need to start there. What are all the regs?
6 Which ones really work? And then promote those
7 through awareness, through technical assistance on
8 how to actually implement them.

9 And maybe we need to be teaching cities
10 and counties what is on the books and what they
11 should be thinking about right now.

12 You know, again, your comparison with
13 affordable housing, people don't stand around in
14 coffee shops saying, gee, we need more affordable
15 housing. They say, jeez, the blackouts last week,
16 or it costs 50 bucks to fill up my gas tank.

17 I think you've got people interested. I
18 think you need to develop -- we all need to
19 develop a broader public awareness so that there
20 can be community support, political support for
21 the local elected decisionmakers to stand up and
22 say no sometimes. Or to say we want a certain
23 kind of development in this community.
24 Everybody's behind us. Now, developer, financial
25 institutions, you know, figure out how to do it

1 for us.

2 ASSOCIATE MEMBER GEESMAN: Thanks very
3 much; those were good answers.

4 PRESIDING MEMBER PFANNENSTIEL: I'm
5 hearing a large list, a long list of needs. I'm
6 hearing some relook at, and maybe reform of
7 regulations, additional research, additional
8 planning tools.

9 But I'm also hearing the need for some
10 leadership and political will to do this.

11 Further questions before we move on to
12 the other panel? Suzanne.

13 MS. PHINNEY: I would invite our next
14 panel speakers to come to the podium. Your name
15 tags are there. Panel one, you're more than
16 welcome to stay where you are, or you can move to
17 the audience if you so wish.

18 PRESIDING MEMBER PFANNENSTIEL: Thank
19 you, panel one; it was an incredibly interesting
20 presentation.

21 (Applause.)

22 MS. PHINNEY: Our next panel deals with
23 the roles and challenges of utilities in land use
24 development. And I'm excited to have our speakers
25 here because you don't usually see utilities being

1 brought, or the utility perspective being brought
2 to the forefront in discussions of land use.

3 Our first speaker is Jim Parks. He's
4 the Program Manager of SMUD's energy efficiency
5 and customer research and development group. He's
6 responsible for reviewing and pilot testing
7 emerging technologies, coordinating SMUD's
8 response to energy efficiency-related legislation,
9 codes and standards. And coordination of SMUD's
10 energy efficiency and research and development
11 activities with outside agencies.

12 He's currently leading a project to
13 enhance SMUD's long-term energy efficiency
14 programs. This endeavor is expected to
15 comprehensively improve and increase SMUD's
16 efforts in the areas of environmental improvement,
17 energy efficiency and renewable resources.

18 I'll turn it over to you, Jim.

19 MR. PARKS: Thank you. I'm really
20 thrilled to be here today to talk about one
21 utility's perspective with respect to energy and
22 land use.

23 Just by way of background, SMUD is the
24 local utility here, a municipal utility covering a
25 900 square mile service territory. It includes

1 Sacramento County and just a little piece of
2 Placer County.

3 So, the underlying question we had is
4 can land use planning activities be used to
5 improve the state's energy systems. And I think
6 what we've heard from the other speakers is
7 absolutely. There are huge opportunities in land
8 use planning to increase energy.

9 Now, just to show some of the numbers
10 that SMUD has in the impacts of growth on our
11 utility, this year we had 3300 megawatt peak
12 demand. And that was up 10 percent compared to
13 the previous peak. This was largely because of
14 that 10- or 11-day heat storm that we had. And we
15 weren't expecting to reach this level of peak
16 demand for several years. And in one heat storm
17 we went up 10 percent.

18 We're predicting a 5000 megawatt load by
19 2050. Now, the implications there are we need to
20 build new power plants; we need to have new
21 sources of power in order to cover that.

22 This says we have approximately 400
23 hours of peak demand. I really view it as more.
24 There's about 40 hours of peak demand where, if we
25 were actually able to reduce our peak demand by

1 400 megawatts, just for 40 hours, we'd reduce that
2 much of our peak demand.

3 So, in other words, over 10 percent of
4 our peak load is just from 40 hours per year. So,
5 if you have these PowerPoint slides, cross off one
6 zero there.

7 We've also had aggressive solar
8 programs. We've installed 10 megawatts over ten
9 years, but now with the passing of Senate Bill 1,
10 we have a much more aggressive goal. Something in
11 the neighborhood of 115 megawatts. And that's a
12 big goal that we're going to have to tackle over
13 the next ten years.

14 Right now, largely utilities respond to
15 land use decisions. And they're not always at the
16 table trying to drive those decisions. And that's
17 kind of a big deal. And it was an area of concern
18 for us. We got to looking at where we can have a
19 bigger impact on energy over time, rather than
20 just kind of what I call immediate gratification,
21 where we get energy savings right now.

22 I figure there's some elements where we
23 need to get the energy savings right now; but
24 there's also things where we need to look ahead at
25 where are the big benefits that we can achieve

1 over the long haul. And we think this is one of
2 the areas.

3 So, we assigned somebody to work with
4 our local governments and to try to have input on
5 their general plans and developer agreements. And
6 we just started that process this year. And we've
7 already had some impact in that arena.

8 What we found, too, is from a
9 perspective of efficiency programs we always talk
10 about market transformation and moving upstream.
11 And if you look at this chart you'll see that most
12 of the programs focus on the lower levels.

13 If you look at energy efficiency
14 programs, it's new construction and retrofit, and
15 not a whole lot of activity is going on at these
16 higher levels. And we think there's a lot of
17 opportunity up here for us to impact these areas
18 here that are upstream of just efficiency in
19 buildings and so forth.

20 Now, up here at the top I have actually
21 the federal, state and local codes; and this is
22 where the Energy Commission has done an excellent
23 job in their Title 24 building efficiency
24 standards. But we think there's a lot of
25 opportunities in this land use area.

1 You've already heard about smart growth
2 principles, I don't think I really need to cover
3 that. But I will mention we had a presentation on
4 the blueprint, and the Sacramento Area Council of
5 Governments, which is a six-county consortium here
6 in the Sacramento region has what they call the
7 blueprint, which is looking at smart growth
8 principles and the ways that we can reduce urban
9 sprawl.

10 The one note I did want to make on this
11 with respect to infill development, I think most
12 everyone agrees that that's a good way to go, but
13 from a utility perspective it's actually not
14 always the path of least resistance for us.
15 Because I think David mentioned the NIMBY
16 syndrome.

17 You're talking about an infill
18 development; there's typically development
19 surrounding it. So you've got places where you
20 may need new utility infrastructure and nobody
21 really wants that in their backyard, either.

22 And if we don't get our substations in
23 early or notification that we are building here,
24 you know, and someone buys homes around it,
25 suddenly you're putting a substation in. You've

1 had it in the works; you've planned it for a long
2 time and everyone's going, no, we don't want that
3 substation right there.

4 And also we're saying that you should
5 build the infill as efficiently as possible,
6 because sometimes this could be, from a utility
7 perspective, it could be impacted electrically.
8 So we may need a new substation. We may need lots
9 of new expensive infrastructure. And so that's
10 some of the considerations.

11 But having said that, SMUD definitely
12 supports infill development. But there are issues
13 from the utility side.

14 In general plans, this has already been
15 mentioned, the energy element is not mandatory.
16 And local jurisdictions lack the resources to
17 prepare energy elements. As was also mentioned
18 earlier, the energy elements were mostly developed
19 that were under the funding by the California
20 Energy Commission years ago.

21 And I was looking at the Sacramento
22 County energy plan, which was developed in 1979, a
23 little earlier than some of the ones that were
24 mentioned, and there's still a lot of good stuff
25 in there. A lot of the things that are in there

1 are things that we would put in an energy plan
2 today.

3 Where we focus now with respect to
4 general plans is land use segment, the urban
5 design segment and the housing elements. And
6 that's where SMUD is focusing their attention when
7 we work with the cities and the county and our
8 service territory to try and incorporate energy
9 efficiency and renewables and smart growth
10 principles.

11 General plans, they need vision
12 statements, objectives and policies that address
13 energy efficient design, renewable energy,
14 distributed generation, integrated energy planning
15 and possibly combined cooling and heating power.

16 I'll give an example of a project that
17 we're working on in that area right now. Some of
18 the things that we should be looking at, you know,
19 perhaps set a goal to reduce energy consumption,
20 per capita energy consumption. Encourage solar
21 orientation. And this is in some of the plans
22 that we have, but a lot of times it's largely
23 ignored.

24 One of the things that was kind of
25 brought up at the tail end, the local governments

1 have a lot of say over what goes into their
2 general plans, and so there's a lot of diversity
3 across the state. You don't find -- I mean there
4 are some areas that are consistent and other areas
5 where some people want to, you know, focus on
6 smart growth principles and others don't care.

7 In the housing element we're thinking
8 energy efficiency should be a design goal.
9 Possibly incorporate standards that upon the sale
10 or change of ownership of a property that you have
11 to incorporate efficiency measures. There's some
12 homes that still don't even have minimal
13 insulation, as an example, or the weather-
14 stripping is shot.

15 Offer incentives. This is a big deal
16 for developers. If you can knock a month or more
17 off of their time, if they need to get
18 construction started, they'll incorporate
19 efficiency. That's a big deal. On huge projects
20 it's a multi-year effort to get your project from
21 planning stages to construction start.

22 One of the incentives that SMUD has
23 offered in the past is what we call hook-up fee
24 discounts. We charge, whether it's a residence or
25 a business, they pay for the onsite electrical

1 infrastructure. So, in other words, transformers,
2 lines and things like that.

3 And we've offered discounts on that fee
4 for incorporating efficiency into their projects.

5 And different utilities have different ways
6 of covering those costs. But that's something
7 utilities could look at.

8 In the housing element, need to
9 recognize the long-term benefits of energy
10 efficiency. Incorporate that into their housing
11 elements.

12 I already mentioned the second bullet
13 there. And possibly energy efficiency mortgages.
14 These were around for awhile, and they kind of
15 came up and then they kind of just disappeared.
16 I'm not even sure if anybody's offering them
17 anymore. I think they probably are available at
18 some level, but I don't know if anybody's
19 promoting them.

20 And the natural resources element of the
21 general plans, we think they can establish
22 guidelines to reduce the urban heat island effect.
23 Planting trees and things like that. I think Pat
24 brought up some of these things with narrower
25 streets and trees where the shading comes into

1 effect a lot quicker because of the narrow
2 streets.

3 And the idea of incorporating feasible
4 and cost effective energy efficiency options. I
5 think there are some things that we can do that go
6 beyond the standards.

7 Collaboration with stakeholders is
8 definitely key. I like the process that the
9 Energy Commission does when it goes through Title
10 24 changes. They bring all the stakeholders in
11 and allow everybody an opportunity to comment.
12 And that's kind of what has to happen here. I
13 don't think you can just sit in a back room and
14 make decisions that are going to affect the
15 elected officials, the developers, the building
16 industry association, environmental groups,
17 homeowners and business owners.

18 Some of the examples. We've got a lot
19 of them throughout California. And this is just a
20 very small number compared to what's actually out
21 there. The City of Palm Desert said that within
22 five years they need to see a 30 percent reduction
23 in energy use in their city facilities.

24 The City of Chicago gives accelerated
25 permitting for green buildings. Pleasanton has

1 said that buildings over 20,000 square feet will
2 incorporate green building features. Lead
3 certification required for public buildings, the
4 state is the biggest example on that. Governor
5 Schwarzenegger, through his executive order,
6 required, I think, lead -- in all these state
7 buildings. And several city governments have done
8 the same thing.

9 PV requirements, residential new
10 construction. The City of Winters has one
11 developer agreement where they're requiring 50
12 percent of the homes will have PV on them.
13 Roseville has a developer agreement that requires
14 100 percent.

15 Now, admittedly they didn't just do this
16 off to the side; they negotiated with the
17 developer and the developer wanted to do it. So
18 they incorporated that into the agreements.

19 Reduced permitting fees. This is
20 something talking about everybody doing things
21 differently. Just in our jurisdiction we have six
22 cities and the County of Sacramento. And if you
23 want to put a PV system on your roof you're going
24 to pay permit fees ranging from \$192 to \$823. And
25 I'm thinking there's an opportunity for some

1 consistency here. On the higher level there are
2 people getting ready to install projects and they
3 went, \$823, that's too much, I'm not going to do
4 it. So it was actually a deal killer.

5 San Jose has said that they'll do the
6 final inspection within 24 hours on photovoltaic
7 systems. And Roseville has promised streamlined
8 processes. So these are just a few examples of
9 some of the things that can be done.

10 The one example I wanted to give that
11 we're working on right now is the railyards
12 project. And probably a lot of you are familiar
13 with that. It's 240 acres just to the north of
14 Old Sacramento. And they're proposing, over the
15 course of several years, to build almost 9000
16 homes, 1000 hotel rooms, 1.4 million square feet
17 of retail, 1.5 million square feet of office, and
18 417,000 square feet of historical.

19 We did the analysis on that and that
20 single project is going to use 50 megawatts and
21 134 gigawatt hours per year, which is a pretty
22 good sized load. It is the terminus of the
23 transcontinental railway, and that's why the
24 417,000 square foot of historical buildings.
25 Those buildings need to be restored, and that will

1 be one of the features of the project.

2 You can see here they've created what
3 they call the Fifth Street Emporium, where it's
4 kind of a pedestrian-friendly area. The central
5 shops are around the historical buildings and a
6 waterfront area.

7 What we're looking at there is what
8 we're calling integrated energy master planning.
9 We're trying, upfront, to work with the developer
10 to incorporate efficiency and renewables into the
11 project. We're looking at the possibility of
12 offering municipal heating and cooling for the
13 project. So in other words, we could put in a
14 central heating and cooling plant and provide
15 chilled water and hot water. Not municipal like
16 drinking water, but just for the purposes of
17 cooling and heating.

18 This is widely done in Europe, and it's
19 supposed to be very cost effective. And we're in
20 the middle of a feasibility study right now. And
21 if it actually looks cost effective, I think we
22 would likely move forward with the project. And I
23 think this is one of the ways that incorporates
24 kind of the best of the best. One of the ways it
25 would save the highest amount of energy.

1 So, it incorporates the smart growth
2 principles and sustainability practices. Reduces
3 greenhouse gas emissions; increases reliability.
4 This could serve as a model across the U.S. I
5 mean what you see is a lot of campuses and the
6 like might have central heating and cooling
7 plants. But you don't really see it offered on a
8 municipal level where a utility is saying, we're
9 going to provide your electricity, your heating
10 and your cooling.

11 So, summing it up, since Suzanne did not
12 get up, I'm guessing I didn't clear the 15-minute
13 mark, we have the potential to improve energy
14 efficiency and grid reliability through land use
15 planning. The potential is huge, I think. And I
16 think, as you've heard from the other speakers,
17 that we're all in agreement on that.

18 We think that you should incorporate
19 efficiency and renewables in general plans and
20 developer agreements. Now, I don't know that the
21 CEC has actual authority over that, per se, but
22 it's one of the things we think should be
23 happening.

24 I would like to see some consistency.
25 I've given a few examples where things are

1 inconsistent. If we could really get some
2 consistency statewide I think that would make a
3 big difference.

4 And the earlier energy is addressed in
5 the planning process, the greater the opportunity.
6 Thank you.

7 MS. PHINNEY: Thank you, Jim. Our next
8 speaker is Chuck Angyal. And he -- either come up
9 to the podium or stay where you are, since you
10 don't have a PowerPoint, and it's your choice.

11 MR. ANGYAL: I think everyone's used to
12 looking up here.

13 MS. PHINNEY: Okay. And Chuck has
14 directed utility new construction energy
15 efficiency programs for over 12 years. He's a
16 founding Board Member of the U.S. Green Building
17 Council, and is current Director for the USGBC.
18 He currently is President of Charles Angyal FAIA
19 and Associates, and was formerly Chief Architect
20 for San Diego Gas and Electric's new construction
21 energy efficiency programs. And he has over 25
22 years experience in the architecture profession.

23 His efforts require the constant
24 interface with the building community, including
25 interactions with architects, engineers, building

1 owners and estate developers, contractors and
2 manufacturers and suppliers. And he has a
3 bachelor of science degree in landscape
4 architecture from CalPoly. Chuck.

5 MR. ANGYAL: Thank you. I usually do
6 count on graphics, but I'm not doing it this time.
7 I also want to clarify something. I did retire
8 from SDG&E less than a year ago, so I'm not
9 speaking for the utilities. I had a great 12
10 years, 13 years there. We did a lot of wonderful
11 things, worked with a lot of wonderful people.

12 I'm approaching my input here a little
13 bit, little more, I'd like 20,000 square feet.
14 Like I say, it's a privilege to be here, be part
15 of this important workshop. I want to compliment
16 the organizers bringing together so many experts
17 in land use and energy.

18 I am an architect, primarily interested
19 in regenerative architecture. I spent the first
20 half of my career in traditional architecture
21 practice, designing obsolete buildings.

22 The last dozen or so years I've worked
23 at SDG&E promoting energy efficient, high
24 performance design practices. One of my tasks has
25 been to recognize emerging technologies,

1 strategies and trends of the building industry.

2 That experience pulled me to the
3 conclusion that sustainability is the end goal.
4 The relationship between land use and energy has
5 to complement the larger picture which is to put
6 sustainability into practice.

7 Recently a summary report from the
8 California Climate Change Center assessing risk
9 was published. The potential impacts of global
10 warming are unmistakable, adding days of deadly
11 heat, more intense and frequent wildfires, shorter
12 supplies of drinking water, serious public health
13 risks.

14 This is a quote from Linda Adams,
15 Secretary of Environmental Protection of
16 California: The actions we take today will impact
17 a climate inherited by our children and
18 grandchildren. I'd go even further; the urgency
19 is going to affect us.

20 Jim Hansen, NASA's top climate
21 scientist, says we have ten years to change the
22 curve of adding CO emissions into the atmosphere.
23 If it doesn't happen in ten years I don't think we
24 can keep global warming under 1 degree Celsius,
25 and that means there's a great danger of passing

1 some of these tipping points. If the ice sheets
2 begin to disintegrate what can we do about it. We
3 can't tie a rope around the ice sheet; can't build
4 a wall around the ice sheet; the situation's out
5 of control. Stabilization of atmospheric CO2 may
6 require eventual reductions of emissions by 60 to
7 80 percent.

8 That being said I would like to make
9 several points today that have to do with
10 strategic sustainability that are relevant to land
11 use and energy.

12 First, we live in a bizarre and
13 challenging time. A time when we've learned to
14 walk on the moon, but we're not doing such a good
15 job walking on the earth.

16 Second, in regard to how to build our
17 structures and our communities, it's time for us
18 to feel a great sense of urgency, as well as an
19 opportunity.

20 Third, we must dramatically change the
21 way our energy and how we use it, how we get our
22 energy and how we use it. Small steps are not
23 enough. We must take bold, creative and decisive
24 steps.

25 Fourth, we must make these changes in

1 the next ten years. Fifth, our building and our
2 communities must be at the center of this green
3 energy revolution. As we all know, our buildings
4 are enormous consumer of energy, and enormous
5 contributor to greenhouse gas emissions. And
6 around the world today the built environments are
7 expanding rapidly.

8 I believe that California and the United
9 States has a special responsibility and
10 opportunity in addressing these issues. We have
11 the largest -- we are the largest consumer in oil
12 per capita in the world today, and the largest
13 producers of greenhouse gases per capita.

14 And in terms of energy supplies and
15 global climate change we are vulnerable to the
16 geopolitical complication for energy supplies,
17 environmental damage of today's energy practices.

18 We have much to gain in working together to
19 build and find solutions.

20 I would like to briefly address the
21 growing ecological importance of our buildings and
22 our community developments. China will build
23 homes for 400 million people in the next 12 years.
24 And will quadruple its gross national product by
25 2020.

1 The United States, in the United States
2 we spend \$250 billion a year on energy for homes
3 and commercial buildings. Buildings account for
4 40 percent of our total energy, two-thirds of our
5 electric consumption, and nearly 40 percent of our
6 carbon emissions.

7 Eighty percent of our population in the
8 U.S. lives in cities, and the energy consumed in
9 our cities for buildings, transportation,
10 infrastructure account for 80 percent of all our
11 nation's energy consumption.

12 Seventy percent of that amount is
13 determined by how and where we design our
14 neighborhoods. We have found that low density
15 development, called sprawl, in the U.S. consumes
16 85 percent more energy, seventy times more water,
17 fifty times more lumber, and forty times the land
18 that higher density development of the same square
19 footage.

20 I don't know if those numbers add up
21 with yours, David.

22 Urbanization, we have experienced in the
23 U.S., and that is underway here, is being
24 replicated on massive scales around the world. By
25 next year half the world population, 3.2 billion

1 people, will be concentrated in cities. Today our
2 cities worldwide contain one-third of the world's
3 poor, 1 billion of the residents live in
4 inadequate housing; 1.5 billion breathe air that's
5 bad for their health; 600,000 are killed each year
6 by indoor air pollution.

7 Clearly we must find a different way to
8 construct buildings and communities. As the built
9 environment expands to meet demands for decent,
10 safe and sanitary living conditions, it will be an
11 enormous impact, not only on our environment, but
12 also on international security, economic stability
13 and political stability.

14 We face two futures. In one we will all
15 compete for the same limited supplies of oil,
16 driving up the price of energy and causing
17 international tensions. Our climate will slowly,
18 steadily show steadily increasing signs of
19 distress and instability.

20 In the second future, the one I believe
21 we must create as quickly as possible, we will
22 have made the transition to high efficiency and
23 clean, renewable forms of energy in our buildings,
24 our communities and our transportation systems.

25 In this second future there will be no

1 need to compete against one another because there
2 is enough sunlight, wind, geothermal energy and
3 bioenergy for all of us. We will not be concerned
4 about raising energy prices because there's little
5 or no fuel costs in a solar water system or a
6 photovoltaic array or a wind turbine, passive
7 heating or natural indoor lighting.

8 This future, as I have said, requires a
9 revolution in how we design our buildings, our
10 communities and our cars. And if we wish this
11 revolution to be relatively painless we must carry
12 it out within an incredibly short time.

13 At the beginning of this talk I said we
14 must make dramatic changes in energy within ten
15 years. Why? A study funded last year by the U.S.
16 Department of Energy predicts that oil, which so
17 many of us depend on, will reach its peak global
18 production by 2020. This study estimates it will
19 take us about at least ten years to prepare,
20 meaning we must start today if we wish to avoid
21 unprecedented economic difficulty.

22 Likewise, top scientists now predict a
23 wait of only about ten years to dramatically
24 reduce our carbon emissions. If we don't we will
25 experience a number of tipping points in the

1 global climate. Tipping points that will
2 generally accelerate climate change and make many
3 of its major impacts uncontrollable.

4 These predictions are fair warning to
5 all of us, in both the development and developing
6 nations we must set ambitious goals, make
7 revolutionary changes in policy and practice, and
8 engage in unprecedented level of international
9 cooperation.

10 Given the urgency of our situation are
11 we moving fast enough? I think not. The solution
12 is to completely change course. And that is what
13 we need to do today.

14 What kind of changes do we need? I'd
15 like to suggest several. First, we must stop
16 investing in carbon-producing design and
17 technologies and make major investments -- we must
18 stop investing in carbon-producing design and
19 technologies and make major investments instead in
20 low- and non-carbon substitutes.

21 The substitutes we choose for investment
22 must be those that are simple, direct and offer
23 multiple benefits. Basically the triple
24 bottomlines that benefit our economy, our society
25 and the environment.

1 The California Energy Action Plan, which
2 I consider an excellent starting point, sets the
3 right direction we should be headed. But the
4 utility business construct contradicts the loading
5 order and makes it ineffective.

6 For example, in my opinion, it makes
7 much more sense to invest heavily in energy
8 resources of the future, energy efficiency, demand
9 reduction, solar, wind, environmentally friendly
10 hydroelectric, geothermal energy, bioenergy, than
11 to invest billions of dollars and critical time to
12 make fossil fuels greener.

13 We often hear we must find ways to make
14 coal a clean form of energy because we have a lot
15 of it, hundreds of years of supply. But we have
16 an infinite supply of wind and sunlight that
17 requires no miracles of science to use it.

18 There is no imperative to burn coal
19 simply because it exists. As the saying goes, we
20 did not end the Stone Age because we ran out of
21 stones.

22 Is nuclear power the answer? Well, I
23 heard that nature did a study on where to locate a
24 nuclear power plant where it could produce all the
25 energy we need and not harm the earth or living

1 things. And it's located 92 million miles away.

2 A second closely related change, I
3 think, definitely -- is to think definitely about
4 technology and its role in our lives and the built
5 environment.

6 In the industrial area technology that
7 increased the affluence of growing numbers of
8 people has made environmental impact continuously
9 larger. The new role of technology is to help
10 larger numbers of people to achieve decent
11 standards of living, while minimizing
12 environmental impact. Eco-friendly technologies
13 are the ones that now deserve our full attention
14 and investment.

15 Third, we must think differently about
16 our goals for efficiency and built environment.
17 We have heard and seen many examples of green
18 intelligent design can reduce building energy by
19 30, 40, 50, even 60 percent. I've been involved
20 with many of those.

21 In my view, intelligent buildings are
22 not enough. Given the urgency of global climate
23 change we must strive for brilliant buildings that
24 produce no net carbons emission and consume no net
25 energy. Buildings, in other words, that produce

1 as much energy as they consumer or more over the
2 course of a year.

3 Fourth, we must extend the concept of
4 zero energy buildings to the land use resulting in
5 zero energy real estate developments and
6 communities. The United States, we have only
7 begun in the last decade or so to treat buildings
8 as systems, and to use a systems engineering
9 approach to their design and construction.

10 By using the integrated, whole-building
11 approach, which optimizes energy efficiency
12 opportunities, demand reduction opportunities,
13 integrated clean distribution opportunities, a
14 building can be climate neutral or climate
15 positive.

16 We must begin designing our communities
17 the same way. Understanding that they are living
18 systems of interrelated parts, economy,
19 environment, social systems, transportation,
20 water, air, people and buildings.

21 Our communities are new systems created
22 by the interaction of human ecology and natural
23 ecology.

24 Finally, we must begin using zero carbon
25 and zero energy as our benchmarks for progress in

1 the built environment. When we say we design a
2 building or community using 50 percent less
3 energy, our benchmark is a wasteful past rather
4 than most desirable future. Instead we must make
5 net zero energy and zero carbon our reference
6 point. There's an old saying, if you don't know
7 where you're going, you may never get there.

8 Our metric for measuring sustainability
9 in a building in the community -- and a community
10 in regard to carbon emissions and energy
11 consumption should be net zero.

12 Some look at these goals to be
13 unrealistic. Yet we already have seen signs that
14 they are emerging and they are achievable. U.S.
15 Department of Energy, for example, has set the
16 goal of making zero energy buildings commonplace
17 in the United States by 2020.

18 It already has worked with Habitat for
19 Humanity to build a number of near-zero-energy
20 homes in the U.S. at affordable cost. Last summer
21 the Secretary of Energy dedicated the first zero
22 energy residential building in Colorado. This
23 home is equipped with solar water heating, a 4
24 kilowatt solar electric system, high efficiency
25 windows and insulation, and heat recovery

1 ventilation system, among other features. It cost
2 20 percent more to build, but it will have no
3 energy bills and lower maintenance costs.

4 At the community scale the World
5 Wildlife Federation has set a goal of building one
6 zero energy community on each continent, including
7 China, by 2009. Last August the Shanghai
8 Industrial Investment Corporation contracted with
9 a British engineering firm, ARAP (phonetic), to
10 create the world's first sustainable city in
11 Dongtang (phonetic). It will be three-quarters
12 the size of Manhattan in New York City.

13 With a goal of self sufficiency in
14 energy, water and most food; zero emissions of
15 greenhouse gases in its transportation sector.
16 Landscape designed to catch purified water; energy
17 generation from organic waste; green building
18 design; renewable electric power and other
19 features. It is scheduled to be completed by
20 2010, and will be used as a model for creating
21 sustainable communities worldwide.

22 Net zero communities and buildings are
23 also being made more possible by emerging market
24 mechanisms, tools and programs. Among these is
25 the new lead standard for neighborhoods, which

1 you'll hear more about later; the declining costs
2 of renewable energy systems; research on new ways
3 to sequester carbon; and green tag programs allow
4 a consumer of our city to purchase renewable
5 energy generated elsewhere where it doesn't have
6 sufficient resources locally.

7 We're seeing new operations like the
8 Chicago climate exchange creates a lot emission
9 trading. And we're seeing new generations of
10 analytic and decision support tools that allow not
11 only designers and planners, but real estate
12 developers, energy consumers and building owners
13 to assess economic, environmental and even social
14 costs of different designs for new community
15 before the design process begins.

16 Finally, we're seeing new types of
17 collaboration between China and the U.S. and other
18 nations. One example is the international
19 partnership for hydrogen economy in which 17
20 nations, including China and the U.S. and the
21 European Union are cooperating on precommercial
22 research to speed the development of hydrogen
23 fuels, vehicles and power technologies.

24 This partnership is an excellent start,
25 but I believe it must go farther and faster,

1 collaborating on an array of technologies to
2 reduce energy use and carbon emissions, some of
3 which can be available well before hydrogen fuels
4 can become widely commercialized. They're
5 available right now, as a matter of fact.

6 In addition to research and development,
7 efforts such as this one should look at market
8 mechanisms policies and financing arrangements
9 that will move these new clean technologies into
10 our economies as quickly as possible.

11 In closing, I want you to -- leave you
12 with these conclusions. Smart growth principles
13 are not good enough. We must settle for nothing
14 less than brilliant growth, brilliant buildings
15 and brilliant communities. Our goal and our
16 benchmark for progress must be net zero carbon
17 emissions and net zero energy consumption.

18 We must put the best minds on this task.
19 We must empower them with adequate funding and
20 facilities. We must dis-invest in the designs,
21 technologies and practices that make us weaker and
22 channel our intellectual and financial capital
23 into those that make us stronger and more
24 sustainable.

25 We must realize that sustainable

1 development is today not an environmental issue.
2 It's a matter of national security and economic
3 stability. In a world in which nations are
4 competing with the same finite resources, where
5 disruptions in supply and escalating prices can
6 send our economies in a nose-dive, green
7 buildings, green powers and green communities are
8 no longer toys of naturalists. They are the
9 defense industries of the new age.

10 We have come to a time when a solar
11 collector is just as important to our security as
12 a rifle. And hydrogen power is as important as a
13 tank. We must develop the policies that will
14 provide us with an early, but rapid, transition
15 from carbon fuels and inefficient designs to
16 unprecedented levels of resource efficiency,
17 renewable energy systems, and intelligent life-
18 sustaining behaviors.

19 Last but not least, one of the most
20 important directions for the utilities is in the
21 Energy Action Plan under optimizing energy
22 conservation and resource efficiency. It does
23 state that provide utilities with demand response
24 and energy efficiency investment rewards
25 comparable to the return on investment in new

1 power and transmission projects.

2 That's the key thing. Again, regulation
3 can be a cure or it can keep exasperating things.
4 It's much easier to invest for the utilities and
5 much more profitable, as what they should be doing
6 under the construct, to build a \$2 billion
7 transmission line, ratebase that, and get their
8 return on investment.

9 They should be allowed to go in and help
10 people do net zero communities and get a return
11 higher than this on their investment, in my
12 opinion. Again, most of these -- these are all my
13 opinions.

14 But, anyway, thank you. I just want to
15 say that time is short and the need is great, but
16 thank you for your attention.

17 MS. PHINNEY: Thank you. Questions of
18 our panelists, Commissioners? And then after that
19 we'll move into the public comment.

20 ASSOCIATE MEMBER GEESMAN: I guess I'd
21 just raise the general sense of what either one of
22 you gentlemen view as the best role for state
23 government in this field in the immediate future.
24 I'm taken with the notion that we need more than
25 smart buildings, we need brilliant buildings and

1 brilliant policies. Brilliant people in
2 government positions tend to have a pretty high
3 failure rate.

4 (Laughter.)

5 ASSOCIATE MEMBER GEESMAN: But
6 ultimately, you know, our tools boil down to
7 categorization as either carrot or stick. And I'd
8 be curious as to what either one of you think the
9 appropriate percentage mix between those two
10 instruments should be.

11 MR. ANGYAL: Well, I can only talk from
12 personal experience. When I first joined SDG&E it
13 was in 1992 and that's when energy efficiency was
14 just beginning its heyday.

15 And it was a major profit center for the
16 utilities; it got huge attention, huge resources,
17 and the production of megawatts was incredible.
18 It was going up a climb like this every year.

19 Deregulation came. Some people didn't
20 like the utilities making money on not selling
21 their product. And so they re-regulated, and I
22 think our production of megawatts has either gone
23 down or really leveled off, even with increased
24 spending.

25 So, just from past experience the carrot

1 and the stick works. But I don't -- I think the
2 carrot works better than sticks. And you have,
3 again, like I said, in the Energy Action Plan, one
4 of those there is, I think the utilities would
5 like to do what's good. I mean, you know, they
6 like power plants and I like transmission lines
7 and stuff like that, but I think they also like
8 their environment, they like good clean
9 communities. But that's not where the profit
10 motive is. It's not where the profit -- and
11 believe it or not, they do have shareholders to
12 answer to. And so they're doing what the
13 regulation basically direct them to do.

14 So that's where, you know, regulation
15 comes in. Again, this is my opinion. You incent
16 people to do what's good that has the triple
17 bottomline that's going to happen.

18 If you incent them to build coal-fired
19 power plants, or whatever type of power plants and
20 excessive infrastructure, that's where they're
21 going to go. I mean it's a pretty good business
22 model from my perspective, you know. I don't know
23 how it arrived at that, but -- yeah, there's a lot
24 that, you know, I think it was Andre Love who once
25 said you want the utilities to do something you

1 got to grab them by the regulators.

2 (Laughter.)

3 MR. PARKS: I'm not a big fan of the
4 stick, but I think at times it's necessary. But I
5 think you should start with the carrot. I kind of
6 use Title 24 as an example of how things should be
7 done. A certain standard is established, and then
8 in this example the utilities go out and they set
9 a higher standard, and they offer rebates for
10 that.

11 And over time that's adopted by
12 customers and you reach a new level of efficiency
13 that's adopted by many. It's time to change the
14 standards again.

15 I think a similar model could be used
16 for this where you determine what your goals and
17 your metrics are up front, and you establish a
18 timeline for achieving those goals. And you start
19 out with the carrot approach. And if, over time,
20 the carrot's not working, then you go with the
21 stick.

22 ASSOCIATE MEMBER GEESMAN: Thank you.

23 PRESIDING MEMBER PFANNENSTIEL:

24 Commissioner Bohn, thank you for joining us. Do
25 you have any questions?

1 COMMISSIONER BOHN: Just thank you, all,
2 for including us in the process. I don't want to
3 be perceived as either a cynic or as, in any way,
4 antagonistic to the theme of either clean energy
5 or energy efficiency or anything else.

6 As I sit in these kinds of discussions,
7 nobody ever talks about how much it costs and who
8 it costs. There are a couple of groups, if you
9 like, that are going to sustain whatever these
10 costs are. The largest group, of course, are the
11 taxpayers. The next largest group, I suppose, are
12 the ratepayers. Then there are the city tax
13 payers, and the county tax payers and all that.

14 I think we made the decision that this
15 is the direction we're going in as a state and as
16 a group of people who, I think, the debate on
17 whether or not greenhouse gases is a problem is
18 over. I think it's a question now of how we get
19 there.

20 But I would just like to occasionally
21 remind us in our discussions that each of these
22 initiatives costs somebody. And each of these
23 initiatives has a transition period within which
24 both business and the consumer are going to be
25 stung by additional costs.

1 And as we go forward if we lose sight
2 either of that, or of the timeline over which this
3 can be done, and minimize that impact, then I have
4 the fear that we will disappoint ourselves and
5 disappoint our constituencies because we won't get
6 there. The burdens will be unanticipated and we
7 will not have prepared the public properly to
8 understand that we are, indeed, all in this
9 together and, indeed, part of the pain will be
10 shared.

11 We don't talk about that very much
12 because we wrap ourselves in all of these very
13 very interesting, exciting technology
14 developments, and the very real and laudatory
15 goals.

16 And, again, I don't want to be a cynic
17 about this, but at the end of the day the taxpayer
18 and the political system needs to be able to
19 sustain it. So, along with these discussions I
20 would encourage you to think about how we carry
21 the message, to whom we carry it, and what exactly
22 the complete message is.

23 Thank you.

24 PRESIDING MEMBER PFANNENSTIEL: Thank
25 you. Just, I think to Jim, you described the

1 concept behind the railways project and the
2 possibility of using combined heat and power,
3 which is clearly an old new technology. And would
4 be pretty revolutionary I would expect to be
5 bringing back something like that, that has been
6 taken out in a lot of urban settings.

7 Is this, is it really unprecedented in
8 the U.S. Now, I know that it's used widely in a
9 lot of places in Europe. Do you know of any other
10 place where they're trying to do a brownfield
11 redevelopment smart growth area using this?

12 MR. PARKS: The only examples I'm aware
13 of are in more of campus settings where perhaps a
14 university provides, you know, chilled water.
15 Even UC Davis Med Center here has a cogeneration
16 plant and they provide chilled water and hot
17 water.

18 But I'm not aware of anybody doing it
19 from the municipal perspective where a utility is
20 providing to the customers of that region chilled
21 water and hot water.

22 PRESIDING MEMBER PFANNENSTIEL: Then I'm
23 thinking that as we are looking at our options, we
24 probably are going to want to look at some models
25 of what's happening and what has succeeded in the

1 U.S. and elsewhere in sustainable communities.

2 MR. PARKS: Yes. And there are a few
3 feasibility studies going on right now. I think
4 the Commission is involved in one in Chula Vista,
5 and --

6 PRESIDING MEMBER PFANNENSTIEL: Right.

7 MR. PARKS: -- and the work on the
8 railyards project. And I believe there's a few
9 others that are going on around the U.S. And so I
10 don't think it's something you could regulate
11 right now. But I think it's something that we
12 need to keep a close eye on.

13 PRESIDING MEMBER PFANNENSTIEL: Well,
14 when we add to David Goldstein's list of the
15 information needs, one of them I think would be
16 looking at models from other places.

17 MR. ANGYAL: There is two chilled water
18 loops in San Diego; actually one San Diego Gas and
19 Electric built years ago --

20 PRESIDING MEMBER PFANNENSTIEL: Right,
21 they're old ones, though, aren't they? They've
22 been there awhile.

23 MR. ANGYAL: It's been sold off. But
24 there was a new central plant done for the whole
25 ballpark redevelopment area.

1 PRESIDING MEMBER PFANNENSTIEL: Right.

2 I want to thank the panel; very interesting
3 perspectives.

4 Now we have an opportunity for some
5 public comment. And I have two blue cards, so why
6 don't they come up in the order that I was handed
7 the cards. John Kelly, Executive Director of the
8 Gas Technology Institute, who'll probably talk
9 about Chula Vista.

10 MR. KELLY: Thank you very much,
11 Commissioner Pfannenstiel and the rest of the
12 Commissioners and everyone here today. I am the
13 Executive Director of GTI sustainable and
14 distributed energy center. I joined GTI after
15 completing my environmental engineering studies in
16 the mid 1990s. I spent 18 years in the electric
17 industry helping improve the central power plant's
18 performance and lower costs.

19 But after taking environmental
20 engineering and learning about inversion layers, I
21 realized I needed to move into a place where I
22 could help improve our cities' environments.

23 Gary Neal, the CEO of (inaudible)
24 approached me right after getting to GTI five
25 years ago and gave me an opportunity to compete in

1 an international competition with seven other
2 countries to create a 100-year vision of the
3 energy system of the future. All of the
4 countries, and actually San Diego was selected
5 because they were one of the few -- we held a U.S.
6 competition with 12 cities, but San Diego was one
7 of the only cities that had a regional plan, and
8 also incorporated land use into their energy
9 planning.

10 And so we picked San Diego to compete
11 internationally and developed a 100-year vision
12 for San Diego. There's a video, a 13-minute
13 video, if you gave a chance, I can supply copies
14 to the Commission of that. I think Commissioner
15 Pfannenstiel has that, and a few other
16 Commissioners.

17 But that led us to the last five years
18 of working with cities and utilities across the
19 country to help integrate energy planning and city
20 planning. What we found, though, is there isn't
21 much resources for that. We pretty much leave
22 energy planning to utilities.

23 And as we've heard today, utilities are
24 there to supply energy for the buildings you
25 develop. They're not really there to optimize or

1 to create a more efficient energy system. They're
2 really there to build the distribution system in a
3 reliable way and a cost effective way, and give
4 that to the public.

5 What then has led us to come to the
6 conclusion is to ask the CEC here today to
7 consider providing more resources for developing
8 the energy system of the future. We believe that
9 entails four elements in terms of design. One is
10 what you heard this morning, is land use planning
11 and energy. But not just transportation. We
12 really need to bring the electric system and the
13 natural gas system into land use planning.

14 So today we talked a lot about vehicle
15 miles traveled. But actually if you look at the
16 United States electric generation contributes more
17 to carbon emissions than transportation. So it
18 needs to be an area of a focus.

19 The second part is to maximize the
20 integration of economically viable technologies
21 into development. And I say economically viable
22 because I agree with the Commissioner that I
23 believe the green community has been misled a
24 little bit by technologists. I think we've spent
25 a lot of money -- California can go back to the

1 electric car and look at how you were led to
2 believe the electric car would solve all your
3 problems. You expended a tremendous amount of
4 money on the electric car. That entire program
5 fell apart because it was not economically
6 sustainable.

7 I believe the Commission may be headed
8 down the same road with fuel cells. And I think
9 if you look very hard at fuel cells what you'll
10 find is that you may improve fuel cells over time,
11 but if you look at Europe they're making such
12 improvements in engines and fuels, that you're
13 going to find that as you improve fuel cells
14 you'll never catch up to the engine.

15 And we will have a near-zero emission
16 engine on clean fuels within the next ten years.
17 So I think you need to consider what's
18 economically viable. And if you're a state, I
19 think the federal government can work on long-term
20 research, but I think states really need to look
21 at what can they do pragmatically to help cities
22 now with the problems that face the State of
23 California.

24 This research also includes developing
25 technology-ready infrastructure. What we're

1 proposing here is that for those technologies
2 we're not ready for, maybe like fuel cells, and in
3 some cases solar, that we build technology-ready
4 infrastructure, solar-ready homes.

5 I ask the Commission to think about how
6 much it costs to wire a home for solar when you
7 build it versus after it's built. Or try and put
8 a CHP system or cogeneration system into a
9 commercial building after it's been built.
10 There's no room for it. It's not wired for it.
11 It doesn't fit. And, in fact, you can buy an
12 engine generator system for about 400 a kW; it'll
13 cost you about \$2800 a kW to get it in the
14 building.

15 But if we built buildings for these in
16 the beginning, if we were preparing for a future,
17 if we were taking interim steps to prepare us for
18 a different energy future, we would do things very
19 differently.

20 The fourth thing is policy, and
21 developing policies, mechanisms and tools for the
22 implementation of these models. So once you
23 develop the models now you've got to implement
24 them.

25 Michael Meacham, who is sitting here,

1 from the City of Chula Vista, wrote a municipal
2 ordinance in 1984 to create a solar municipality.
3 Under that condition that City would enter into a
4 third-party contract with an EPC; they'd float
5 bonds and they would put solar in homes. And on a
6 20-year payback it would cost about 21 cents a
7 kilowatt hour with the current incentives, both
8 federal and state.

9 That would compete very effectively
10 against the current rate for residential in Chula
11 Vista or in San Diego, which are right around 30
12 cents a kilowatt hour right now.

13 So you talk about economically viable,
14 but, Commissioner, if you continue to finance our
15 energy distribution system generation, which
16 utilities do that over 20 years, and then you ask
17 us, the clean energy community, to finance our
18 technologies over five years, we can't compete.
19 We know we're more cost effective but we need a
20 longer period. We need mechanisms like community
21 municipalities, solar municipalities, whatever you
22 want to call them, and other mechanisms that would
23 give us longer financing terms. That's probably
24 our biggest weapon to get clean energy technology
25 into it.

1 Are utilities going to do it? I don't
2 think so. In fact, the on-bill financing program
3 implemented by SDG&E, I thought wow, here we go.
4 SDG&E is going to implement an on-bill financing
5 program, which means they'll do the exact same
6 thing. Put solar in; finance it over a long
7 period; and off we go.

8 Do you know what their period of -- the
9 period was for their financing for that? Five
10 years. No better than what the private community
11 would put out there. And I thought, you know, are
12 we really after change, or not?

13 So, with that in mind, I just finish
14 with billions of federal, state and utility
15 funding for clean energy technology has not
16 stemmed the nation's appetite for fossil fuel
17 energy. We're talking about going from a hundred
18 quadrillion Btus to 134 quadrillion Btus over the
19 next 20 years. Renewable will only increase by
20 three quads if we don't change fundamentally what
21 we're doing now.

22 And I believe the Commission, and I
23 think you said it, Commissioner Pfannenstiel,
24 needs to provide the leadership here with the
25 Public Service Commission.

1 Archimedes said, give me a lever long
2 enough and I can move the world. Numerous studies
3 confirm that research focused on designing and
4 developing community scale energy system models,
5 policies and practices could provide this lever.
6 Only the CEC can bring utilities, cities,
7 developers together to optimize land use design,
8 clean energy generation, delivery systems and
9 facility designs, as well as the implementing
10 methods and tools.

11 CEC leadership of resources are needed
12 to develop and deploy the energy system of the
13 future. This research could provide California
14 with the leverage needed to reverse the current
15 trends while bridging the gap to a hydrogen and
16 renewable future. We may get there in 50 years
17 from now, but we're not going to get there in the
18 next ten years. Cities like Chula Vista need your
19 help now to implement the technologies that we can
20 get in, while preparing the infrastructure for the
21 future technologies.

22 Cities are the key to the success of
23 this research program. Cities provide an
24 objective view and understanding of what it takes
25 to implement new community scale energy efficient

1 models, a focus on economic viability. Cities,
2 the one thing dealing with cities, is they are
3 very pragmatic. They are very good
4 businesspeople. They know how to get things done.

5 And I think sometimes we deal with
6 people who are writing reports and doing studies
7 and they're not pragmatically on the ground and
8 able to get things done. And I think you need to
9 work with cities who will implement, who will get
10 things done.

11 And most importantly, cities represent
12 the consumers' interests. And everyone else, I'll
13 tell you, I came from the utility industry, I came
14 into this research world, and I've never seen so
15 much self-interest in my life. And I've never
16 seen so many people so misguided in where they're
17 headed. And it just disappoints me, because after
18 five years, I'm going, holy cow, where are we
19 really going with this.

20 So, I think if you get the cities'
21 mayors, people like Michael Meacham, who work for
22 cities and represent communities and citizens day-
23 in and day-out, you'll find Michael knows how to
24 get you there. He just needs your help.

25 I'd like to thank you very much for the

1 time, and thank you.

2 PRESIDING MEMBER PFANNENSTIEL: Thank
3 you, John.

4 We also have a request to speak from
5 John Nimmons, President of Sustainable Energy
6 Strategies.

7 MR. NIMMONS: Thank you very much,
8 Commissioner Pfannenstiel. And thank you,
9 Commissioners, for listening.

10 My name is John Nimmons; my work over
11 the last 25 years or so has been all around
12 basically distributed resources and community-
13 scale resources. We do a lot of work with
14 utilities. We do a lot of work with
15 municipalities and with developers. And a lot of
16 it is sort of trying to bring some of these
17 parties together who don't usually understand each
18 other very well.

19 But what I wanted to talk about this
20 morning was just briefly to respond to something
21 Commissioner Pfannenstiel had asked earlier, and
22 that the first panel talked about, which was you
23 mentioned that we hear a lot about cities, but not
24 much about regional organizations. And are there
25 opportunities for that.

1 I wanted to talk a little bit about the
2 Ventura County Regional Energy Alliance, and the
3 Humboldt County Regional Energy Alliance, just to
4 let you know that there are some things out there.
5 And we think it's potentially a very very powerful
6 model. And we very much need the Commission's
7 support and the state's support to move forward
8 with it.

9 We have been talking a little bit with
10 Gina Barkalow at PIER. And we have been beginning
11 to see whether there are ways that the Commission
12 could work with the Ventura Alliance, in
13 particular, which I've been very much involved
14 with.

15 What the Ventura County Energy Alliance
16 is, is a joint powers agency that we formed about
17 four years ago, really, right after the -- or
18 actually three years ago, I guess, after the last
19 energy crisis.

20 And it came into being because the local
21 business community in Ventura County, and these
22 were some very large companies, Proctor and Gamble
23 was one of them, various other kind -- Shell Solar
24 is down there, a number of large companies. And
25 they were very concerned about the impacts of the

1 2001/2002 energy crisis.

2 So, they got together with public
3 officials from the county and a number of cities
4 and said, you know, what can we do so this won't
5 happen again, or so that when it does happen again
6 we'll be in a better position to respond to it,
7 and more resilient about the impact on us.

8 So with the local government
9 commissions' sponsorship we applied to the Public
10 Utilities Commission; were able to get a grant for
11 Ventura County and the cities that are there to
12 look at the possibility of putting together a
13 regional energy group of some kind.

14 We spent about a year, I guess, putting
15 it together. And that year was spent in
16 discussions with a lot of -- with the business
17 community who had been instrumental in this; with
18 local governments; with local environmental
19 groups; with everybody who had an interest in the
20 energy future of the region.

21 And what they came up with was the idea,
22 or what we all came up with really was the idea of
23 a regional group that would be able to pool the
24 resources really of a lot of different areas
25 which, by themselves, wouldn't have had the

1 capabilities to get into energy, to understand it,
2 to do much about it.

3 In the early '80s, I guess, after the
4 '70s energy crisis, in California a lot of cities
5 developed energy staffs. And they had some
6 confidence in energy and some capabilities. And
7 that all disappeared pretty much in the mid '80s
8 when gas prices didn't go the direction we thought
9 they would.

10 So now there's not much of that left.
11 What we did in Ventura was to combine the
12 political will that you mentioned, Commissioner
13 Pfannenstiel. That was really the driver there
14 that Supervisor Kathy Long and some others were
15 very clear that this was an important priority for
16 the region.

17 So we formed this group which consisted
18 of Ventura County, four of the major cities in
19 Ventura, and which has since expanded to include
20 community college district, sanitation district,
21 regional water district and a couple more cities.

22 These are all public entities which they
23 need to be to be part of the joint powers
24 authority under California law. We structured it
25 that way because the particular combination of

1 powers that the joint powers agency in California
2 has where the ones that they thought would be
3 useful, including revenue bonding, when they get
4 to the point where they're actually going to be
5 able to support projects.

6 So there is a model for this. I do have
7 their mission statement and their goals, just to
8 give you an idea about how a group like this can
9 work. And these were worked out by the groups
10 that I talked about over a period of about six
11 months. So these are not sort of back-of-the-
12 envelope thoughts. These were very well
13 considered and very seriously committed to by this
14 group.

15 And the mission of the Ventura County
16 Regional Energy Alliance is to establish Ventura
17 County, its communities and neighboring regions as
18 leaders in developing and implementing durable,
19 sustainable energy initiatives that support
20 sensible growth, a healthy environment and
21 economy. And enhance quality of life and greater
22 self reliance for the region by reducing energy
23 demand and increasing energy efficiency, which
24 they're doing through the Public Utilities
25 Commission funding and a partnership with Southern

1 California Edison. And secondly, by advancing the
2 use of clean, efficient and renewable local
3 resources.

4 They've done very well on the energy
5 efficiency side. They've exceeded all the goals
6 that they had set in their partnership with Edison
7 over the last three years. They've been able to
8 get continued funding from the PUC to do that.

9 But the other part of the mission, the
10 renewable energy part, and development of local
11 resources and the use of waste resources and so
12 on, has been languishing simply because there
13 isn't a way to fund that very easily we've
14 discovered. And that's partly because this is a
15 new kind of organization and there isn't anybody
16 that sort of looks out for these kinds of groups
17 and says this is worth doing.

18 Their goals include leading and
19 coordinating regional integrated energy resource
20 planning efforts which insure secure, sustainable,
21 cleaner and more affordable energy resources.

22 Secondly, to develop a long-term
23 sustainable energy strategy and implementation
24 plan for the region. Third, to develop regional
25 capabilities to respond to energy emergencies and

1 short-term disruptions in supply or in markets
2 such as we experienced in 2001 and 2002.

3 Fourth, to increase awareness of
4 available energy conservation, energy efficiency
5 and renewable energy opportunities and enhance
6 access to those opportunities. They really want
7 to begin identifying and developing local
8 resources.

9 And there are a couple of others that,
10 one of the other major ones is to keep the local
11 elected officials and stakeholders informed about
12 energy developments which there hasn't been a
13 mechanism to do before now.

14 A lot of our work is in distributed
15 generation, and one of the things that has
16 occurred to me as we watched the development of
17 the regional organization there is that an
18 organization like this that's sort of regional in
19 scope and that has local public entities as
20 supporters and sponsors of it may be sort of a
21 missing link in the whole distributed resources
22 effort.

23 We've worked lots with utilities and
24 everybody who has knows that it's a very hard
25 road; it's very hard to get utilities involved in

1 this. And there are good reasons for it, but it's
2 the truth and it's been true for a long time, and
3 it's probably still going to be true.

4 But if you look at local governments and
5 regional areas especially, they have high energy-
6 using facilities. A lot of local government
7 buildings use a lot of power. Same thing with
8 local wastewater districts or local water
9 treatment districts and so on; hospitals,
10 colleges.

11 And secondly, they have a lot of
12 resources that they're in a position to develop.
13 They've got digester gas, landfill gas, bioenergy
14 capabilities depending on where they are, yard
15 waste sorts of things, or crop residue or what-
16 have-you.

17 Many of them have solar; some of them
18 have wind; a few of them have geothermal. But
19 these resources are all sort of much more suited
20 to the community scale of development than they
21 are probably to either large-scale utility
22 development or individual private-developer
23 development. So there's a real role here for them
24 to play.

25 What we would like to see is for

1 Ventura, in particular, and Humboldt, as well,
2 which by the way, Pat Stoner has just told me is
3 working on an energy element for Humboldt County.
4 We'd like to see these kinds of groups begin to
5 get the tools they need to analyze, to identify
6 resources in the area, what's there, what's
7 economic, what can be developed, what could be the
8 role of the public entity. It may not be the
9 developer role, it may be to bring in third
10 parties. It may be to bring in land use planning
11 so that, for example, you can have district energy
12 in new developments.

13 We don't have it. We have plenty of
14 it -- or we have some of it in cities, it's old.
15 But we don't have very much that's new; and a lot
16 of that is because it's just too expensive to do
17 unless it's a greenfield development.

18 So there's a lot that this kind of
19 organization could do. There are a couple of them
20 out there and they very much need your help, and
21 would like to begin a dialogue with the Commission
22 about ways that the Commission and the regional
23 energy groups can work together.

24 So, thank you very much.

25 PRESIDING MEMBER PFANNENSTIEL:

1 Commissioner Bohn.

2 COMMISSIONER BOHN: Just, I'm
3 fascinated, if I could just ask you a quick
4 question.

5 What were the two or three principal
6 areas of disagreement in the assembly of this
7 group? My experience in getting state agencies to
8 work together, it's more acrimonious than it is
9 harmonious.

10 My question is, were there two or three
11 specific areas that were the hardest to get over
12 to get people to work together? And if so, what
13 were they?

14 MR. NIMMONS: I think I'd have to answer
15 that there weren't in this case. And that's
16 because they had already started this process
17 before the local government commission got
18 involved, or we did, or the Public Utilities
19 Commission funded the work.

20 And there was a huge agreement, I'd say,
21 among the business community and local elected
22 officials that something needed to be done. They
23 didn't want to be in the position they were at the
24 end of 2001 again.

25 I guess as we were going -- you know,

1 honestly, I don't think that there -- I can't
2 think of any really difficult sort of ideological
3 issues or practical issues. What they were
4 interested in was, you know, what kind of
5 structure could they use that would be the most
6 useful and so on. But there was nobody in the
7 community, not the environmental groups, not
8 business groups, not elected officials that didn't
9 want to go forward with it.

10 COMMISSIONER BOHN: Just one last
11 question. How did the leadership evolve? I mean
12 let's assume what you say is correct, and I'm sure
13 it is, that everybody was kind of vulnerable, or
14 feeling sensitive about it and kind of thought
15 good things about it.

16 Again, usually there is some group or
17 some individual or some entity that everybody
18 either agrees on, or who voluntarily steps
19 forward. Was it the county, was it the supervisor
20 you mentioned? Is that how it got started?

21 MR. NIMMONS: She was very instrumental,
22 and it was Kathy Long who was on the board of
23 supervisors of the county. There was also -- the
24 City of Ventura also had a very active and
25 interested mayor, who's got a lot of sort of green

1 credentials and a lot of green interest.

2 I'd say as much as anything it was Wayne
3 Davey, who was in private business there. He's
4 since moved -- yeah, Rockwell Scientific, at the
5 time. He's since moved. But he was chief
6 financial officer, I think, of that company. It's
7 a large company; they were very interested in sort
8 of keeping the county healthy and keeping the
9 business climate healthy in the county.

10 I'd say the real drivers were Wayne and
11 Kathy Long, and Brian Brennan, who was the Mayor
12 of Ventura. And I think that what that did
13 illustrate was that you do need political will and
14 you do need somebody willing to get out front and
15 say this makes sense, we need to look at it.

16 Pat, do you want to --

17 MR. STONER: I just want to say, too, up
18 in Humboldt County it was the Mayor of Arcata and
19 also a county supervisor that really spurred the
20 effort up there.

21 And up there every single city and
22 county -- every single city joined the county in
23 their JPA. And that was even after having a
24 really bad experience on a waste joint powers
25 authority. But they really felt the need, I

1 think, because of the energy crisis that we had in
2 early 2000, to do this. And they all worked
3 together to do that, even from the town of
4 Trinidad, which has 300 people in it. They're all
5 part of it.

6 Another thing John didn't mention, too,
7 is that San Diego's Regional Energy Office that's
8 been around for over ten years, and they're really
9 a big asset for San Diego County, as well.

10 MR. NIMMONS: Yeah, and actually I
11 didn't mean to not mention that. They're a
12 different form, they're a nonprofit corporation.
13 They do have some government entities on the
14 board, but this is the first, as far as I know,
15 these are the first two regional groups comprised
16 of all public entities.

17 And the final answer, I think, to your
18 question, Commissioner, is that what really helped
19 get this moving was the fact that people were
20 fairly desperate in 2001. And the business
21 community was looking ahead and saying, we can't
22 afford to have blackouts, and we can't afford to
23 pay these kinds of prices for energy over the long
24 run.

25 So, without that as a kick start, it

1 would have been, and it always has been, hard to
2 get local governments sort of primed to do this.

3 PRESIDING MEMBER PFANNENSTIEL: Thank
4 you very much. Are there others here who would
5 like to make a comment on the subject now? We'll
6 have another opportunity at the close of the day.

7 Is there anybody on the phone who'd like
8 to speak now?

9 MR. CHRISTIANSON: Yes, this is Craig
10 Christianson from the National Renewable Energy
11 Laboratory in Colorado.

12 PRESIDING MEMBER PFANNENSTIEL: Yes,
13 thank you for calling.

14 MR. CHRISTIANSON: Can you hear me okay?

15 PRESIDING MEMBER PFANNENSTIEL: We can
16 hear you fine.

17 MR. CHRISTIANSON: Okay, very good. I
18 work in the center for buildings and thermal
19 systems here at NREL. I'd like to respond to
20 question 10, what new or expanded analytical
21 capacity tools or research are needed to more
22 effectively address energy issues and California's
23 future land use planning decisions.

24 With regard to land use effects on
25 building energy use, several speakers this morning

1 referred to the importance of quote "proper solar
2 orientation" in development. And, indeed,
3 appropriate street layout is a prerequisite for
4 taking full advantage of energy efficiency in
5 buildings and renewable energy production.

6 And the sort of programs that California
7 has pioneered has been varied. But I think it may
8 not be as simple as specifying proper solar
9 orientation due to two complicating factors.

10 First, there are actually half a dozen
11 different aspects of energy use affected by
12 orientation and shading. Annual energy use for
13 building heating, annual energy use for building
14 cooling, annual production of renewable energy
15 from photovoltaic systems, and similarly from
16 solar water heating systems, onpeak electric use
17 for air conditioning and onpeak PV electricity
18 production.

19 Our analysis indicates that when it
20 comes to orientation there are sometimes
21 significant tradeoffs between these different
22 aspects of energy.

23 And secondly, the fact that a
24 development will typically, by necessity, include
25 multiple street orientations, and perhaps a

1 portfolio of different building types will also
2 lead to tradeoffs in design for optimal building
3 orientation.

4 Given these complexities it seems that
5 simple solar orientation guidelines may be
6 insufficient. There may be a need for a tool or
7 tools to accurately and interactively quantify
8 energy impacts so that subdivision design
9 alternatives can be effectively designed by
10 developers, evaluated by planning departments, et
11 cetera.

12 Thank you.

13 PRESIDING MEMBER PFANNENSTIEL: Thank
14 you. Other comments, or do I -- hearing none,
15 then we will --

16 MR. KEEBLER: Hello?

17 PRESIDING MEMBER PFANNENSTIEL: Oh, yes,
18 there's somebody else on the phone.

19 MR. KEEBLER: Yes, Bob Keebler calling
20 in. I'm basically a free agent at this point. I
21 retired from 30 years in biotechnology. Can you
22 hear me okay?

23 ASSOCIATE MEMBER GEESMAN: Yeah, loud
24 and clear.

25 MR. KEEBLER: Okay. Actually 30 years

1 ago I was at UC Davis and we were studying energy
2 because they had a big problem back then. And one
3 of the things that amazes me, all the evolution in
4 technology in the last 30 and 40 years is
5 remarkable, except in the energy field.

6 And I just have three quick comments,
7 which are on the presentations which were
8 magnificent this morning. But how to influence
9 society to adopt the great ideas that you have
10 presented this morning.

11 The world and -- America is a freemarket
12 economy, and the only way you can really do that
13 is with the pricing.

14 Related to that, one of my colleagues
15 chose to buy a home out in Tracy and commute to
16 Silicon Valley, it was cheaper to buy a home out
17 there. They make that decision because they can
18 buy gas for \$3 a gallon. That's way too cheap.
19 It should be like \$6 a gallon. I know this is
20 election time, so this would not be a popular
21 subject.

22 But you really need to start taxing
23 energy resources so that people start, as people
24 have talked about it today, start adjusting their
25 lifestyle, their homes where they live, so that

1 they can actually afford the future.

2 Because, this is the last comment I
3 have, is that another speaker talked about the
4 peak oil, (inaudible). It could be this year; the
5 estimates of that vary considerably.

6 Okay, so that's my comments there.

7 PRESIDING MEMBER PFANNENSTIEL: Thank
8 you very much for calling in.

9 Anybody else on the phone?

10 Then we'll take a lunch break and we'll
11 be back here at 1:00. Thank you.

12 (Whereupon, at 11:53 a.m., the Committee
13 Workshop was adjourned, to reconvene at
14 1:00 p.m., this same day.)

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AFTERNOON SESSION

1:05 p.m.

PRESIDING MEMBER PFANNENSTIEL: So, I hand it back to Suzanne.

MS. PHINNEY: Thank you. We have four speakers for today. One of our speakers has to catch a plane, so I have rearranged the order. And so Timothy Burroughs is going to go first. We have a name tag for Tom Richman, but he's going to be presenting in absentia, by telephone. So I suppose we can all look at his name tag while he's doing that.

Timothy Burroughs is a Technical Program Officer in ICLEI's Cities for Climate Protection Campaign. ICLEI is the world's leading association of local governments, advancing sustainable development.

Since 1993 ICLEI has been providing resources, tools and technical assistance to local governments, working to reduce the greenhouse gas emissions that cause global warming.

Mr. Burroughs was previously with EPA Headquarters climate change division in Washington, D.C. He earned a masters degree in

1 global environmental policy from American
2 University, and a bachelors degree in philosophy
3 from Mount St. Mary's College in Maryland.

4 And let me get his presentation up. And
5 this panel is focusing on research. And as I've
6 told our panelists, we have a very full agenda
7 this afternoon, so we are going to try to keep
8 everything to about 15 minutes.

9 MR. BURROUGHS: Thank you very much for
10 the opportunity to speak here today; and I
11 apologize for having to rush out fairly soon after
12 my presentation. My flight was just canceled and
13 then moved up an hour, and I'm flying to Montana
14 to attend another climate conference for local
15 governments up there. I don't know how the
16 Montanans feel about smart growth, but I will
17 definitely talk about it up there and we'll see
18 how it goes. So, again, thank you very much for
19 being here today.

20 What I want to do today is I want to
21 talk about the importance of providing local
22 governments with tools that enable them to
23 quantify the benefits of the policies and measures
24 that they implement to reduce emissions.

25 I'll start by introducing ICLEI briefly,

1 and talking a little bit about the tools that we
2 provide, and the tools that we are developing to
3 help local governments quantify their emissions.

4 ICLEI is a membership association. We
5 were formerly known as the International Council
6 of Local Environmental Initiatives. Our name now
7 is just simply ICLEI Local Governments for
8 Sustainability.

9 And we exist to assist our local
10 government members, our cities and counties and
11 towns that are members of ICLEI, we exist to
12 assist them to reach their own climate protection
13 goals.

14 We have 200 participants in the U.S.,
15 which represents about 22 percent of the U.S.
16 population; 47 of those participants are in
17 California, which represents about 30 percent of
18 the state's population. And these cities are
19 already doing a lot to reduce the emissions that
20 cause global warming in the State of California.

21 And to me these sort of big numbers just
22 represent the potential for local governments to
23 address climate change.

24 And the potential is certainly being
25 realized nationwide. Cities that are members of

1 ICLEI reduce 23 million tons of eCO2 last year
2 alone, and saved lots of money, as well. And
3 consumed a lot less electricity and gallons of
4 fuel.

5 And so the potential that local
6 governments have to address climate is really
7 evident and becoming more and more so as time
8 progresses.

9 ICLEI offers our cities a methodology
10 that is based on measuring and managing their
11 greenhouse gas emissions. So, once a city or a
12 county commits to saying I want to do something
13 about climate change, we offer this methodology.

14 And it starts with conducting a baseline
15 emissions inventory. And the software I'm going
16 to talk about in a little bit is the tool that the
17 cities use to conduct that inventory, to get a
18 snapshot of the emissions that they're responsible
19 for in a given year across the sectors.

20 We also provide assistance to cities to
21 help facilitate target-setting. And then using
22 the software to develop an action plan, to model
23 potential emission reduction measures and fit them
24 together so that when they're implemented it gets
25 the city to its target.

1 Implementation and monitoring of results
2 is also assistance that we provide. And like I
3 said, we have a network of about 200 cities. And
4 there's a big benefit in having a group of cities
5 that are all working towards similar climate
6 protection goals, because they've all tried
7 similar policies and measures. Some have worked,
8 some haven't worked, and so there's a big sort of
9 source of institutional knowledge that we have in
10 our database that we share with cities.

11 You'll note that much of that milestone
12 process is focused on quantification, quantifying
13 the emissions that a city is responsible for, and
14 then helping the city to quantify potential
15 measures, land use measures, transportation
16 measures, waste reduction measures, quantify those
17 measures in a way that helps the city realize the
18 benefits of addressing climate, and also helping
19 the city figure out where to put resources.

20 Quantification is key to local
21 governments if they want to address climate for a
22 number of different reasons. Building political
23 support, building community support, city
24 government needs to show that it is a smart thing
25 to do to put resources into policies and measures

1 that address climate change.

2 Obviously measures, when you invest in
3 protecting your city or your state against
4 climate, you receive a lot of other cobenefits;
5 not only reducing emissions, but you're saving
6 money at the same time and protecting public
7 health.

8 So, really probably the biggest piece of
9 assistance that we provide our cities is this
10 ability to quantify what they're doing. Show
11 progress; build support for the things that
12 they're doing.

13 The tool that we provide to our members
14 is the clean air and climate protection software.
15 It's an emissions analysis tool. We've had this
16 tool since about 1993 and we've updated it a
17 number of times since then.

18 The tool enables cities, like I said, to
19 conduct an emissions inventory and model potential
20 emissions reduction measures or scenarios. This
21 basically translates into empowerment. If a city
22 can model the benefits of a measure, like I said,
23 it's more likely to be embraced by the community
24 and by other parts of the city.

25 The calculator -- it calculates

1 greenhouse gas emissions and criteria air
2 pollutants from thousands of emissions factors
3 that are embedded in the software.

4 Now, the software, before I talk about
5 heat, which is up in front of you now, the
6 software that we currently have is a desktop
7 version of software. So it's not easily
8 networked. It's put on your computer and a person
9 can use it on his or her machine. Input data,
10 like electricity use data and fuel use data, waste
11 production data, and produce emissions numbers
12 from that.

13 The software has definitely served us
14 well, but it does have a few drawbacks. The fact
15 that it's desktop based and it's not an online
16 version makes it a little bit less user friendly.
17 And it can't be networked, so you have to go to
18 one person's computer to use the software.

19 I've had the experience of working with
20 a city that was looking for their data, and it
21 turns out that the computer that the person used
22 to do the inventory had been thrown out in the
23 trash somewhere and the software went with it.
24 And so the ability to lose data is there with
25 clean air and climate protection software.

1 And so we're trying to address that in
2 our next iteration of software, which is currently
3 under development, to harmonize the emissions
4 analysis tool, or HEAT.

5 HEAT is a web-based software that users
6 can define who has access to the software. So if
7 a city like Chula Vista is a member of ICLEI,
8 which they are, and they had the software then
9 Michael Meacham could be the prominent user. And
10 he could define access for a number of other users
11 within the city. Everybody could get access to
12 the software at the same time on the network,
13 online, much more user friendly in that regard.

14 The other thing that's a great step up
15 about HEAT is that we can automatically -- ICLEI,
16 from a centralized location, can automatically
17 update the emissions factors and input the latest
18 research, and it's automatically updated in the
19 software. Whereas with CACP, we had to send out
20 update patches and the like.

21 Just like CACP, though, HEAT gives local
22 governments the ability to quantify the emissions
23 that they're responsible for, set targets,
24 forecast predicted emissions in future years and
25 quantify the impact of reduction measures on

1 emissions energy use and cost.

2 And, of course, using the software
3 cities can track changes over time and progress
4 towards meeting their targets. Again, this
5 translates into empowerment. When cities have a
6 tool like this, they're better able to implement
7 land use policies and transportation policies for
8 which they need to gain a certain level of support
9 from the community and from other parts of the
10 government.

11 HEAT is currently launched in Brazil,
12 South Africa, India and Indonesia. And right now
13 we are working towards launching it in Canada, the
14 U.S. and U.K. We're working to build the
15 resources to enable us to do that. We're building
16 it inhouse, whereas CACP was built by a
17 contractor. So the fact that it's being built
18 inhouse also gives us a lot more control over the
19 usability of the software.

20 The demand for this type of tool is
21 absolutely exploding all over the country, but
22 especially in California. Everybody in this room
23 has probably noticed that local governments are
24 really taking a leadership role on this issue.

25 And why is that the case? There's

1 probably a lot of reasons. One is because the
2 state is doing so much on climate right now. And
3 cities are inspired to coordinate with state
4 climate policymakers in order that state climate
5 policy and local government climate policy are
6 coordinated and working in tandem.

7 There's also a lot of other factors. Up
8 in the Bay Area, for example, the Bay Area Air
9 Quality Management District is holding a summit in
10 November. The goal of that summit is to remove
11 the barriers, remove barriers for local
12 governments that want to address climate. There's
13 101 cities that are served by BAAQMD. Al Gore's
14 going to be at that summit. And the goal is to
15 figure out how to make this inventory process as
16 easy as possible for cities. That's a huge chunk
17 of cities that are going to be working towards
18 these climate protection goals.

19 In Alameda County 11 cities and the
20 County, itself, in May simultaneously dove into a,
21 embarked on a process whereby they're inventorying
22 their emissions using ICLEI software and
23 developing action plans using ICLEI software.

24 There's talk all over the state for
25 other regional cooperative efforts among local

1 government, including in the south, around the San
2 Diego area, and all the way up in the north,
3 Mendocino and Humboldt. So, it's on people's
4 minds and local governments are really taking the
5 lead. And as such, the demand for these types of
6 tools, demand for a tool like HEAT, is really
7 exploding right now.

8 One more thing I'll say on that is that
9 the California Climate Action Registry enables
10 local governments to become members, as well.
11 HEAT, as we develop it, the goal is for us to link
12 HEAT with the Registry software to make it easier
13 for cities and counties that want to join the
14 Registry to do so by through working with ICLEI.
15 So basically what we want to do is we want to
16 provide assistance to cities that want to join the
17 Registry and report their emissions.

18 The state has also called for the
19 development of a local government protocol. It
20 was originally in the Governor's budget; didn't
21 make it into the final budget. But a local
22 government protocol for reporting emissions would
23 enable even a higher level of consistency at the
24 local government level for figuring out what
25 emissions reductions they're achieving.

1 And I really think that the state will
2 have a hard time meeting its target without the
3 contribution of cities and counties. And so we
4 want to work as hard as we can to help cities and
5 counties make the contribution they need to make.

6 I just thought I'd give a couple brief
7 examples for showing you the capabilities of the
8 software. The software has calculators in it that
9 enable a city to judge the emissions impact and
10 the cost impact of a specific measure.

11 So, for example, if the City of Arcata
12 commits to reducing electricity use by 20 percent
13 through land use policies, and municipal
14 electricity use is currently a 9.5 million kWh. A
15 20 percent reduction equals 1.9 million kWh. And
16 you can enter the cost information, enter all that
17 information in the software, and you get an
18 emissions reduction number and a cost savings
19 number.

20 Now, that is sort of the simplest
21 function that the software has, is sort of the
22 calculator-based function where you can plug in
23 electricity data, or fuel consumption data in the
24 transportation sector, or waste production data in
25 the waste sector, and you can show the emissions

1 that result from your actions.

2 But in San Diego the city used the tool
3 a little bit more comprehensively. The city used
4 the tool, like I said, they started by measuring
5 the emissions that the City was responsible for in
6 a given year. They chose 1990 as their base year,
7 if I'm not mistaken. They used the software to
8 project what their emissions would be in their
9 target year, which was 2010.

10 And then they set a target of 15 percent
11 below 1990 levels by 2010. In order to set their
12 target, they used the software to model the
13 potential emissions benefit of a specific set of
14 measures. And they used that information to guide
15 what type of target they wanted to set.

16 And then they also used the software to
17 track the benefit of policies that they're already
18 implementing, like land use policies, their
19 transportation policies, energy and waste
20 policies.

21 They started with building on what they
22 were already doing, and they quantified the
23 emission benefit of those things. And then they
24 said, well, what other types of policies can we
25 implement to get us the rest of the way towards

1 our target. And they used the software to model
2 those types of policies.

3 So, I'll stop there. Thank you very
4 much for your time. I do have to leave shortly.
5 I don't know if it's appropriate to say to ask for
6 questions now. I'm more than happy to address
7 them now if you would like. Otherwise, I can
8 follow up a little bit later and try to provide
9 some additional information.

10 We are looking to beta test HEAT soon.
11 So we're looking for city volunteers to test the
12 software for us. And I'd also be very very happy
13 to do a demonstration of the software for anyone,
14 as well, for the HEAT software. Thanks.

15 PRESIDING MEMBER PFANNENSTIEL: Tim I
16 have a couple questions. One is the application
17 to regional planning as we were talking about some
18 this morning. I understand that ICLEI's members
19 are the cities, themselves.

20 MR. BURROUGHS: Yes.

21 PRESIDING MEMBER PFANNENSTIEL: Do they
22 or can they combined and form whatever the region
23 is, whether it's a countywide region or
24 multicounty region or subcounty region, using your
25 software?

1 MR. BURROUGHS: Absolutely. And, in
2 fact, that's what's happening right now in
3 Alameda. Each city is doing an individual
4 inventory so each city is getting a snapshot of
5 the emissions that they're responsible for.

6 But then collectively those cities are
7 going to more forward on seeing what they can do
8 as a region to address greenhouse gas emissions.

9 And, as you know, a lot of the policies
10 that affect climate, especially on a land use and
11 transportation basis, are most effective if
12 implemented on a regional scale. And so that's
13 the direction we're moving with Alameda. You can
14 use the software to quantify the regional
15 benefits, as well as the individual benefits to a
16 specific city.

17 PRESIDING MEMBER PFANNENSTIEL: And then
18 I'm trying to think about how you input some of
19 the benefits of transportation policies, for
20 example. How do you do that on a city basis? How
21 do these cities that do it, is it reduced numbers
22 of miles of driving?

23 MR. BURROUGHS: Um-hum, um-hum.

24 PRESIDING MEMBER PFANNENSTIEL: What are
25 the inputs?

1 MR. BURROUGHS: Right. The inputs are
2 either, for the transportation side the inputs are
3 either VMT or gallons of fuel consumed. And so a
4 policy, for example, where a city decided to
5 change its fleet over from regular passenger,
6 gasoline passenger vehicles over to hybrid
7 vehicles. You can show the amount of gasoline
8 that that would save, and then that would be the
9 input into the software.

10 So it's the basic input of fuel
11 consumed, vehicle miles traveled.

12 PRESIDING MEMBER PFANNENSTIEL: But if
13 you're doing land use planning, the impacts of
14 that seem like they're a) relatively difficult to
15 estimate, and b) the impact would be, I assume,
16 over a long period of time.

17 MR. BURROUGHS: Right, and that --

18 PRESIDING MEMBER PFANNENSTIEL: How do
19 you make the distinctions?

20 MR. BURROUGHS: -- would certainly be a
21 challenge. Yeah, that would be a challenge.
22 There would be some -- you would have to make some
23 assumptions based on the policy that you were
24 implementing regarding what types of reductions in
25 fuel consumption or VMT that you would achieve in

1 order to use the software.

2 And in the northeast, especially,
3 there's been a group of cities in the northeast
4 that have done just that, used the software to
5 model smart growth policies, like transit-oriented
6 development and infill development.

7 And what they did is they made
8 assumptions based on reducing traffic and reducing
9 travel by car. And they implemented those, they
10 put those inputs into the software.

11 PRESIDING MEMBER PFANNENSTIEL:

12 Interesting.

13 MR. BURROUGHS: Yeah.

14 PRESIDING MEMBER PFANNENSTIEL: Other
15 questions? Yes, Commissioner Bohn.

16 COMMISSIONER BOHN: Just one quick
17 question. Do you have on your website or wherever
18 sort of the anatomy of the assumptions that go
19 into that?

20 In other words, if you start with four
21 or five assumptions it would seem to me, for
22 example, that the anatomy of the greenhouse
23 production, the gross greenhouse gas production
24 would make some difference in terms of how your
25 assumptions work.

1 Is that around somewhere? Is that
2 proprietary or could you comment on that?

3 MR. BURROUGHS: No, it's available. And
4 it would certainly depend on the policy. But the
5 methodology that we use, or the protocol that we
6 use for cities is definitely available. And be
7 more than happy to share it.

8 I should emphasize that the tool -- we
9 look at the tool as a policymaking or a policy
10 assistance tool, an action planning tool. And so
11 the tool is certainly accurate.

12 What we're trying to do is get the city
13 a good enough idea of the impact of a specific
14 measure, or set of measures that they can figure
15 out, should they put resources toward it.

16 That said, local governments do not use
17 the tool if they're going to get their emissions
18 certified. You could use the tool for that, but
19 generally what we use the tool for is for
20 effecting policymaking at the local government
21 level.

22 COMMISSIONER BOHN: Is it compatible, or
23 can you modularize it such that you could
24 integrate the same emissions analysis relative to
25 certification to the calculation. I'm worried

1 about connecting reality with manipulation.

2 MR. BURROUGHS: Um-hum, yes, it is; it's
3 very malleable. It's very easy to update and very
4 easy to put in whatever emissions factors or
5 assumptions that you want to put in.

6 PRESIDING MEMBER PFANNENSTIEL: Other
7 questions? Thank you very much.

8 MR. BURROUGHS: Okay, thank you.

9 MS. PHINNEY: Thank you, Timothy. Good
10 luck getting your flight.

11 Our next speaker is Dr. Malcolm Lewis.
12 He's President and founder of CTG Energetics, a
13 nationwide consultancy specializing in
14 sustainability, energy efficiency and green
15 communities.

16 Dr. Lewis has over 30 years experience
17 in engineering design and the analysis of energy-
18 using systems in buildings. He has specialized
19 experience in the introduction of innovative
20 building technologies and design processes,
21 including energy efficiency, sustainable building
22 design, daylighting, thermal energy storage and
23 cogeneration facilities.

24 Dr. Lewis is very involved in the
25 visioning for this CTG sustainable communities

1 model which quantifies the environmental impact of
2 an entire community development. Dr. Lewis.

3 DR. LEWIS: Thank you very much for
4 having me here. I'm looking forward to talking
5 about quantification of sustainable development
6 concepts --

7 COMMISSIONER BOHN: Could you speak up
8 just a little bit, please?

9 DR. LEWIS: Sorry. Speaking up. Can
10 you hear me now?

11 COMMISSIONER BOHN: Yeah, thank you.

12 DR. LEWIS: Okay. I'm interested in
13 talking about techniques that the private sector
14 is using to quantify sustainable impacts of
15 community development concepts to make decisions
16 about designing communities.

17 Traditionally the sort of emphasis on
18 sustainable planning has been from a top-down
19 perspective, driven by regulatory planning
20 constraints and so forth. And it doesn't, other
21 than setting up a set of constraints, provide a
22 lot of opportunity for the private sector to
23 optimize what it's doing.

24 And yet what we're finding is that
25 there's an increasing understanding of the

1 complexities of all the interactions of energy,
2 water, global warming, air pollution, et cetera,
3 that, you know, a decision made about designing a
4 home or designing a roadway system has impacts
5 throughout the community in terms of the total
6 environmental impacts.

7 And the developers, then, are looking
8 at, okay, if we make decisions how do we know what
9 the impacts of those decisions will be on the
10 environmental stresses produced by the community.
11 And how do we validate the costs associated with
12 mitigating those.

13 There are some new tools coming out such
14 as PLACES and certainly things like we just heard
15 about in the Climate Registry and so forth. But,
16 we haven't found any that correlate all that with
17 costs, which is really what the developer is
18 interested in looking at.

19 And at the end of the day it is, in
20 fact, the people that are concerned with costs
21 that are making the decisions about how new
22 communities are designed. The developers are
23 driving the community planning that guides the
24 buildout of the infrastructure. They're
25 developing design guidelines for the buildings

1 that are going into the community. And so they
2 have a huge impact on what the ultimate
3 sustainability of the community is.

4 And yet it's decisions they make that
5 the builders have to then deal with in terms of
6 how they design dwellings that meet those design
7 guidelines in terms of building efficiency, energy
8 efficiency, water efficiency, landscaping, et
9 cetera.

10 And then even the builders, in turn, are
11 dependent upon the homebuyers making the decision,
12 saying, yeah, I want to live there; I want to have
13 those kinds of features, and I'm willing to pay
14 the price.

15 And so what we have to do is find a way
16 to give the developer the ability to make
17 decisions that ultimately the homebuyer will pay
18 for and have it cascade through that sequence of
19 decisionmakers.

20 The challenge, of course, facing the
21 construction industry in general -- the
22 development industry is high construction costs,
23 ever higher housing costs, which means that it's
24 tougher and tougher to sell energy efficiency when
25 you're forcing them to make a decision between

1 that and granite countertops or some other
2 amenity.

3 The housing market is slowing, which
4 means that price competition is even tougher. The
5 number of green programs and alternatives are
6 enormous. And homebuilders and buyers don't
7 really understand how to figure out what those all
8 mean.

9 And so they need to have a way of
10 identifying the tradeoffs of the opportunities and
11 decisions that are facing them in a way that makes
12 sense from a dollars-and-cents perspective.
13 There's always a limited amount of funds available
14 to put for these kinds of sustainability features.
15 And unless ultimately the homebuyer says I'm
16 willing to pay for that, you don't get anywhere.

17 So I'm going to show you a technique
18 that we've developed that ultimately relates back
19 to what the homebuyer is willing to pay.

20 We see, though, that those challenges
21 that I just listed also are opportunities in terms
22 of construction costs, clearly, looking at utility
23 savings from energy efficiency and the related
24 improve cash flow; things like energy efficient
25 mortgages are one way of doing that.

1 When there's a slowing housing market,
2 sustainable development produces a competitive
3 advantage if you market it right, and if buyers
4 understand it. And there seems to be increasing
5 indication that they do.

6 If you can figure out a way to take all
7 the plethora of green programs and reduce them to
8 an analytic metric that allows you to trade off
9 design option one versus two versus three, then
10 the confusion goes away. And that helps you make
11 decisions about which specific sustainability
12 measures you're going to utilize.

13 So the purpose of our analysis has been
14 to quantify the environmental impacts and
15 benefits; and the corresponding operating savings
16 from utilities and other things; and essentially
17 compute a cost/benefit ratio associated with that;
18 recognizing that the developer, the home builder,
19 and the home buyer all have a limited amount of
20 money that they are willing to spend for
21 sustainability. And so we want to give them the
22 most environmental benefit for the given dollars
23 that they're spending.

24 And that requires information that will
25 enable the home buyer to make intelligent and

1 informed decisions.

2 So, we've developed something that we
3 call CTG Sustainable Communities model, which does
4 just what I'm describing. And it grew out of
5 questions that were being asked us by our
6 developer clients about how do we decide where to
7 put our money in these developments.

8 And so what this tool does is quantify
9 the actual environmental impacts and the linkages
10 of various development decisions, between
11 infrastructure design, landscape design, dwelling
12 design, commercial buildings, et cetera, to come
13 up with the total environmental impact. And then
14 the differences between various options that are
15 being analyzed, to give you, ultimately, this
16 ability to optimize the sustainability
17 benefit/cost ratio.

18 We're applying it now on a number of
19 projects totaling over 60,000 dwelling units and
20 over 20 million square feet of commercial
21 development. So it's getting the test of fire and
22 it's enabling our clients to make some very
23 informed decisions.

24 The way the model works is that it
25 characterizes all of the elements of the

1 community, the homes, public facilities,
2 commercial buildings, open space, roadways, et
3 cetera, in terms of their performance,
4 quantification, the energy usage and so forth.

5 And we describe the way that the
6 transportation systems work at a large scale in
7 terms of VMT and fuel efficiency factors;
8 characterize stormwater, energy systems, et
9 cetera.

10 And out of all this comes a computation
11 of a number of outputs. Air pollution criteria
12 both onsite and offsite; CO2; wastewater;
13 stormwater; landfill waste, et cetera. Energy,
14 obviously energy usage. And the linkages between
15 those because they're not independent. Make a
16 decision in one and it can affect another.

17 The example I want to show you is the
18 Rancho Mission Viejo project in Orange County,
19 which is a large mixed-use development now in
20 design and early development. It'll be about
21 14,000 dwelling units with, you know, all the
22 amenities that go along with it.

23 And their goal is to develop a regional
24 comprehensive plan that allows them to deliver
25 sustainability. This is a developer that has done

1 other green communities and found them to be very
2 successful from a market standpoint. And they
3 want to take it to the next level in this
4 particular project.

5 To do that we used the model to
6 characterize the basecase environmental impacts of
7 the project in terms of some of the metrics that
8 you see here, like energy use, water use, solid
9 waste, stormwater generation, et cetera.

10 And what it allows you to do is to step
11 back and look at the overall use. For example, if
12 you look at energy, 44 percent of the energy use
13 in the whole project is from transportation. And
14 so it starts to allow the developer to have a
15 discussion about, for example, what if we do
16 multimodal transportation options. Might even
17 include neighborhood electric vehicles supplied
18 with the homes. What does that do as a tradeoff
19 against putting the money into making the dwelling
20 units more energy efficient.

21 So, this kind of basecase analysis
22 allows you to see where the biggest opportunities
23 are. Stormwater generation over on the right.
24 The biggest generator of stormwater is from the
25 commercial buildings associated with roofs and

1 parking. So, looking at ways of improving the
2 permeability of that is very important. So that's
3 the kind of thing this data provides for you. You
4 can look at end uses and sources of energy, water,
5 et cetera.

6 And the ultimate goal is to produce
7 comparisons of the basecase design versus various
8 alternate packages that allow you to assess the
9 environmental impact versus the cost. And in the
10 example on the screen the basecase, which is
11 characterized as, you know, it's going to use all
12 of the stormwater, water, greenhouse gas, air
13 pollution, et cetera that the basecase is
14 characterized. And by developing a certain
15 package, but without, in this case, photovoltaics,
16 it reduces the sum of all the environmental
17 benefit or impacts by 29 percent, leaving you with
18 71 percent package.

19 If you then add photovoltaics, it takes
20 it down another 5 percent, and you can see how the
21 percentages distribute there.

22 But the real question, then, to the
23 developer is what are the financial impacts
24 associated with that. Because every time the
25 developer forces a homebuilder to put something

1 into the house, the homebuilder wants to pay the
2 developer less for the land.

3 And so if they can't ultimately get the
4 homeowner to pay for it, there's a problem. So,
5 again, we're looking at ways of correlating cost
6 metrics with environmental benefits to produce
7 various kinds of financial performance indicators.

8 Example here is one that compares that
9 package one that I showed a minute ago, with
10 package two, with photovoltaics. The size of the
11 dot is relative to the total first construction
12 cost impact.

13 So you can see that without, in this
14 case, package one without photovoltaics, has a
15 return on investment of about 30 percent. And it
16 saves about 28 percent of the environmental
17 impacts that we're talking about.

18 If you add PV, you get more
19 environmental impact, but there's a lot more cost,
20 so the return on investment drops down quite a
21 bit.

22 So the developer says, well, is the
23 homeowner going to go for that. And that leads
24 them to use data like this, which is a set of data
25 that was developed from their Terramore green

1 development project that shows essentially the
2 demand elasticity for green that homebuyers are
3 willing to pay as you raise the monthly cost of
4 paying for the green features.

5 So you can plug in what the cost impact
6 on a monthly basis is for both first cost and then
7 net operating cost and see what happens. In that
8 photovoltaic case I just mentioned, it goes from
9 \$100 a month down to \$50 a month. So it
10 significantly improves the number of people that
11 are likely to go for it.

12 So, in summary, I guess where we've come
13 from is that there's an essential need to give the
14 ultimate decisionmakers, which are the developers,
15 the homebuilders and the homeowners an opportunity
16 to make meaningful decisions about sustainability.
17 And they can only do that if they have good, hard,
18 dollar-based, quantitative information about
19 environmental impacts that allows them to choose
20 an optimum that they can sell in the marketplace
21 and that will produce the kinds of savings that
22 they're looking for. And we found that to be
23 something that is very valuable to the development
24 community.

25 I want to thank you for the opportunity

1 to present this.

2 PRESIDING MEMBER PFANNENSTIEL: Suzanne,
3 would you prefer that we wait for the whole panel
4 and then do questions?

5 MS. PHINNEY: I think so unless you
6 would like to do otherwise.

7 PRESIDING MEMBER PFANNENSTIEL: That's
8 okay.

9 MS. PHINNEY: Our next speaker is Tom
10 Richman, and he had to participate by phone. So,
11 Tom, I'm just checking in with you before I do
12 your bio.

13 MR. RICHMAN: I'm here, hello.

14 MS. PHINNEY: Wonderful. So let me
15 introduce you. Tom Richman is a member of the
16 Committee for Leadership -- of the core Committee
17 for Leadership in Energy and Environmental Design
18 for Neighborhood Development. LEEDND is a rating
19 system for neighborhood location and design based
20 on the combined principles of smart growth,
21 urbanism and green buildings.

22 Mr. Richman is a landscape architect and
23 urban designer operating his own consulting
24 practice in the San Francisco Peninsula, with
25 projects nationwide. A member of the Congress for

1 New Urbanism, Mr. Richman's practice focuses on
2 integrating sustainability with livability. He
3 holds degrees from Stanford University and the
4 University of California in Davis.

5 And, Tom, let me pull your presentation
6 up and we'll be ready to go.

7 MR. RICHMAN: While you're doing that I
8 want to thank everyone for allowing me to present
9 in a disembodied way. This is a zero emissions
10 presentation.

11 (Laughter.)

12 MR. RICHMAN: And I'd like to know how
13 many people have heard of LEEDND new buildings.

14 MS. PHINNEY: Well, there are a number
15 of hands up and it was mentioned several times
16 this morning, too, so.

17 MR. RICHMAN: So this is an outgrowth of
18 the LEED program at least for new construction
19 which most of you are probably familiar with. It
20 focuses on the object, on the building. And many
21 people noticed that you could have a LEED planned
22 building in the middle of a greenfield and
23 everybody coming to and going from the building
24 would be driving. And it didn't seem like it
25 solved the whole problem of the linkage between

1 land use and energy use.

2 So LEED for Neighborhood Developments is
3 an effort to integrate land use, transportation
4 and livability; and try to come up with a system
5 that will define what is a neighborhood that
6 embodies leadership and energy and environmental
7 design.

8 And one thing that's unusual about
9 LEEDND is that the other LEED products have been
10 prepared by the U.S. Green Building Council, but
11 LEEDND is a collaboration between the USGBC, the
12 Congress for the New Urbanism, and the Natural
13 Resources Defense Council, the NRDC, which
14 represents the smart growth community.

15 So, the green building people, the new
16 urbanists and the smart growth people are all
17 trying to work together, we are working together,
18 to craft this standard that will enable the market
19 to understand what is a green neighborhood. This
20 is all about moving the market.

21 Are you ready, Suzanne?

22 MS. PHINNEY: Yes, and I'm actually on
23 the what is LEEDND page. So we can synchronize
24 our efforts here. And then you just tell me when
25 you want me to switch to the next slide.

1 MR. RICHMAN: Right, so I think I've
2 said what LEEDND is. Let's go to the next page.

3 This shows why we need LEEDND. The
4 picture of sprawl is all too familiar to us. And
5 we need an alternative. And the LEED philosophy,
6 LEED is an incentive-based, voluntary standard.
7 It's not a mandate, it's an incentive. And the
8 idea is to move the market, to appeal to the top
9 25 percent of developers, and create a market for
10 this product. And also to differentiate products
11 that are really embodying leadership and energy
12 final designs. Give people a way to measure and
13 choose, because there are many pretenders out
14 there.

15 The next slide talks about what it's
16 for. LEEDND is focused on neighborhoods, either
17 in whole or in part, any size; infill; or, you
18 know, redevelopment as well as greenfield, new
19 development on open land or agricultural land.
20 And then mixed use.

21 The next slide focuses on who the market
22 is for LEEDND. The development community is a
23 primary market. But just as importantly,
24 policymakers and planners, because it's quite
25 conceivable that jurisdictions will require, at

1 some point, that new development or new
2 neighborhoods would have to meet the standard,
3 just as communities have required that new public
4 facilities meet LEED for new construction.

5 The current status of the LEED on the
6 next slide, the current status of LEED is we
7 circulate a preliminary draft. And it has four
8 basic categories, location efficiency,
9 environmental preservation, compact complete in
10 connected neighborhoods and resource efficiency,
11 which I'll go into more detail.

12 And the next slide tells you where we
13 are. We've received the comments back from the
14 corresponding committee, and I'll tell you at the
15 end how to participate. And we are now reviewing
16 the draft and we're just sort of at the end of
17 that review process. And we'll be issuing a new
18 draft that will be used for a pilot program.

19 The next slide tells you when it will be
20 available. We're hoping to begin the pilot
21 program this fall or early next year. And the
22 idea is that people can submit projects to be
23 included in the pilot program that will be
24 measured against the LEED draft, LEEDND draft.
25 And will learn how the system works.

1 And then after the pilot we'll revised
2 it again; we'll have another public comment
3 period. And then it will be need to be ratified
4 by the members of the three organizations some
5 time in 2007 or 2008.

6 Now, I'd like to walk through the
7 prerequisites and credits. LEED's system is, if
8 you're familiar with the LEED system, it's based
9 on a set of prerequisites and credits. And you
10 must meet the project in order to be certified.
11 You must meet all the prerequisites. And then a
12 certain number of credits.

13 And there are levels of certification.
14 There's a basic certification; and then silver,
15 gold and platinum levels. The first cluster of
16 prerequisites and credits have to do with location
17 efficiency, which are about 25 percent of the
18 total points. Because the neighborhood, in the
19 right location, is really corrective to so many
20 energy and environmental benefits or impacts.

21 And you can see the two basic requisites
22 are locating it in an area that's served by
23 transportation. And I won't go into the details,
24 but this is all defined very explicitly in the
25 draft. And then also a neighborhood that's

1 already served by water and stormwater
2 infrastructure.

3 And then there are several credits which
4 I won't read aloud, assuming you can see them.
5 These credits relate to reducing automobile
6 dependency, jobs, housing and a variety of issues
7 related to location. And each credit has one or
8 more points that can be achieved by the
9 development depending on the level of attainment,
10 there are objective measures for each.

11 The next cluster is regarding
12 environmental preservation. There are five
13 prerequisites and 11 credits. It's only -- it's
14 11 percent of the total points. So there are
15 fewer points for environmental preservation, but
16 there are many more prerequisites. This is really
17 the gate that protects the environment. And if
18 you pass through the prerequisites, your project
19 will be able -- will not impact the environment
20 negatively (inaudible) program.

21 And you can see one is the species
22 protection; another is permanent preservation;
23 water body protection; farmland preservation; and
24 erosion/sedimentation control. So there are all
25 "thou shalt not harm the environment" basically.

1 And then there are a series of credits
2 related to environmental protection which has to
3 do with land conservation, wetlands, --
4 preservation, site disturbance, stormwater runoff
5 and then hazardous waste.

6 The next slide speaks to the idea of
7 compact, complete and connected neighborhood.
8 This is really where the urban design comes in.
9 There are fewer requisites but there are more
10 points.

11 And this is basically on the philosophy
12 that environmental preservation and liveability
13 must go hand-in-hand. And the three prerequisites
14 deal with open community. The first one, you
15 cannot be a gated community; have to have public
16 access to the streets. Second is the development
17 must be compact and that's measured by density.
18 And then there must be a mixture of uses or
19 diversity of uses.

20 And then there are quite a few credits
21 that add up to about 42 points, or almost 40
22 percent of the total points that have to do with
23 the designs of the neighborhood. This is new
24 urbanist, this is where our -- new urbanists are
25 primarily active, in trying to create livable,

1 exciting and, you know, -- places for people to
2 live, better off environmentally, sensitive. And
3 these focus on the shape of the blocks; the
4 parking footprint; diversity of housing types; the
5 walkability and the street network; and the
6 pedestrian experience and the architectural
7 quality and transit.

8 And then the last cluster of uses have
9 to do with resource efficiency. There are no
10 prerequisites here. There are, however, quite a
11 few possible credits. And these deal principally
12 with the energy use of the building, itself,
13 energy and water, as well as some of the
14 environmental resource efficiencies, such as heat
15 island and renewable energy, irrigation,
16 stormwater, wastewater; and even light pollution
17 and things like that.

18 So, now I'll briefly walk through some
19 case studies, I know the time is getting late.
20 The first one is in Victoria, British Columbia,
21 called Dockside Green. It's a brownfield site
22 located near Victoria. And beautiful project.

23 The next slide shows some of the images
24 from there, cost/share program, many transits in
25 the first bullet. And then a whole series of

1 things that the developer's doing to make it
2 green.

3 The next slide shows more of the
4 features of Dockside Green. This is a fantastic
5 project; and I'd encourage anyone to Google this
6 one and look at it more closely.

7 And the second case study is in
8 Rockview, Maryland; King Farm. This is near
9 existing development. It's a greenfield site as
10 opposed to a brownfield site, which was Dockside
11 Green. And this is a mixed use traditional
12 neighborhood development that has architectural
13 characteristics from a traditional historical
14 point of view.

15 And in the next slide you can see the
16 trees and tree-planting, and pedestrian walkway
17 leading to the metro station. And the next slide
18 looks at housing and -- and integrated network of
19 walkways.

20 The scorecard shows how the two projects
21 might potentially stack up. You can see that they
22 meet all the prerequisites except for King Farm
23 might not meet one of them. And finally, the last
24 scorecard shows that the Dockside Green would get
25 88 out of 104 points, which would give it gold

1 standard; and then King Farm would just make
2 certification, according to the preliminary draft.

3 So that concludes the presentation. To
4 learn more you can download the draft at the USGBC
5 website. And if you want to be on the
6 corresponding committee, it will tell you there
7 how to get on the corresponding committee. If
8 you're interested or anyone's interested in
9 proposing a project for pilot, it's important to
10 be on the corresponding committee, because the
11 announcement and the invitation for a pilot
12 project will be distributed through the
13 corresponding committee.

14 I think I'll stop there and I want to
15 thank you for your attention; we can take
16 questions, or I'll just wait on the line for the
17 right time.

18 MS. PHINNEY: Okay, we have just one
19 more speaker before we break, before we have some
20 questions of the panel, so I'll just move right
21 into Gina Barkalow, who started working at the
22 California Energy Commission in 1999, and has been
23 with the Commission's Public Interest Energy
24 Research environmental area since its inception.

25 She's responsible for overseeing the

1 development and management of the sustainable
2 urban energy planning research program. She has a
3 BA in government and French, and an MA in internal
4 affairs with an emphasis on sustainable
5 development. She also served for over two years
6 as a natural resource management Peace Corps
7 volunteer in Mali, West Africa.

8 So, Gina, let me bring you up. Go.

9 MS. BARKALOW: Hello. Suzanne covered
10 the introduction. I'm Gina in the PIER --

11 MR. ST. MARIE: We're going to have to
12 ask you to speak very loudly, thank you.

13 MS. BARKALOW: Oh, okay. How about
14 this?

15 MR. ST. MARIE: Good.

16 MS. BARKALOW: Okay. So I will be
17 talking about the sustainable urban energy
18 planning roadmap that was written by a consultant
19 named Alex Lantsberg, under the guidance of John
20 Landis, who is the Chair of the Department of City
21 and Regional Planning at UC Berkeley.

22 I will highlight major research goals
23 and themes and provide examples of some projects
24 that the PIER program is funding in these areas.

25 So, Legislative Bill AB-1890 mandated

1 deregulation and created the PIER program. The
2 program was crafted to support Public Interest
3 Energy Research and Development. And the mission
4 is shown on the screen, to provide advanced energy
5 innovations in hardware/software systems;
6 exploratory concepts; supporting knowledge and a
7 balanced portfolio of near-, mid- and long-term
8 energy options for a sustainable energy future in
9 California.

10 This is done by funding science and
11 technology projects not adequately covered in the
12 regulated or private markets. And partnering with
13 research and development organizations, including
14 businesses, utilities, public and private research
15 institutions, nonprofits and even individuals.

16 The program was expanded last year to
17 include public interest natural gas and
18 transportation R&D. And funding has been
19 increased to 75 million this year.

20 So, as the Lead responsible for
21 overseeing the development and management of this
22 research plan, roadmap, one of the first things we
23 had to do is define what we meant by
24 sustainability. This is an inherently complex and
25 multi-faceted concept, really beyond the scope of

1 the project.

2 So we recognized that for the purposes
3 of the report we had to have some basic
4 definitions that would allow us to examine the
5 issue.

6 Sustainable development is generally
7 accepted as meaning development that meets the
8 needs of today without compromising opportunities
9 of future generations. And it combined the
10 environmental, economic and social domains.

11 So, in the ideal, energy sustainability
12 means employing resources that are not
13 substantially depleted by continued use; do not
14 emit substantial pollutants or other hazards to
15 the environment; and do not involve the
16 perpetuation of substantial health hazards or
17 social injustices.

18 Yet there's no environmentally cost free
19 energy production or use. Even renewable
20 technologies have infrastructure and environmental
21 life cycle costs. So, as such, energy
22 sustainability is a relative rather than absolute
23 concept.

24 This understanding provided the
25 foundation for the definition of sustainable urban

1 energy planning, which we define as activities
2 that promote the efficient use of energy resources
3 in the development of economically, socially and
4 environmentally healthy communities.

5 So, local governments are important
6 stakeholders in California, as we have heard
7 today. Most energy use occurs within or in
8 support of urban areas. And we can expect a
9 significant increase in urbanized land in the next
10 20 years. And our population is expected to grow
11 from 35 million today to 55 million in 2050.

12 So with this population growth obviously
13 will come a significant increase in energy demand.
14 And therefore, energy planning at the local level
15 will become all the more important.

16 And as local governments are the
17 entities responsible for land use decisions, they
18 can promote smart growth. They can support and
19 influence energy efficiency and demand response,
20 both in their own buildings and in the private
21 sector. They can also promote efficiency
22 standards that exceed state standards. And they
23 respond to local environmental concerns.

24 In the PIER program we use roadmaps to
25 define research agendas. So relative to selected

1 issues, they identify gaps in the ongoing
2 research; help facilitate collaborations with
3 other research entities; define short-, mid- and
4 long-term goals, timeframes, budgets and
5 activities; and they help to balance these
6 timeframes and risks in identifying high-priority
7 research areas with the greatest public benefit.

8 So, it's important to note that this
9 particular roadmap does not address transportation
10 and natural gas because at the time that it was
11 written these areas were restricted from the PIER
12 program. And that has changed.

13 So the premise for this, for the
14 research program, is that there are technological
15 advances providing opportunities for effective new
16 approaches to energy management. And this has a
17 lot to do with renewable energy.

18 Regulatory changes are creating a new
19 landscape for local governments involved in energy
20 markets. And there are inherent attributes of
21 local government that provide opportunities to
22 fill gaps left by federal, state and investor-
23 owned utility roles.

24 And there's growing public concern about
25 environmental quality and energy, leading local

1 governments to undertake a variety of energy-
2 related activities.

3 So, I want to explain that a key
4 component to developing this roadmap was extensive
5 stakeholder input. Alex interviewed people from
6 local governments up and down the state, along the
7 coast, central California, people from
8 associations of governments, investor-owned
9 utilities, research institutions, private
10 consultants, nonprofits. He basically covered the
11 gamut.

12 And essentially what he found is that
13 there is a need for more research. The roadmap
14 captures what he learned and provides a general
15 overview of what is happening in terms of energy
16 planning.

17 Some cities and counties, as we've heard
18 today, are very interested and active. They have
19 energy programs, energy managers, even regional
20 energy partnerships and alliances. However, this
21 is not the case everywhere. In fact, this is more
22 the exception than the norm.

23 So, as we heard, energy is not a
24 requirement in general plans. And it is often
25 thought to be the responsibility of the state and

1 utilities. A lot of the local government
2 officials interviewed said that after the
3 electricity crisis in 2001, that energy was on the
4 top of their priority list. But that as things
5 settled down it started to fall down on the
6 priority list, and moved to the back burner. So,
7 this does not diminish the need for research. In
8 fact, it may exemplify this need.

9 So, again, the research demonstrates
10 that -- or the roadmap demonstrates more research
11 is needed, and it identified these four high-level
12 research goals. Which are to develop a better
13 understanding of the embedded energy needs of the
14 urban infrastructure system; identify and
15 demonstrate the benefits of local energy planning
16 activities, particularly with respect to the
17 private sector.

18 Develop information and materials that
19 lead to a better understanding of local and
20 regional sustainable urban energy planning options
21 and practices. And develop effective decision
22 support tools.

23 So, I thought that it would be helpful
24 to illustrate at a level of detail between the
25 high-level goals and the specific project

1 recommendations, the sort of projects that we in
2 the PIER environmental area see as important, and
3 envision funding as the program grows.

4 So, the roadmap notes that we need to
5 get a better handle on the embedded costs of the
6 urban energy system. And we see this being done
7 through projects that look at lifecycle
8 implications of the various services provided by
9 local governments. The water and wastewater
10 systems are examples of that, as well as even
11 street lighting.

12 Life cycle studies help identify areas
13 with significant energy requirements and
14 environmental demands, and if certain activities
15 have unintended consequences later on. You can
16 think of these sorts of projects as ones that will
17 help us better comprehensively understand the
18 various parts of the system.

19 And the second research theme is the use
20 of whole-system analyses to set and achieve energy
21 sustainability goals. So this can be thought of
22 as putting the parts together to see how it all
23 works.

24 For example, the project that was just
25 described, the LEED Neighborhood Developments

1 project, I think is a tool that could be described
2 as taking whole system approach by considering
3 location efficiency, environmental preservation,
4 compact, complete and connected neighborhoods, and
5 resource efficiency. A tool like this puts the
6 various parts of the system together in a more
7 holistic approach.

8 These standards can be used to set
9 and/or achieve sustainability goals. And what we
10 might be interested in is looking at how well do
11 these criteria address energy. And should they be
12 weighted differently. The standards are in draft
13 form, so there is time for public input.

14 And if this becomes an option and a tool
15 that is used for sustainable development in
16 California, we want to take advantage of this
17 opportunity to weigh in on those energy criteria.

18 So, this research theme would cover
19 projects that use a variety of measures with
20 energy implications to set, promote and achieve
21 sustainability goals. As well as projects that
22 would monitor and validate the effectiveness of
23 these measures.

24 So, the third major theme is continued
25 development and testing of community planning

1 tools such as I-PLACES. And I will illustrate
2 what's meant by this with the following example of
3 a period project that we are currently funding.

4 The next slide. And first a little
5 background, because this is an example how the
6 Energy Commission has been involved in smart
7 growth planning for awhile now. In the 1990s the
8 Energy Commission developed and supported a
9 desktop GIS software application for land use
10 planning called PLACES, to help increase smart
11 growth decisions throughout California.

12 In 2002 the Energy Commission funded the
13 update of PLACES to be used on the internet. And
14 by the way, I-PLACES stands for Internet Planning
15 for Community Energy, Economic and Environmental
16 Sustainability.

17 So the energy module was not ready for
18 the internet version. So this project started
19 with this desktop version. We've been updating
20 and refining it, getting it ready to implement
21 into the internet version of PLACES.

22 And we've essentially completed the
23 residential buildings and validated its outputs
24 with SMUD data. So we felt they were fairly
25 confident that it's providing reasonable outputs.

1 One of our technical consultants, Ron
2 Ishi, is working on refining the distributed
3 generation algorithms. And we intend to use the
4 database for energy efficiency resources, or the
5 DEER database for the commercial buildings. And
6 if it works well, perhaps for the residential
7 buildings, as well, because we anticipate what
8 this database that will have more flexibility for
9 conducting energy efficiency analyses with the
10 tool.

11 So the energy module provide baseline
12 aggregate energy consumption levels for
13 residential and commercial buildings. And
14 evaluate supply and efficiency options.

15 We are working with staff from SMUD, the
16 Sacramento Municipal Utility District, and SACOG,
17 the Sacramento Council of Governments, to figure
18 out ways that we can test the energy module in the
19 Sacramento railyards redevelopment project that
20 was mentioned earlier.

21 This is an exciting opportunity to
22 demonstrate how the module can be used to provide
23 information, used for making actual land use and
24 energy decisions. And staff from SMUD are very
25 interested to use the energy module, to supplement

1 their internal assessments. SMUD needs to know
2 estimated aggregated energy profiles for the
3 development, and the energy module should be able
4 to provide this.

5 So this is a short term planning
6 project. The information will be used right away,
7 which is not typically how I-PLACES is used.
8 Normally it's used in these longer term regional
9 planning activities. But this shows the
10 flexibility of the energy module.

11 We will work also with SANDAG,
12 Association of Governments, the San Diego
13 Association of Governments, in a more traditional
14 way where they will use the energy module for
15 longer term planning activities. And SANDAG is a
16 current user of I-PLACES. And the planners have
17 identified energy as their top priority focus for
18 this year.

19 So another project I'd like to highlight
20 is the water/energy sustainability tool. This is
21 an example of a lifecycle project for basic
22 services provided by localities. For local
23 jurisdictions the water system may represent
24 approximately 56 percent of its total energy use.
25 So in light of this increasing demand for water

1 supplies, local jurisdictions are faced with
2 developing not only new sources of water through
3 desalinization, for example, but also through
4 maximizing existing supplies through water
5 conservation.

6 And as population grows the energy
7 intensity of water is also likely to grow. For
8 example, it takes a lot of energy to desalinate
9 seawater. So there's a need to understand the
10 lifecycle implications of various supply,
11 collection, treatment and disposal options to make
12 more informed decisions.

13 And by taking a lifecycle approach this
14 model can provide an assessment of all phases of
15 water and wastewater systems by quantifying the
16 material and energy inputs into the system, as
17 well as the environmental outputs, including
18 greenhouse gas and air emissions and water toxics
19 from the system.

20 Another task is to evaluate
21 decentralized and centralized wastewater and water
22 systems to compare the energy use and
23 environmental effects associated with the
24 infrastructure construction, material production,
25 operation and maintenance of the two systems.

1 Recent publications discuss the
2 advantages associated with localized water and
3 wastewater treatment. They allow water use for
4 different purposes, such as drinking or
5 irrigation, to be treated at different standards.
6 So nonpotable would not have to be as clean as
7 potable water, eliminating unnecessary chemical
8 and energy use.

9 However, decentralized systems may
10 reduce economies of scales associated with larger
11 systems, and may be more energy and
12 environmentally intensive than the centralized
13 systems. So this question's becoming more
14 important as water utilities reach capacity and
15 they need to be upgraded. So this tool will be
16 designed for water utility managers to make better
17 energy and environmental water system-related
18 decisions.

19 So the final project I will highlight is
20 the Energy Commission's support of integrated
21 energy and environmental modeling tools. Within
22 the next 25 years the U.S. will design and
23 construct more than 213 billion square feet of new
24 built space, presenting an opportunity to design
25 and build to new levels of resource and energy

1 efficiency.

2 This project is being cofunded with the
3 Department of Energy and our contract is with San
4 Diego State University. A portion of the DOE
5 funding is underway, and the CEC portion will kick
6 in soon.

7 The project will model impacts and
8 benefits of alternative energy technology, and
9 community design options for two mixed-use,
10 transit-oriented development sites. The project
11 combines the use of four different models to
12 present various energy and environmental costs and
13 benefits associated with different site scenarios,
14 including implications of the heat island effect,
15 water use, transportation energy and greenhouse
16 gas emissions.

17 The project will involve stakeholder
18 review and market visibility analyses; and they're
19 working closely with city officials, developers
20 and builders to identify solutions to
21 institutional and market barriers.

22 In the end they will describe lessons
23 learned through case studies and develop
24 guidelines to be used by other interested parties
25 in the future.

1 So, in conclusion, we are excited about
2 this new program area, and are interested in your
3 ideas and feedback. A lot of good research has
4 been discussed today. And just reinforcing the
5 need for research in this area. So this public
6 input will be taken into consideration as we move
7 forward with this program.

8 My contact information is on the slide,
9 as well as on the Energy Commission website if
10 you'd like to get ahold of me. Thanks.

11 MS. PHINNEY: Thank you, Gina. And now
12 any questions from the Commissioners?

13 PRESIDING MEMBER PFANNENSTIEL:
14 Commissioner Bohn, you have a question?

15 COMMISSIONER BOHN: Yeah, I'd like to
16 address two, I think, related questions to Dr.
17 Lewis. The first relates to the use of this
18 model, or frankly any other model, in and around
19 the value proposition, which at the end of the
20 cycle is how much the consumer is willing to pay.

21 That number, seems to me we skip over a lot
22 in terms of its impact.

23 My first question is some, I want to say
24 some, I think probably more than some, but a
25 substantial part of the benefit in the value

1 proposition is, for want of a better term, an
2 externality. That is to say it's kind of good for
3 the world.

4 Is that part of the value proposition to
5 the buyer convincing the buyer that this is a good
6 thing for society, or does the model, or any model
7 that you know of, actually bring it down into a
8 quantifiable dollar-and-cents value proposition
9 for the buyer?

10 DR. LEWIS: Well, the model that I
11 described ignores the value of externalities as it
12 relates to the dollars-and-cents impact to the
13 consumer. We're focusing on their operating
14 costs, so it's utility costs and mortgage costs
15 and so forth.

16 Clearly, if the developer is good at
17 marketing the externalities and the intangibles
18 there will be some green premium that they might
19 command for that. But I don't know how to
20 quantify that.

21 COMMISSIONER BOHN: Okay. The second
22 part of the question is, and it relates a little
23 bit to that, and that's very helpful, is in the
24 discussion of the, I don't know what the technical
25 word is, green premium kind of number, it strikes

1 me that there is a very different value
2 proposition for a green premium to the low-income
3 home buyer, as to the middle- or high-income home
4 buyer. A 10 percent or 15 percent premium to
5 somebody who's paying a million dollars for a
6 house is probably a lot less of a concern to that
7 person that it would be to somebody who's barely
8 scraping by to buy a \$200,000 house, or a \$300,000
9 house.

10 How do you factor that in, or can you,
11 in terms of the value proposition of the model?
12 Is that part of the analysis?

13 DR. LEWIS: Well, it is in the sense
14 that the affordability of the housing is a
15 combination of the mortgage and the operating
16 cost. And so low-income buyers and seniors who
17 are on fixed incomes, for example, are much more
18 concerned about the total occupancy cost, the sum
19 of those two essentially, utilities and mortgage
20 cost, than perhaps higher income buyers are.

21 Clearly you've got to get over the first
22 cost constraint with low-income buyers, and so
23 they're obviously affordable housing programs and
24 other kinds of assistance that may be needed. But
25 in our experience the cost value proposition is

1 much more interesting to the low-income people
2 than to the more wealthy.

3 COMMISSIONER BOHN: And you mentioned or
4 alluded to the mortgage proposition, which clearly
5 is a factor in terms of being able to include
6 that. Has there been any resistance in the
7 financial community to include that premium in the
8 mortgage exercise?

9 In other words I can conceive of a
10 situation where that, if it can be tangibly
11 demonstrated, which your model seems to do, ought
12 to be simply just another value element in a
13 combined value or valuation of the mortgage.

14 Do you see the appraiser community
15 recognizing that as a value proposition yet?

16 DR. LEWIS: I haven't seen it in the
17 appraisal community, but we are seeing it in the
18 mortgage underwriting community. I mean there are
19 lenders who are offering energy efficient
20 mortgages and who are looking at the sum of the
21 two. And obviously one of the issues is they're
22 developing criteria for the prediction of that
23 that are robust enough that they can base their
24 underwriting on it.

25 But I think the appraisal community,

1 which tends to look more at market valuation than
2 at operating costs, needs some work and some
3 education.

4 COMMISSIONER BOHN: Thank you.

5 PRESIDING MEMBER PFANNENSTIEL: I'm
6 greatly encouraged in that we know that there are
7 some exciting tools under development underway;
8 there's some good work going on. I'm a little
9 less encouraged that we quite know how to get this
10 into the large scale of development going on in
11 California.

12 So, I think what we, unless there are
13 other questions on the dais, what I'd like to do
14 is move into the last panel, which is specifically
15 about trying to encourage some action in
16 California. So I thank this panel; they were very
17 interesting.

18 (Applause.)

19 (Pause.)

20 MS. PHINNEY: I think I'm missing my
21 lead speaker for this panel. And it will be a
22 shorter panel, but we do have his presentation,
23 and you have it in your packet.

24 Should I begin with this panel?

25 PRESIDING MEMBER PFANNENSTIEL: Yes,

1 please.

2 MS. PHINNEY: Okay. Our speaker will --
3 first speaker here will be Susan Freedman; she's
4 the Senior Regional Energy Planner for the San
5 Diego Association of Governments, SANDAG, which
6 we've been hearing a lot about today. And serves
7 as Program Manager for the Regional Energy
8 Planning Program.

9 She recently joined SANDAG after three
10 years with the San Diego Regional Energy Office,
11 where she led the Energy Office's participation in
12 regulatory and legislative activities.

13 Before that Susan spent six years in
14 Washington, D.C., addressing federal and
15 multistate energy policies. She has a BA in
16 political science ecology from Emory University,
17 and an MA in energy and environmental policy from
18 the College of Urban Affairs and Public Policy at
19 the University of Delaware.

20 And you must be Dan. I will let you go
21 second, how about that?

22 Okay, Susan.

23 MS. FREEDMAN: Good afternoon, everyone.
24 And I would also like to add when Suzanne
25 mentioned that I recently joined SANDAG as the

1 Senior Energy Planner, I joined two and a half
2 weeks ago. So, I'm still getting the ventilation
3 turned on in my office and filing cabinets and
4 whatnot. But I'm very pleased to be here today to
5 talk to you about what SANDAG has been doing in
6 regional planning.

7 As well as there will be references to
8 the San Diego Regional Energy Office where I just
9 came from, since SANDAG and SDREO have a
10 memorandum of understanding and provide staff
11 support to the agency.

12 So, first, I've got a lot of maps today.
13 I thought it would be good to have some pictures.
14 The 18 cities in the county make up SANDAG and it
15 is the regional decisionmaking forum in the
16 region. We're an MPO, we're also a council of
17 governments, and we handle the land use planning,
18 transportation planning, energy planning, among
19 other items.

20 We also do this not just within the
21 region, but we have a borders group that addresses
22 interactions with Riverside County and Orange
23 County, Mexico and Imperial County.

24 There's a couple main themes with our
25 regional comprehensive plan. And that was this

1 time around, it's a new plan, it's integrating the
2 land use plans that have been locally, as well as
3 the comprehensive transportation plan. So theme
4 one has been better connecting those plans
5 together. And that makes up that framework.

6 The second theme is then using our land
7 use and transportation planning under this
8 comprehensive plan to impact and guide all the
9 other issue areas in the region that are important
10 to us. That includes energy, its open spaces,
11 stormwater and so on. Energy is a little bit more
12 special in that we also have a stand-alone
13 regional energy strategy and have been doing
14 energy planning in the region since the '70s.

15 That's a nice little picture on that.
16 The way we go about doing these two themes also is
17 through collaboration with the local governments
18 and through incentives.

19 So here's a little picture of what we're
20 dealing with. First we look at the topography and
21 the green areas are what we have as habitat
22 preservation. The blue areas here are also areas
23 that we can't really build on, whether it's flood
24 planes, mountainous areas, steep slopes and
25 deserts.

1 Now we've got the transit corridor
2 overlaid on that. So we can see what is existing
3 infrastructure. And then followed by that we have
4 our population density areas in yellow.

5 So it is really looking at what is it
6 we're dealing with right now when we plan ahead.
7 And what we've seen with our mobility 2030, the
8 transportation plan, is we're expecting the
9 population in the region to grow by another
10 million people by 2030. And based on our
11 topography and where we have our existing
12 transportation networks, we really need to plan
13 better with our existing transit infrastructure
14 and how to build on our transit and build on smart
15 growth to address that extra million people. So
16 we're trying not to go into sprawl, but better use
17 the resources we have right now.

18 I'm not going to go into defining smart
19 growth. I think everybody this morning did a
20 great job with that. But some aspects of the
21 regional comprehensive plan that come out that I
22 haven't heard yet in full, are the smart growth
23 place types, which are on the right-hand side of
24 the screen.

25 What that is, is smart growth doesn't

1 fit under just one umbrella. We have metropolitan
2 center, which is downtown San Diego; we have urban
3 centers, including downtown Chula Vista and some
4 other spots. And that ranges all the way down to
5 rural villages.

6 A mixed-use transit corridor; that would
7 be a heavy flow area within a neighborhood. If
8 people know, the Mission Boulevard down in the
9 beach area, that is one of them, as well as in our
10 older neighborhoods, North Park, the University
11 Avenue area, which is a great little eclectic area
12 that I'm trying to buy a home in right now. Then
13 community centers, as well as universities,
14 hospitals, those are special-use center areas.

15 So, again as I mentioned, on the transit
16 corridors, this is what we see for 2030 on
17 expanding our regional transit areas. And that's
18 what rapid transit bus use, a lot of carpooling,
19 light rail expansion, as well as the existing
20 transit that's there.

21 And within those transit corridors there
22 are the smart growth opportunity areas, and that
23 is, again, the metropolitan center through rural
24 villages on this map.

25 From that this spaces it out a little

1 bit more. We've come up with a concept map of
2 what these smart growth areas are. And this was
3 done by SANDAG planners in consultation the whole
4 time with each of the local governments' city
5 planners. So in discussions with what every local
6 city thought were their growth potential areas;
7 working with SANDAG to come up with a regional
8 perspective on where we should target our funds,
9 as well as our smart growth planning.

10 That said, how do we target that and
11 make smart growth happen. In San Diego we have
12 TransNet. It was a ballot measure that passed in
13 2004. And what that did was it extended
14 transportation funds that were going to expire in
15 2008. So what that has done is it's what pays for
16 a lot of capital improvements; it's a half-cent
17 sales tax.

18 And new this go-around in starting for
19 2008, but we're using a little bit of the funds
20 early, there is a smart growth component to that.
21 It's the smart growth incentive program under
22 TransNet. And so there is going to be \$280
23 million in San Diego of local funds being used for
24 the first time for smart growth planning. And
25 that is brand new.

1 And what those funds can be used for are
2 capital improvements, as well as planning grants.
3 So if you're updating a general plan, or you'd
4 like SANDAG to help you with that general plan, we
5 can apply funds to that if you're adopting smart
6 growth principles and paying attention to those
7 targeted already smart growth areas that we saw on
8 the transit map.

9 The other area you can do that is
10 capital improvement funds. So we're incentivizing
11 the expansion of more sidewalks in those busy
12 downtown areas. The better streetscape;
13 improvements to the transit stations that are
14 available.

15 And, again, the way that you get these
16 funds it's not through requirements in land use
17 planning, but it's by encouraging smart growth
18 through incentives available. You get this extra
19 pot of funds if you apply it to the smart growth
20 areas. And I'd say cities have been extremely
21 amenable to this because they were a big part of
22 developing this plan. They helped target this.

23 So I haven't mentioned energy really at
24 all yet, but how energy fits within this whole
25 grand scheme, within the regional comprehensive

1 plan I mentioned there is an energy component.
2 It's pretty short; it's about three paragraphs.
3 But what it is is referencing the regional energy
4 strategy, which by adoption of the comprehensive
5 plan was also adopted by the SANDAG Board.

6 Within the regional energy strategy we
7 have a series of guiding principles; we also have
8 a series of goals. And they pretty much follow
9 the loading order. It's promoting energy
10 efficiency in the region; it's promoting in-region
11 renewables, as well as meeting the RPS through
12 out-of-region renewables. It's looking at natural
13 gas needs; addressing our electric needs.

14 Some things it doesn't do as well are
15 how we use energy, the energy impacts of land use
16 planning yet, of transportation. It gives a
17 highlight that we need to study transportation.
18 And we also don't address climate change.

19 But that is in part, or a large part,
20 because the plan was developed in 2002. It was
21 after restructuring SANDAG took on the
22 responsibility with the San Diego Regional Energy
23 Office and many local stakeholders to conduct
24 long-term energy planning.

25 And the focus then was on what the

1 utilities were no longer doing at that time, which
2 was the long-term resource plan. So this
3 particular plan that we had from 2002, and adopted
4 in '03, has a focus on that.

5 We are looking to update that plan, and
6 really a big focus of that would be integrating
7 the land use and the transportation aspects along
8 with climate change impacts into that plan.

9 Down the next line here we have the
10 energy working group, which some of you, I think,
11 are familiar with. It reports to our regional
12 planning committee; it meets monthly; it is
13 chaired by the councilmember of DelMar, as well as
14 the mayor of the city of LeMesa.

15 And it's made up of a mix of elected
16 officials representing the entire region, as well
17 as interested stakeholders. We have large
18 business and small business. We have
19 environmental groups; we have a consumer group.
20 We also have the Regional Energy Office, the
21 Chamber of Commerce, and the local utility, SDG&E.

22 Through that, that serves as a forum for
23 our discussions on energy planning and different
24 projects that we want to take on.

25 Energy connections to land use, I'll go

1 into momentarily. Climate change measures. I see
2 this as one way that we're going to be integrating
3 energy planning into our regional transportation
4 plan, as well as the comprehensive plan. And that
5 is because of -- I'll speak specifically to the
6 RTP. There are air quality requirements in that
7 from the federal government. And within that we
8 really need from the state now to address how --
9 what are the climate change impacts of our long-
10 term transportation plan, and how are we going to
11 mitigate those impacts.

12 So I see that as another entryway into
13 more regional planning organizations addressing
14 energy use. And that is with the climate change
15 connection.

16 Lastly is the sustainable region
17 initiative, which is how we are implementing our
18 energy goals and principles on the ground. And
19 what we did was an energy-saving pilot to eight
20 local cities. It was with the City of Carlsbad.
21 The purpose was to help a local government save
22 money on their utility bills, conserve energy and
23 reduce -- and promote conservation.

24 We've got the City of Chula Vista, the
25 City of San Diego, and the County, who have been

1 very active in the region, and really been
2 flagships on energy efficiency program use and
3 implementing those measures.

4 But we have several very small cities
5 and mid-sized cities that have no dedicated energy
6 staff person, and no energy -- or not necessarily
7 city planners that are well versed in energy
8 issues.

9 So we wanted to help out a targeted
10 city, mid- to small-size, that has not had much
11 participation in existing programs, and help serve
12 as a conduit to them to existing programs and walk
13 them through the process. And I see this as our
14 first step toward city-by-city comprehensive plan
15 on energy.

16 This was very successful. The City of
17 Carlsbad did end up having a couple dozen of their
18 public buildings audited. We found about \$150,000
19 in savings on what they're actually implementing
20 in their existing buildings. There was additional
21 moneys that could be saved if they followed
22 through on every recommendation.

23 We also worked with them on new
24 construction, their new plan improvements, and
25 found energy savings by improving on their designs

1 in the savings by design program. And we looked
2 at policy measures.

3 So what could they do, whether it's
4 having a procurement policy to buy EnergyStar
5 equipment, things like that. So we were trying to
6 serve those three avenues and really implement on-
7 the-ground for a city these energy goals and
8 energy strategies.

9 So, that said, we have some
10 recommendations for the CEC. And one of them is
11 really partnering with the regional planning
12 bodies. I'd say, we're considered, from this
13 morning, I think, very active in energy planning.
14 But there's so much more that we could be doing
15 right now.

16 The first step, I think, recently was
17 that SANDAG, the board of directors, created this
18 full-time permanent position for an energy
19 planner. We have 200 people on staff at SANDAG
20 and this is the first time a position has ever
21 been created on energy. And that is a very strong
22 commitment and a very strong signal that's been
23 sent to the region that energy has become a
24 priority for San Diego.

25 There's a lot of pressure with that, as

1 well, in actually following through with the
2 policies. But, I'm looking forward to it.

3 By partnering with -- that was an
4 aside -- partnering with the regional planning
5 bodies like SANDAG, really finding ways to bring
6 sustainable energy policies into the smart growth
7 arena.

8 One way to do that is we heard about the
9 PLACES model before; please complete the energy
10 module to the PLACES model. We have a team at
11 SANDAG that have been internally inputting all the
12 data in the transportation and land use components
13 of that model, and are very excited to be able to
14 go out and use that to look at alternative land
15 use scenarios with local governments. But we
16 really need to get a full comprehensive model.
17 And the sooner we add the energy component to
18 that, the sooner we can have all the local
19 governments apply that in their planning.

20 Because the key with this is we don't
21 have energy planners on staff at many of the local
22 governments. The tool that they use and are
23 comfortable with in land use and smart growth is
24 the tool we really need to have energy addressed
25 through.

1 ASSOCIATE MEMBER GEESMAN: Can I ask
2 that you send Commissioner Pfannenstiel and me a
3 letter describing exactly what additions you feel,
4 as a user, are needed in the PLACES contract, or
5 in the PLACES model?

6 MS. FREEDMAN: Absolutely; we will do
7 that.

8 ASSOCIATE MEMBER GEESMAN: We think
9 we've done what you've requested about three times
10 since I've been here, and I've only been here four
11 years, but we will keep pushing on it, because we
12 do recognize the value of the tool.

13 MS. FREEDMAN: Right, and I don't want
14 to say that there hasn't been a lot of work done,
15 either. It's up at SACOG --

16 ASSOCIATE MEMBER GEESMAN: We're
17 prepared to do a lot more.

18 MS. FREEDMAN: Yeah. So, and we've got
19 a team going to SACOG next month, actually, to sit
20 down with those planners there and go through the
21 model and see what they've come up with, and see
22 if that matches the needs of our local
23 constituents, as well. So we are moving with
24 that. But I'll get that.

25 Encourage smart energy and land use

1 planning through incentives. There was a question
2 on whether or not there should be land use
3 requirements and what not. And SANDAG believes,
4 like it has enacted with TransNet, it is better to
5 work through rewards and encouragement and
6 incentives than through penalties or hard
7 requirements. That could be, in part, because as
8 a metropolitan planning organization we cannot
9 require the local governments to do something; but
10 we can entice with our discretionary funds. So
11 that's a method that we've been employing.

12 Another thing, well, this is the
13 sustainable energy indicators. We've got some
14 indicators that we've used through our regional
15 energy strategy, but it's more about what's the
16 percentage of renewables in a region, or
17 percentage of renewables in our electricity
18 system.

19 We don't have those indicators selected
20 or determined yet with regard to smart growth and
21 land use. And I think that would be valuable to
22 add. And there are people on SANDAG, a team, that
23 we'd love to have that discussion to make sure
24 that we're meeting state goals, as well as our
25 regional goals on that.

1 Applying the smart growth principles. I
2 brought this up before, but the small bullet on
3 the second one I just want to say again, can be
4 very beneficial to incorporate energy implications
5 of land use planning and smart growth within the
6 tools that the local planners use. And we see
7 that, and everybody's very eager and enthusiastic
8 about the PLACES model. So that is one that we
9 would really like to be able to use
10 comprehensively.

11 And then last one here, some assistance
12 that we're looking for. We had a bill that
13 Senator Keho sponsored for SANDAG this past
14 legislative session, and we're also working this
15 through our own avenues, but that sustainable
16 regions initiative. And that was the Carlsbad
17 pilot. And working with local governments that do
18 not have the means to tackle and approach energy
19 on their own.

20 And this is more of an implementation
21 measure but we would like to widen the scope of
22 that past just city-owned buildings to also
23 private sector and long-term planning for each of
24 those cities. So that's a goal of ours.

25 But right now we would love to have some

1 assistance to serve as a facilitator to the rest
2 of the local cities in engaging in energy
3 efficiency and self generation programs. And that
4 is not covered in current public goods funds at
5 the CPUC.

6 So, one thing that I always remember the
7 city manager's office at Carlsbad said, they never
8 would have succeeded in getting through all of
9 this if it wasn't for having SANDAG in partnership
10 with SDREO serve as that conduit through the
11 alphabet soup of programs available. Because you
12 just get totally lost.

13 So, what they found as a benefit, and
14 other cities have mentioned they're interested in,
15 is having that one source, that one point of
16 contact to help steer them through. If they ever
17 get lost you're got that one point of contact to
18 go back to, and really make sure that their energy
19 program moves through.

20 Again, with PLACES, we're enthusiastic.
21 We loved the story about the showcase. There's
22 already been work done with SANDAG. I think what
23 we're looking at doing with transportation and
24 land use is a little bit different than what
25 SACOG's doing. So if we can serve as another type

1 of model and another approach for the state, we
2 would be more than willing and happy to do that.

3 And then third, I had touched on this
4 earlier, as well. Our regional energy strategy,
5 it's going on five years old. We would like to,
6 and we need to, update that strategy.

7 The way we did it in '94 we did have CEC
8 funds for part of that. In 2002 this was
9 stakeholders in the community actually started
10 stepping up to the plate and kicking in donations
11 and funds to move this plan, this strategy
12 development, forward.

13 We would like to look at ways to have
14 synergies, to have state involvement, regional
15 involvement and local stakeholders, as well. But
16 a critical part of this is now merging it, because
17 the regional comprehensive plan wasn't there
18 before, following the guidance of that, which is
19 our transportation and land use planning. Along
20 with the needs for a long-term energy strategy.
21 And also looking at the climate change impacts.

22 So we'd like to, in a nutshell, look at
23 expanding our regional energy planning work; look
24 at implementation with our local governments to
25 the sustainable regions initiative. And work with

1 tools that are available or becoming available to
2 do a better job at the land use planning at the
3 local level through things like PLACES.

4 And with that, I think I am through
5 slides. So, thank you very much.

6 MS. PHINNEY: Thank you, Susan. Well,
7 from 1985 through 2004 our now-arrived speaker,
8 Dan Flynn, provided staff support and strategic
9 direction for state legislators in numerous policy
10 areas, including land use, environment, housing,
11 transportation and local government. He directed
12 the Legislature's smart growth caucus from 2000 to
13 2004.

14 He's currently program promotion manager
15 for UC Davis olive oil, where he oversees all
16 facets of extra virgin olive oil production for
17 the University of California at Davis. And in his
18 spare time he manages a five-acre farm in the
19 Sierra foothills, where he grows a variety of
20 fruit.

21 So, Dan, let me bring you up. There you
22 go.

23 MR. FLYNN: Thank you. Given what I've
24 been doing the last couple years with olive oil
25 and farming, it took a lot of effort to put on a

1 suit today.

2 (Laughter.)

3 MR. FLYNN: I couldn't quite, you know,
4 work up the courage to put a tie on, but I did get
5 the suit going.

6 What I'd like to do today is talk a
7 little bit about the smart growth and energy issue
8 from the standpoint of the State Legislature,
9 which is where a lot of my experience has been.
10 And a little bit about our efforts with the smart
11 growth caucus which was the first sustained
12 legislative effort in some organized fashion in a
13 number of years to try to move these policies
14 along at the state level.

15 And then I wanted to just give some
16 reaction to the questions that were asked on the
17 sheet that I received. And I can't cover all of
18 them, but I'd like to give you my impressions just
19 based on my experience working on these issues for
20 about five years.

21 So I think the first thing I would like
22 to say is it's very very difficult to move policy
23 related to smart growth at the state level. I
24 think things are different at the regional level.
25 And as Susan was describing, there seems to be a

1 lot of interaction and dynamism going on at the
2 regional level on these issues.

3 In the Legislature, at least, because of
4 perhaps the makeup of the Legislature, it's a lot
5 more polarized. And there are some very powerful
6 interests that want to keep our land use patterns
7 the way they are. And it's a lot easier, frankly,
8 to defeat something in the Legislature than it is
9 to pass something.

10 And the House Speaker of some years ago,
11 Sam Rayburn, said that any jackass can kick down a
12 barn, but it takes a carpenter to build one. And
13 there's a lot of jackasses over there in the
14 Capitol ready to kick down the barn. And I've had
15 a few kicks, myself.

16 But let's talk a little bit about the
17 caucus. It was established in 2000 by
18 Assemblymember Pat Wiggins. She comes from a
19 district, Napa-Sonoma, which is receptive to these
20 kinds of issues, to try to change land use
21 patterns. Somewhat driven by the local conditions
22 where they have this premium wine industry. But
23 also just environmental consciousness and people
24 stuck in traffic on highway 29 and highway 101.

25 So she was the right person to kind of

1 just put this idea out there. She found that
2 people were receptive to it, at least a number of
3 legislators were. We were able to make it
4 bipartisan technically. We had three republicans
5 to go along with 44 democrats. The three
6 republicans were all moderates, and they took a
7 little bit of guff from their party for even
8 associating with this group.

9 But our intention was not to stop
10 growth, not even to slow growth, but to accept the
11 fact that California was going to be growing by
12 somewhere between 4- to 600,000 people a year, as
13 far as the eye can see. And, you know, that's a
14 lot of people to try to absorb. And so the idea
15 was how do we figure out a way to absorb them in a
16 manner that the state can afford; that will have a
17 minimum of impact on the environment, and so
18 forth.

19 And the way the caucus worked, it was
20 kind of a network for members, where they shared
21 ideas. We held some informational hearings. We
22 would have speakers come in. We would do a number
23 of different things. We also would use it as a
24 way to build coalitions with groups outside the
25 Legislature, try to put together a coalition of

1 different groups. And so we had agriculture and
2 social equity and housing, environmental groups,
3 some business, progressive business organizations
4 involved.

5 And we were just trying to figure out a
6 way to move the issue forward in whatever way we
7 could. And as a result there was a lot of
8 legislative activity. And I think probably the
9 height of that was between the years 2000 and 2002
10 before the energy crisis hit, there was lots of
11 bills that came down the pike.

12 But as is the case with any kind of
13 major legislation, it typically might start at the
14 process in one way and end up looking like
15 something else. And oftentimes it was just a
16 shell of what it started out with. And there
17 wasn't really any huge major legislative change.
18 But we'll talk a little bit about that as I
19 respond to these questions.

20 One of the questions was how's future
21 growth going to affect energy use. And I took a
22 chart from the PIER report which shows the energy
23 use from 1960 to 2000. And I put another line,
24 which is the red line, underneath, which shows the
25 population change during that period.

1 And you can see that the rate of energy
2 use is growing much more quickly than the growth
3 of population. I would expect that that would
4 continue, because much of the growth's going on in
5 the Central Valley. People are living farther and
6 farther from work. You're going to have more
7 driving; you're going to need more air
8 conditioning. The subdivisions that are being
9 built, for the most part, don't have much of an
10 eye for energy efficiency.

11 And, you know, even if you're living in
12 an older home -- I'm looking to try to get another
13 roof on my house right now, and it's really hard
14 to find an EnergyStar-rated roof in Sacramento,
15 which you would think that that wouldn't be that
16 hard to do. So, I've been doing a lot of research
17 on that, and I may actually be able to pull that
18 together.

19 One of the questions was also about the
20 general plan process, and how much does it address
21 energy needs and so forth. And my impression,
22 having worked on bills to try to change the
23 general plan process, was that it's not the most
24 effective way to go at this issue.

25 There's, like a lot of the issues

1 related to changing land use, you're going to
2 expend a lot of energy trying to change general
3 plans. You're going to irritate the local
4 governments who don't really have the money to, or
5 at least they say they don't, to pay for general
6 plan work.

7 And if they do get the money, say that,
8 you know, their budget gets a little more flush,
9 oftentimes they have a lot of backlog of other
10 projects that have a lot more political appeal
11 than getting into a general plan.

12 So, as a result they're not updated
13 regularly. They languish for years in many
14 communities. And as they get older they become
15 less useful as a guide to growth and the planning
16 for growth.

17 The general plan process hasn't
18 prevented sprawl. And I think, you know, one of
19 the things that really was impressed upon me in
20 working on these topics was that the integrity of
21 the general plan community compromised easily.

22 And you just think about it, a general
23 plan requires often the coming together of lots of
24 diverse interest groups who work for a long time
25 on trying to come up with a plan that everybody

1 basically agrees with. They spend a lot of money
2 on it. It gets adopted. But the general plan can
3 then be amended up to four times a year. And so
4 all that coalition building that may have went in
5 on the front side isn't going to be there when
6 those amendments occur, typically. And so the
7 general plan just kind of gets chipped away at.
8 And it just strikes me that it's not the best
9 place to put your effort.

10 And then there was a question about, you
11 know, what it would take for the public to want to
12 buy an energy efficient home. I think there's
13 certainly a segment of the public that would be
14 attracted to that. They're willing to pay extra.
15 I think we see with hybrid cars that people are
16 willing to pay extra for a hybrid even though they
17 may not ever realize the savings in their energy
18 costs for that car over the lifespan that they
19 have it.

20 A friend of mine was telling me that a
21 Mercedes dealer trying to sell a more efficient
22 diesel Mercedes, told him that the public will pay
23 anything for economy. You know, it's almost like
24 they'll pay whatever it takes to have something
25 that's more economical, even though the bottom

1 line might not make that much sense. But, you
2 know, a segment of the public will go for that.

3 And I think that incentives would push
4 it, like we've seen with solar tax credits and
5 things like that. You know, you need to have good
6 design. It can't look like some kind of
7 experimental housing that's going to look dated
8 really quickly, I believe. I mean with some of
9 the projects, even the state buildings from the
10 '70s, which were designed for energy efficiency,
11 you know, sometimes they didn't hold up with the
12 passage of time. The one that's halfway
13 underground is probably the best example, of which
14 they're going to tear out and build another one.

15 But I think that overall the consumer
16 just needs more choices than they get now in
17 homes. And too much of what's being built is kind
18 of all is cut from the same cloth.

19 And in terms of living more densely,
20 there's definitely a segment of the population
21 that wants to do that. And, you know, single
22 people, empty nesters, I think, are most amenable
23 to it. And even some families are amenable to it.

24 When the PPIC did a survey on this a
25 couple years ago they asked the question of

1 people, what would you rather have, a bigger house
2 with a backyard and a long commute, or a smaller
3 house with, you know, less of a backyard and no,
4 you know, less of a commute. And they found that
5 people responded about evenly on that.

6 So I think that suggests that there is a
7 segment of the population that is interested in
8 living in a more densely built environment. But,
9 again, there's not that much choice in many
10 communities in California. And, in fact, the
11 homes are getting bigger and bigger and bigger,
12 which are becoming less affordable.

13 Back after World War II the average home
14 size was about half of what it is today. And
15 families were bigger then. So, I think that has
16 to play a role in the high cost of housing in
17 California. We are building, for the most part,
18 bigger homes that are less affordable.

19 On the utility line extension question
20 about whether California should modify their line
21 extension policies, which has happened in New
22 Jersey, I think that's a good idea because
23 infrastructure is going to affect where you can
24 build.

25 But in New Jersey they've had a state

1 planning commission; they've adopted state
2 planning goals; and they have things that
3 California does not have. And those were adopted
4 back, I believe, in the early '90s. And so I
5 think this utility line extension proposal or
6 policy that they have is built off of that
7 foundation that they have.

8 In California we don't have that
9 foundation. The state has not, for various
10 reasons, taken more of a strong hand in shaping
11 growth. And so it would be extremely politically
12 difficult, I would think, to try to emulate the
13 New Jersey approach. But if that's something the
14 Commission thinks it can take on, I would say go
15 for it. I think it would be very effective. And
16 infrastructure extension was also a key component
17 in Maryland's approach.

18 Now, one of the questions also was
19 should we adopt some kind of model like Maryland
20 has where we try to discourage dumb growth
21 projects, and we focus more state funding on smart
22 growth projects. And, you know, one of the things
23 that we did through the caucus and through
24 Assemblymember Wiggins, which was one of our most
25 difficult bills, but when you look at it it's

1 like, well, it doesn't certainly go as far as
2 Maryland or New Jersey, was AB-857 from 2002.

3 And what that bill did was it established
4 state planning priorities. And those priorities
5 are the first three you see up there: to promote
6 infill development and equity by investing more in
7 the built-up areas; to protect environmental and
8 agricultural resources by trying to steer growth
9 away from open space, sensitive areas,
10 agricultural lands; and to encourage efficient
11 development patterns outside the infill areas, so
12 that you've got compact growth going on even out
13 in suburban areas.

14 And so what these policies were -- these
15 planning priorities were aimed at was we tied them
16 to the state's infrastructure plan that they adopt
17 every five years; state agency functional plans;
18 and any agency requests for infrastructure money,
19 they would need to show how those plans or
20 requests were consistent with the planning
21 priorities.

22 That was the best we could do really in
23 terms of getting some kind of state action going
24 and state planning, which the weakness of it is
25 that it really relies on the governor to have a

1 commitment to doing this. There's all kinds of
2 ways you could sort of, you know, say yeah, yeah,
3 we, you know, we're consistent with planning
4 priorities. And, you know, but without any drive,
5 with any commitment at the administration level,
6 and with the absence of any enforcement
7 mechanisms, you know, it's very easy to blow that
8 off. So, I don't think that much has really
9 occurred as a result of AB-857.

10 Then there was the question about should
11 the local governments need to show, or as part of
12 development, proving development, would there need
13 to be a showing that there's an energy source
14 available; similar to what California has for a
15 water source for larger residential projects.

16 And my sense is, you know, that's not
17 going to really change growth patterns. It might
18 take some of the onus off of the utilities right
19 now who, once these development projects get
20 approved by local government, then the utility has
21 to serve it with, you know, with electric and gas,
22 et cetera. And they're the ones that have to kind
23 of take the heat from the neighborhood nearby or
24 adjacent that, you know, has got transmission
25 lines coming through that weren't there before.

1 So I just don't think it's going to
2 change growth patterns that much. I don't think
3 there's the same issue as there was with water,
4 which was that water districts are having a hard
5 time meeting the need. Whereas I don't know that
6 the energy -- the utilities are going to have a
7 hard time saying they can't meet the need. Maybe
8 I'm wrong.

9 I think it would be better to set energy
10 reduction goals for new development, and then
11 enforce that by the threat of withholding state
12 funds to local governments, which I know the local
13 governments would hate that. But, you know, we
14 sort of had that kind of model with recycling,
15 where we set a goal of 50 percent reduction by the
16 year 2000. And the Governor Deukmejian, who
17 previous to that hadn't shown much interest, when
18 he got behind it, then it happened. And maybe
19 that's what we need with in terms of residential
20 energy use and commercial energy use, and other
21 things.

22 We set the goal; we leave it up to the
23 local governments to figure out how to reach the
24 goal. We don't try to micromanage how they're
25 going to do that.

1 So, again, you know, I think, as I said
2 in the beginning, we need to consider the politics
3 of this issue. It's very difficult. In one of
4 the, I think in the PIER report that I read before
5 coming, in preparation for this, there was a quote
6 from someone from, I think, Michigan, who said
7 that smart growth has transcended partisanship in
8 Michigan. Well, it hasn't transcended
9 partisanship in California, at least in the
10 Legislature where it's really easy to kill bills.

11 In the regions I think it's a different
12 story. I think you get builders and various
13 groups talking to one another and kind of figuring
14 out things that might make sense. But at the
15 state level, you've got some powerful interests
16 blocking that.

17 But, you know, the photo shows where we
18 had the caucus meeting with -- at the beginning of
19 the Schwarzenegger Administration. We have Terry
20 Tamminen, on the left with his back to the camera,
21 Agi Kawamura, Secretary of Food and Ag, and then
22 Mike Crisman, Secretary of Resources, in the
23 corner. We had these meetings at the beginning of
24 the Schwarzenegger Administration to see if we
25 could get something going right at the outset when

1 the perspective was fresh, before you get beaten
2 down by the day-to-day responsibilities of running
3 the government. Before other crises, you know,
4 take over the agenda, which would up happening.
5 So we weren't successful really in getting this
6 Administration to make a move on this.

7 But I think the other states have shown
8 that you really need the executive to lay out the
9 vision. And you need the executive, the governor,
10 to really articulate what we need to do. And
11 perhaps through the Energy Commission you can help
12 make that happen.

13 But the other states have shown, and
14 I'll wrap up with this, is that, you know, let's
15 keep it simple; let's make it understandable;
16 let's send the right signals. Lay out a simple
17 vision like Maryland did, where you can pretty
18 much say it in just, you know, a sentence. You
19 know, their goals were to reinvest in their
20 cities; to reduce cost to taxpayers for
21 unnecessary infrastructure. And to protect their
22 open space and agricultural lands before they were
23 forever lost. That was basically what they were
24 trying to do. It wasn't complicated.

25 I think people can agree with those

1 goals. I think emphasizing financial signals,
2 incentives, you know, either carrots or sticks to
3 drive the point home. Because that's what I think
4 is the most effective. Changing the utility line
5 extension policies, you know; establish those
6 goals and enforcement mechanisms.

7 And as the PIER report was showing, you
8 know, planning local assistance, research, all
9 those proposals they have are very good. I think
10 they're worthy. It's like \$4.5 million; that's in
11 the scheme of things not a lot of money. So those
12 would be helpful.

13 But to really change behavior you got to
14 pull out the money and you got to hold it back to
15 get the kind of results that are desirable.

16 Thank you very much.

17 MS. PHINNEY: Thank you. Okay, let's
18 move on to our third speaker. Dr. Reza Navai is
19 the Chief of the Office of Policy Analysis and
20 Research at the California Department of
21 Transportation, and is in charge of transportation
22 energy and climate change; and intelligent
23 transportation systems and architecture and the
24 environmental justice programs. So, he's a busy
25 man. Thank you for being here. Let me get this

1 up.

2 Okay, we either have to do this really
3 fast or -- okay, there we go.

4 DR. NAVAI: I'd love to get one of those
5 bottles of olive oil that you make.

6 (Laughter.)

7 DR. NAVAI: I'd like to thank the
8 Commission; we enjoy working closely with Energy
9 Commission Staff, and try to coordinate cross-
10 policy -- cross-agency policy development and
11 provide synergy and reinforcements on this policy,
12 which is very critical for energy efficiency.

13 Now, let me give you some quick
14 statistics. You probably heard by now a few times
15 this morning, over 60 percent of petroleum
16 consumption comes from transportation; 40 percent
17 greenhouse gas emissions. And these are the
18 product of basically the number of vehicles, VMT
19 and fuel economy.

20 Number of vehicles are increasing in
21 California because of basically improved standard
22 of living and also car ownership. Annual VMT is
23 increasing because of people commute more, and
24 also larger distances and make multiple trips.
25 Fuel consumption, fuel economy is declining

1 because basically the traditional vehicles are
2 being replaced by SUV.

3 And now this is maybe staggering;
4 Californians drove about 3 billion miles in 2004;
5 consumed 18.1 billion gallons of fuel. That
6 estimated at a cost of \$35- to \$40 billion. And
7 this is about 50 percent increase over the '90s.
8 And if this trend continues that translates to 40
9 percent in 20 years, and perhaps 20 billion or so
10 of additional fuel costs. And that would be
11 really significant impact on California economy
12 and environment and balance of trades.

13 The good thing is that this is really a
14 massive system and there are so much inefficiency
15 in it. And therefore, are so much room for
16 improvement. Therefore, small improvements in
17 efficiency of the transportation system make a lot
18 of difference. And those are do-able, and 5 to 10
19 percent improvement in the efficiency of
20 transmission system is not unrealistic within the
21 short or mid range.

22 Now, in order for us to develop an
23 effective policy, we need to really understand the
24 transportation system, both in terms of process
25 and in terms of its content. And so who is who,

1 what is what.

2 Let me, at the risk of dramatizing the
3 point, let me share something. I was attending a
4 public hearing on a Caltrans project. And this
5 very nice, interesting old lady come up and start
6 complaining about all the transportation problems
7 she had in her neighborhood. About sidewalks,
8 potholes, you know, and safety traffic and so on
9 for 15 minutes.

10 I quietly approach her after; says,
11 have you talked to your city and county offices.
12 And she says, but you are the Department of
13 Transportation. So, there is a perception with
14 our name that we are expected to do a lot more
15 than we can. We are blamed, more or less, much
16 more than we deserve; and many overlook some of
17 our great achievements. Nevertheless, you know,
18 that goes with the territory, I suppose.

19 Let me also show some other statistics.
20 You have seen this chart many many times over. It
21 says 41 percent greenhouse gas emission from
22 transportation. But this is just a headline, and
23 the story is on perhaps page 12.

24 You have to break this down to make
25 sense. For example, state and regional planning

1 agencies have nothing to do with (inaudible). And
2 that, right away, deducts about 7, 8 percent of
3 this emissions. So actually service
4 transportation produce only 35 percent of
5 emissions.

6 And now if you break down just to the
7 physical subsystem, that what happens that the
8 state highway system, which produce 57 percent of
9 VMT, actually is responsible 20 percent of
10 greenhouse gas emissions. And local street and
11 roads 15 percent. And this, of course, I'm
12 simplifying here to translate in point.

13 But even local street even more because
14 of their operational characteristics. So this are
15 some of the thing that we have to keep in mind.

16 Now, when we get to land use the issue
17 becomes even more complex because the sources of
18 the trips are basically at local and cities'
19 decisionmaking purview, the land use and zoning.
20 And so as the Department of Transportation,
21 transportation agency, are just in charge of
22 managing or accommodating a trip. We are not
23 generating trips; trips are generated at the local
24 land use decision. That's why this workshop is so
25 critical to focus on land use issues.

1 Now, transportation system in
2 California. You well know better than anybody is
3 very complex. But equally complex is
4 organizational structure. There are over 50 local
5 and land use agencies not counting many other
6 transit agencies, port authorities, and special
7 districts. There are many many over. Now,
8 coordinating between these agencies on
9 transportation issues are very complex and
10 critical.

11 Now, what we have done, as a Department
12 of Transportation, we have proposed two sets of
13 strategies. One focusing on transportation,
14 system efficiencies, which is, in part, focusing
15 on efficiency and productivity of the system. And
16 that means land use issues and also operational
17 improvement, which is a focus of this workshop.
18 I'll get to that in a second.

19 But the second set of strategy are
20 focusing on transportation energy efficiency,
21 which basically focus on improving efficiency of
22 vehicle systems, technologies, which we will not
23 talk about that. But I would like to emphasize
24 that. This is the second set of strategies we
25 believe that will produce the most effective

1 result in terms of reducing emissions and fuel
2 consumption in short term and in long term.

3 But, nevertheless, we should not
4 overlook the land use issues and operational
5 improvement. Now, that's basic strategies you
6 have heard, and I'm not going to go through it.

7 Land use issues on long term. Difficult
8 to detect, and at the same time, they're
9 improvement are very incremental. And it has to
10 reach a threshold level in order to see some
11 benefits. Otherwise because are scattered all
12 over.

13 And obvious ITS. ITS also critical
14 element because it is smooth out, improve the
15 traffic flow. But we know that most of the
16 emission comes from a congested speed rather than
17 flow speed. So by improving the speed we actually
18 save fuel and also reduce the emissions.

19 Now, what is the answer then? The basic
20 answer is to integrate and mainstream and
21 institutionalize these strategies, land use and
22 operational strategies. And what we are trying to
23 do -- transportations. This is basically
24 something that the California transportation plan
25 is somewhat equivalent of the Commission's IEPR.

1 It's a policy document; it try to provide guidance
2 for state, and also provide a guidance for the
3 growth pattern in a different part of the state.

4 Now, if we be able to coordinate and
5 reinforce policies in this, like the IEPR, I think
6 they provide much better synergy and provide much
7 more significance to it.

8 And then this is our structural
9 strategies. You may have seen this in the
10 Governor's kind of strategic development. As you
11 will see, it's a little small, you may not see,
12 but in the middle of this triangle you will see
13 land use, and -- land use issues and ITS issues.
14 So there's a significant element of this strategic
15 approach are focus on land use and operational
16 improvement, not on constructions.

17 And the strategic plan provide the
18 project and detail of the Go-California triangle.
19 And obviously bond measure provides the funding
20 and resources for this effort. And there is \$20
21 billion in this if the bond measure is approved.

22 Now, how do we go about to do this? We
23 have undertaken a program called regional
24 blueprint. And this basically a spearheading
25 effort to provide, to coordinate effort at a

1 regional agency's level to bring to the table, and
2 to discuss growth issues, and come up with a
3 consensus on what kind of growth scenario that we
4 would like to see in California. And that
5 potentially include all the smart growth, as Susan
6 talked about, and some of the regional plans.

7 So this is one effort that we are
8 undertaking. And we are hoping that it will
9 improve mobility and increase and reduce auto
10 dependency, increase transit, reduce energy and
11 obviously do all the good land use effort that you
12 have talked about.

13 Now, what are other things that we do
14 along with this? We provide incentives, seed
15 money. We have over about \$14 million annually to
16 provide to local, regional agency and cities on
17 grants to do a smart growth; to do land use
18 planning that we would like to see promoted. And
19 so far we have spent about \$54 million on that
20 during the last two years.

21 We also have some legal leverage.
22 Through our IGR, or intergovernmental review, we
23 can ask the local agencies to address the impact
24 of their land use activities on the state highway
25 system. And we require them to mitigate and

1 incorporate these smart growth measures.

2 Also provide technical assistance. Our
3 regional model provide the basis for many of these
4 regional growth scenarios. We provide and develop
5 guidance and energy planning to be incorporated in
6 the local land use, regional and state planning,
7 as part of a mainstreaming effort. And also we
8 are promoting ITS guidelines for operational
9 improvement.

10 And now, we believe if we coordinate the
11 state activities and regional activities together
12 and provide some consensus in that effort, we
13 probably, according to our estimate, we could save
14 about 444 million gallons of fuels within few
15 years, and reducing over 5 million metric tons of
16 greenhouse gas emissions and billion dollars by
17 2010, and several times over by 2020.

18 That is in nutshell. And I would like
19 to re-emphasize and thank the Commission for this
20 workshop because we think it is important that we
21 see a coordinated effort that's between state and
22 regional agency in terms of these strategies and
23 policies and so they can reinforce each other in
24 the different documents, so it put a footprint and
25 give a right message to everybody.

1 Thank you very much.

2 MS. PHINNEY: Thank you. Our last
3 speaker is going to provide the perspective from
4 the area where most of this population may reside
5 in the next 50 years, and that's the Central
6 Valley.

7 Holly King oversees the Great Valley
8 Center's agricultural transactions program, an
9 effort designed to create successful and strategic
10 ag land conservation models, and increase the
11 capacity of land conservation organizations in the
12 Central Valley through the provision of resources,
13 support and assistance.

14 In her work Holly creates educational
15 venues related to land use throughout the Central
16 Valley and develops products related to
17 sustainable agricultural practices.

18 She's a University of Nevada Reno
19 graduate with a degree in agricultural business
20 and holds an MBA from UCLA.

21 MS. KING: I, too, like Dan, had to
22 leave my boots in the car because my family farms,
23 and so I had to put a suit on here to get in.

24 I thought I would give you just a little
25 bit of background about the Great Valley Center

1 because I think it provides a framework for what I
2 wanted to share with you today.

3 We're a nonprofit, nonpartisan
4 organization. We're privately funded. And we
5 work in what we consider three ways as our core
6 competencies. And that is research and
7 information on policy issues; events and
8 conferences for policymakers; and leadership
9 development for elected officials and emerging
10 area leaders.

11 I wanted to tie those to the field of
12 energy policy. We have a renewable energy -- and
13 all these can be found on our website, a renewable
14 energy report that we did, looking at renewable
15 energy as an economic development strategy for the
16 Valley.

17 We also did a report on ethanol in
18 California. In the area of regional events we
19 have done numerous tours: the Fresno solar homes
20 tour; the renewable energy tour where we took
21 people out and got them into the Valley to see and
22 learn about Valley biomass plants, et cetera.

23 In the area of leadership, one of the
24 sections of our leadership programs include a
25 module about a focus on resources such as energy.

1 Our purpose is to broaden the viewpoint and
2 educate people who are going to be our current
3 elected officials, but also our future leaders.

4 We're talking about a change if we're
5 going to try and get something different done on
6 the ground. And we feel that that change will
7 come with leadership and building a constituency.

8 This is the Valley from the air, or from
9 way up in the air, but from satellite view. We
10 cover 19 counties; it's 450 miles long; we
11 consider -- we look at the area between Redding
12 and Bakersfield.

13 There are 6.3 million people in this
14 area; it's California's fastest growing region.
15 So when we talk about growth and a chance to grow
16 differently, here's where it's happening.

17 What's ahead for the Valley? We expect,
18 the Department of Finance projects that more
19 people in the year 2020 will live in the Valley
20 than in the San Francisco Bay Area. By the year
21 2040 there will be an additional 10 Fresnos added
22 to our population in the area from Stockton to
23 Bakersfield. This is a growth of 139 percent.

24 This animation through time is the
25 urbanization in the Valley. And it does show the

1 Bay Area, as well. But you can see that the
2 urbanization is happening around transportation
3 corridors, and specifically you can pick out 99,
4 when looking at this map.

5 Why does this matter? Well, the
6 agricultural land is generally the source for new
7 urban development. It's creating some conflict at
8 the edge. It also is significant in the Valley
9 because it's an economic issue. Twenty percent of
10 our employment in the Valley indirectly and
11 directly is driven by agriculture.

12 So turning to smart growth, the use of
13 smart growth policies that would encourage compact
14 development, walkable neighborhoods and transit
15 has been discussed as a way of balancing the
16 demand for housing this new population that's
17 coming to the Valley and the region's agricultural
18 base.

19 At the same time some of the state's
20 energy goals include elements that could be
21 advanced by applying smart growth principles. For
22 example, sourcing a good percentage of energy from
23 renewables is considered a statewide goal. At the
24 same time promising opportunities for converting
25 agricultural waste to electricity are being

1 developed for varying purposes.

2 This is all based on the assumption that
3 agriculture will continue to be viable in the
4 region in the face of development. One way to
5 promote that viability is to build communities
6 that allow agriculture to survive.

7 This was taken out of an earlier report
8 that I mentioned, the renewable energy report,
9 which detailed possible policy options for the
10 region. We were able to quantify the significant
11 energy potential for biomass in each of the
12 Valley's counties. And you can see that San
13 Joaquin, Tulare and Stanislaus had the highest
14 potential in the area.

15 One of the things I just wanted to touch
16 on briefly; I have the nationwide statistics, I
17 don't have the California statistics, but i think
18 it brings about the point of thinking about how
19 policies that we make create what I'll term third-
20 party impacts.

21 In looking at ethanol, if you look to
22 the assumption that by the year 2010 that we will
23 be using 10 million gallons of ethanol, that will
24 require over 10 million more acres planted to corn
25 than we had in 2005 and '6, if we want to maintain

1 our exports and our feed demand. That's going to
2 take 4 to 7 million acres out of the conservation
3 reserve program, which protects highly erodable
4 crop land.

5 So, thinking about some of the policies
6 that we look at in these individual sectors and
7 how they impact other areas. Smart growth often
8 includes options based around walking. With a
9 coordinated network of tree-lined neighborhoods,
10 the energy goal of conservation might be aided by
11 reducing the level of demands for things such as
12 air conditioning and extra car trips.

13 Another unique element about the Valley,
14 and for that matter, the Inland Empire in southern
15 California, is that because we are building homes
16 from scratch, we have a once-in-a-lifetime chance
17 to incorporate all we have learned about
18 efficiency into not just one or two homes, but to
19 entire communities.

20 And example in our Valley is Castle and
21 Cooke has, in one of their new subdivisions, solar
22 is the standard. And they have begun measuring
23 the consumption of energy, or specifically the
24 cost, energy cost per month. And they're finding
25 it's over 50 percent compared to one of their

1 standard or conventional subdivisions. Those
2 numbers are preliminary but they're showing huge
3 impacts.

4 Another thing that I pulled from out of
5 California, some may laugh at the example, but I
6 thought it was interesting because I never thought
7 of energy this way, but six years ago Mayor Daly
8 in Chicago installed a green roof on city hall.
9 Today there are 200 roofs in Chicago that are
10 green roofs. In other words, they have vegetation
11 on them.

12 Why is this working? It's working
13 because they implemented a green permitting
14 process designed to expedite requests. Chicago
15 now requires green roofs on new buildings that
16 receive city financing. Every new roof in the
17 city is required to be reflective. And buildings
18 they are showing are more -- those that have green
19 roofs are more energy efficient because of the
20 insulation factor.

21 And, in fact, we do have one green -- we
22 probably have more than one green roof, but Gap
23 headquarters in San Bruno has a green roof. So we
24 have an example of it here in California.

25 I'm going to jump to Texas for a moment

1 because they have a EnergyStar homes program which
2 is designed to reduce the peak demand; and energy
3 savings through increased sales of EnergyStar-
4 labeled homes.

5 They provide incentives to the
6 homebuilders to promote EnergyStar homes. They
7 have an advertising campaign, and they have
8 training to builders and their sales staff, as
9 well as realtors and the lending community.

10 They are showing that their peak demand
11 per house is dropping by 1.68 kiloWatts and 2283
12 kiloWatt reduction in annual power usage. In 2001
13 there were six builders who built 1400 EnergyStar
14 homes. A year later there were 40 builders
15 involved. And they had 10,000 EnergyStar homes.
16 So it was taking off, and you can see it provides
17 a slate of incentives for these things to happen.

18 I'd like to mention the unique role of
19 timing for this discussion. In the summer of 2005
20 an executive order created a San Joaquin Valley
21 task force, or the Governor's Partnership,
22 consisting of eight cabinet members. Dan
23 mentioned most of them earlier. And a broad range
24 of public and private stakeholders.

25 Their job is to report back to the

1 Governor this fall with specific implementable
2 recommendations covering everything from education
3 to land use to air quality over a ten-year period.

4 Over the past 18 months multiple, well-
5 attended public meetings have been held in every
6 county in our region. The land use
7 recommendations from the partnership will be fed
8 to another complementary community outreach
9 process known as the San Joaquin Valley Blueprint
10 project. If there ever was a vehicle to promote
11 new ideas or incentives, this would be it.

12 I wanted to share with you, because I
13 went through the land use housing and agricultural
14 committee, specifically addresses several energy
15 concerns. I pulled out some of the goals: to gain
16 energy efficiency; reduce parking requirements;
17 increase walkability. And they have gone through
18 a process of identifying both metrics and
19 indicators, and ways to accomplish this, so such
20 that it happens.

21 Some of the indicators would be increase
22 the installation and use of solar energy producers
23 in residential and commercial projects. Increase
24 the number of communities adopting green building
25 standards and the number that provide nonmotorized

1 options.

2 They list as ways to do it, to develop
3 and disseminate model ordinances that provide
4 greater zoning flexibility in order to reduce
5 reliance on the auto. Increase green building and
6 the use of renewable energy. Increase walkability
7 and reduce parking requirements.

8 One other thing I wanted to mention
9 which was new to me was the discussion about
10 disallowing free-standing new towns that aren't of
11 sufficient size. There are some studies out that
12 indicate that a community of 100,000 or more
13 provides adequate services such that it reduced
14 car trips because you wouldn't have to go to
15 another community for the services.

16 So, one of the things that they're
17 talking about in terms of reducing energy
18 consumption is looking at where we're building and
19 how we're building in the future.

20 I want to go back to the renewable
21 energy report because in that we developed some
22 action strategies for renewables. But this chart,
23 specifically the area that I've circled, talks
24 about favorable policy and regulations. And I
25 think they apply to the energy area, as well.

1 Insuring consistent long-term policies;
2 and creating processes that share expertise and
3 build local support are those that are really
4 worth considering.

5 My concluding thoughts, I think three
6 areas in terms of incentives. Incentives interest
7 exist for outreach and unique opportunity. In the
8 area of incentives I just want to, by way of
9 example, and they're obviously in the agricultural
10 industry, but PR Farms in Clovis and the Lang
11 Twins in the Lodi area, both of them commented,
12 have large solar installations and both commented
13 that in order to make it cost effective, they
14 wouldn't have done it without the benefits or the
15 incentives that existed, so that they could
16 amortize it in a manner that would be economical
17 for them.

18 They're both very pleased with the
19 systems. I think over time, as we get more of
20 those installations, it will drive the cost of
21 installing solar down, which will then make it
22 more economical. I think, referring back to
23 something Dan said earlier, about in farming and
24 in agriculture the economics of it are the first
25 decision that's made on the farm.

1 In terms of interest for outreach,
2 there's not much on the ground yet. But it's a
3 growing interest. Building a constituency is one
4 of the things outreach will do. And that, we have
5 found in the Valley, moves and helps move public
6 policy, as well.

7 We think that there's a unique
8 opportunity with the Governor's Partnership in the
9 San Joaquin Valley. And as a region in the
10 opening stage of its growth, successful
11 implementation of the state's energy goals will
12 reshape what happens in the inland portion of
13 California.

14 Thank you.

15 MS. PHINNEY: Thank you, Holly. Now
16 time for Commissioner questions, and then we'll
17 conclude with public input.

18 PRESIDING MEMBER PFANNENSTIEL:
19 Commissioner.

20 COMMISSIONER BOHN: A wise friend of
21 mine opined recently that you could do more for
22 infill in the cities if you fixed the school
23 systems. My question, I guess, is what is the
24 mechanism, or is there an existing mechanism or
25 mechanisms whereby other social/financial factors

1 enter into these deliberations?

2 One can do all kinds of mechanical
3 things and plant more trees and narrow the streets
4 and do those things, all of which are good. But
5 one of the reasons that people leave these
6 concentrated communities is because the school
7 systems deteriorate and public security
8 deteriorates.

9 Are there discussions that cross
10 disciplines that deal with some of these things?
11 Because one of the impacts of getting people to
12 stay in cities is the objective you're talking
13 about.

14 MR. FLYNN: Well, -- thought about that.
15 I mean, you're right that schools do have a big
16 part in people's decision on where to live. And
17 one reason why Maryland went in the direction of
18 having some kind of a state smart growth law was
19 the governor at the time was presented with the
20 decision to close about 80 schools or so in the
21 inner urbanized areas and to approve the opening
22 up of a like number out on the edges of the
23 communities. And he thought, you know, this is
24 crazy; that we're not investing in our existing
25 schools.

1 And so to some extent that's what's
2 happening in California, that investment gets
3 drawn out to the edge and we're spreading out very
4 quickly, eating up more land at a far greater
5 proportion than our population is growing.

6 And so, you know, I think that's the net
7 result. So it could be that you just need to have
8 some kind of policy that is going to say, look,
9 we're going to reinvest in the schools as part of
10 our land use, these changes that we're trying to
11 do with land use.

12 And that was what we were aiming for
13 with AB-857, to try to get that mindset going
14 within the executive branch that, you know, you've
15 got to push money into the existing schools and
16 the existing infrastructure if you're going to
17 expect more people to live there, and for people
18 to want to live there.

19 But, again, it's really a will to make
20 that kind of policy change, which isn't going to
21 be easy.

22 PRESIDING MEMBER PFANNENSTIEL: Other
23 questions?

24 MS. FREEDMAN: I just had one more
25 comment on that.

1 PRESIDING MEMBER PFANNENSTIEL: Yes.

2 MS. FREEDMAN: The regional
3 comprehensive plan that SANDAG put together does
4 have an education component in it with a focus on
5 K through 12.

6 Regarding incentives and whatnot, I
7 can't speak to that right now, but I will provide
8 that in written comments. But one portion of
9 smart growth also is as we're incentivizing and
10 spurring the revitalization of the urban centers
11 downtown and some of the older neighborhoods,
12 that's then providing that added tax benefit and
13 added revenues as we bring in more businesses and
14 homeowners. And I think that does translate to
15 the schools.

16 But I'll get you more specifics on our
17 comprehensive plan with that.

18 PRESIDING MEMBER PFANNENSTIEL: Dan, you
19 seemed a little discouraging about trying to do
20 this through the state, from your experience
21 there. And yet we have two different models of
22 regional work, both from SANDAG, which is a
23 regional, largely a regional government-based
24 entity, and the Valley organization, which is
25 nongovernment.

1 Does either one seem to be the model
2 that works better from your perspective? It seems
3 like the Great Valley model suffers a bit from not
4 having the government as part of the organization.
5 Maybe I'm incorrect in my interpretation, Holly,
6 but that's how I heard it.

7 Where do you think we go? I mean it
8 seems like it's not coming out of Sacramento,
9 where is it coming from?

10 MR. FLYNN: Well, I think there has been
11 a lot of good work done at the regional level, but
12 it -- and I'm not as familiar as Holly and Susan
13 about what they're doing there, but I did travel
14 around quite a bit to regions when I was working
15 on the issue. And it seems to me the difficulty
16 is that regional governments don't have a lot of
17 enforcement ability.

18 And so they're able to get people
19 together; get them working together; talking;
20 getting some changes made. But fundamentally, I
21 might be wrong about this, but it seems to me that
22 still the vast majority of the development going
23 on would not be consistent with good solid land
24 use planning practices.

25 And so, you know, and I would invite

1 them to comment on that. But that's just my
2 impression. So, I still think there's a role for
3 the state, and I think the state does need to take
4 action. They need to make it simple, like I was
5 saying, send the right market -- set the right
6 market mechanisms, which, you know, we're going to
7 do with energy, hopefully with time-of-day use and
8 things like that. Those make sense.

9 But politically it's pretty difficult to
10 do those things. But to the extent we can, I
11 think we should.

12 PRESIDING MEMBER PFANNENSTIEL: Holly,
13 Susan, would you like to comment on that? Do we
14 see that, in fact, a lot of it isn't happening?

15 MS. FREEDMAN: Well, one first comment
16 would be I'd say we have very different
17 situations, other than being we're a government
18 agency and they're not. We also, we're unique in
19 that we spend one county; we have almost the same
20 lines politically as we do with the local utility.
21 And we thought of ways to have a lot of synergies
22 in that respect.

23 And we have the San Diego Regional
24 Energy Office, which serves as an independent body
25 that area, as well. So, I wouldn't say it's

1 easier, but we do have some advantages in that
2 way.

3 Something that the state, I think, has
4 been very helpful with were the blueprint plans
5 and the funding for that. And that was, I didn't
6 mention it, but funding from the blueprint process
7 went into SANDAG's work, and was essential for
8 that, I think.

9 And then one other comment as far as
10 with the state, legislatively what could be done,
11 what I'm learning, and this is my interpretation
12 of it, dealing with local governments, at least in
13 San Diego, trying to get regulations passed at the
14 state or federally that impact local land use, I
15 think would be very difficult.

16 And it's because, at least in San Diego,
17 a lot of the smaller neighborhoods became cities,
18 and it was to take control and ownership over
19 their land use issues. They didn't care for how
20 things were being dictated before. So they really
21 covet that direct control. And I think that is a
22 very hard nut to crack to add new regulation in
23 that area. But that's an opinion.

24 PRESIDING MEMBER PFANNENSTIEL: Holly,
25 do you find that your elected officials are

1 supportive and are involved?

2 MS. KING: They are, and I want to go
3 back to, I think that because we aren't a
4 governmental entity we are quite nimble. We
5 probably can do a lot of things that would not be,
6 and I'm not crossing an ethic, I'm not speaking
7 about ethics, I'm more about being nimble and
8 being able to respond to the region's needs, in
9 addition to bringing new ideas into the region.

10 Because a lot of times it's really
11 helpful to people if they have, one of the things
12 we try and do is set up new models that others can
13 emulate and tweak and put into their local
14 community.

15 The interesting thing about, and it's
16 probably true of all the regions, but looking
17 across the 19 counties, especially with farmland
18 conservation, in Yolo County they have had maybe
19 in their lifetime four Williamson Act
20 cancellations. And they have a very strong policy
21 about farmland protection.

22 They believe in it; they have a
23 constituency there that supports it. And I would
24 compare that with Kern County that's at the other
25 end of the spectrum, in my opinion, where yes, you

1 can only amend the general plan four times, but
2 there are several amendments in each one of those
3 four amendments. And canceling the Williamson Act
4 contract is walking in and paying the fee.

5 So, it's a lot about, what we're
6 starting to see in Kern County is a constituency
7 that is being built and they're interested in
8 these types of things. And it's causing, there's
9 one of the supervisors now that is wanting to take
10 a position at the LAFCO level in terms of
11 mitigating for farmland loss.

12 I only give that to you as an example
13 because I think, you know, Carol Whiteside has
14 always said, if you give me 40,000 people that
15 support this I can move the world. And so I think
16 our philosophy is building a constituency for some
17 of these things because it allows the local
18 elected officials to make some pretty tough policy
19 decisions.

20 PRESIDING MEMBER PFANNENSTIEL: Thank
21 you. Are there further questions?

22 ASSOCIATE MEMBER GEESMAN: I had one.
23 Has the San Joaquin Air Quality Management
24 District had a discernible impact on land use
25 policy within the Valley? And do you envision the

1 air quality regulatory regime impacting land use
2 decisions over time?

3 MS. KING: You know, I would love to say
4 that I would give you an intelligent answer, I
5 think that --

6 ASSOCIATE MEMBER GEESMAN: You just did.

7 MS. KING: Well, the jury's still out on
8 it. I don't work a lot with the air quality
9 district. What I do hear from the district is
10 their challenge in terms of they don't have
11 control over all of the things that create poor
12 air quality. And therefore, they feel, in some
13 respects, that their hands are tied, to be as
14 effective as they are looked at to be.

15 So, I think -- and I think that had to
16 deal with dealing with the mobile sources in terms
17 of vehicles and so forth. That's what I'm hearing
18 from them.

19 PRESIDING MEMBER PFANNENSTIEL: Further
20 questions? Thank you very much. Excellent panel.

21 We have two requests to speak. First,
22 Mary Deming from Southern California Edison
23 Company.

24 DR. DEMING: Good afternoon. I
25 appreciate the opportunity to speak on behalf of

1 Southern California Edison. And I especially
2 appreciate that this topic is the subject of such
3 an important workshop. And I hope it's the
4 beginning of further exploration of the
5 relationship between land use and energy and that
6 we continue to include planning organizations and
7 professionals in this dialogue. We'll submit
8 comments on Tuesday, so just a few highlights
9 today.

10 On the land use side much has been
11 discussed today about growth and land use.
12 Population and economic growth, of course, are
13 major drivers and are facility infrastructure
14 planning. The distribution of that growth is very
15 important, but we also know that the growth of
16 particular age groups, of family types and their
17 development and aging process have different
18 energy uses and needs. And that can also drive
19 our planning.

20 Data quality and planning issues are at
21 the local levels. And as we have heard today,
22 energy is not always in those plans. We've
23 experienced that in the general plan developments
24 that we have worked with in our service territory.

25 Those long-range plans are developed

1 over infrequently and although the amendment
2 process does update their provisions, it is a
3 fairly long planning horizon.

4 We update our plans for ten years into
5 the future, and we update those every year. So we
6 have some inconsistency in our planning horizons
7 if we are to try to connect with local plans.

8 Communicating our plans, we've found, is
9 something that we are working on. We need land,
10 too. And there's a great deal of competition for
11 land. And as we respond to growth we often find
12 that land has been allocated for other uses,
13 rather than for energy facilities. And it's an
14 unfortunate position we find ourselves, and to
15 impose our facilities or to integrate our
16 facilities with existing land uses.

17 Research is very important in this area
18 and we'd like to support the PIER roadmap that's
19 been designed in this area. We did work with Gina
20 as that program was being defined.

21 Research begins with data and we're very
22 grateful for the regional agencies such as SCAG
23 and I know that SANDAG provides the service as
24 well, providing regional data that provides some
25 consistency across the multiple jurisdictions that

1 we need to deal with.

2 Research on the electric load
3 implications of smart growth would be very helpful
4 to us. Improving load forecasting methodology to
5 more formally include land use in its current and
6 future forms, that would be of value to us, as
7 well.

8 And then, of course, the advantage, of
9 course, for energy efficiency, for DGs and for
10 other more local resources is that they can be
11 planned in an integrated way with the locales
12 where they're going to be implemented. The larger
13 systems for the IOUs require much larger service
14 territories and consistency with many many local
15 jurisdictions and plans.

16 I lead an interdepartmental team that is
17 calling itself cooperative planning. It doesn't
18 have a home in any one department or business unit
19 in the company, but our interest is in capacity
20 building.

21 And by that I mean we need to learn how
22 to communicate our planning needs. And we took
23 our guidance from the California Energy
24 Commission. We looked at the energy aware guides
25 that have been planned in the 1990s. We looked at

1 the sample elements for energy facilities. And
2 realized that this was an area in which we would
3 probably also have to become involved.

4 So, our own capacity building has been
5 organized around the following questions. How
6 should we communicate our planning procedures to
7 other planners working at local jurisdictions?
8 How can we effectively process third-party EIRs
9 and development plans so that our electric
10 facilities can be integrated and consistently with
11 our regulatory framework?

12 How can we improve our load forecasting
13 methodology to incorporate growth and land use?
14 How can we share data in a security-conscious
15 world? And how can we communicate on a regular
16 basis, not just when a community is undergoing a
17 general plan update, and not just when we have
18 some energy facilities to plan? We'd like to be
19 able to do this on a regular basis; to speak the
20 same language; use the same vocabulary; and
21 understand each others' constraints and
22 opportunities.

23 So, we, too, have the kind of
24 opportunity that Holly mentioned, kind of a once
25 in a lifetime. As we build our transmission

1 system and our delivery system today, we're
2 building the legacy that's going to be there a
3 long time to come. And our hope is that we can
4 build that in a consistent way with current land
5 use plans and future visions of these communities.

6 Thank you.

7 PRESIDING MEMBER PFANNENSTIEL: Thank
8 you.

9 ASSOCIATE MEMBER GEESMAN: Well, I
10 certainly want to thank you for both your comments
11 here today, and the contribution that your
12 company's made in the PIER project that you
13 referred to, which we're quite hopeful once we get
14 it through the beta testing stage it proves to be
15 something that can be rolled out to have statewide
16 application.

17 I would also note that your transmission
18 planning staff was the direct source that inspired
19 SB-1059, which is now on the Governor's desk,
20 which will, if he signs it and I hope that he
21 does, involve all of us in the process of trying
22 to designate corridors for future transmission
23 projects.

24 And I'd certainly invite any
25 contribution that your forecasting staff feels

1 that it can make to trying to improve our
2 forecasting methodology.

3 One of the key areas that we really do
4 hope to place a priority on in this IEPR cycle is
5 a geographical disaggregation of our load forecast
6 that better meets the needs of the Cal-ISO. And I
7 know we're going to be leaning heavily on your
8 folks to help us with that. Because frankly some
9 of the input that your company made to us last
10 year that provided the confidence we needed that
11 this was actually an area that would bear some
12 fruit if we pursued it.

13 So, I thank you for your comments.

14 DR. DEMING: Thank you.

15 PRESIDING MEMBER PFANNENSTIEL: Thank
16 you. Jane Turnbull from the League of Women
17 Voters.

18 MS. TURNBULL: I'm Jane Turnbull, here
19 on behalf of the League of Women Voters of
20 California. Thank you, Commissioners, for putting
21 on this very important event. I've learned a lot
22 today. We did submit answers to the questions
23 yesterday, and I find that we have different
24 answers today after the presentations that have
25 taken place.

1 It's also been made very clear that
2 California is more than a state, it's a universe
3 in and of itself. The diversity of the state and
4 the diversity of the issues has also been made
5 very clear today.

6 I'd like to go back through some of the
7 answers to the questions that we did provide
8 yesterday, and make particular comments in areas
9 where I think our positions have changed.

10 The Leagues throughout the state would
11 like to learn of effective energy management
12 policy and programs that are being implemented
13 through the general plan process, or any other
14 process, such as these regional processes.

15 Most local leagues are interested in
16 finding effective ways to work with local city
17 councils and/or planning commissions to foster
18 better local energy, water and land use planning
19 and management. But most leagues find that good
20 information and viable precedents have been in
21 short supply.

22 Smart growth has the potential to
23 contribute a great deal to improvements in energy
24 management in local communities if the communities
25 are receptive to the vision. But that is a very

1 big if.

2 Many communities even resent the
3 suggestion that they are not already a smart
4 community. I think the suggestion that Dan Flynn
5 made of, you know, setting energy reduction goals
6 for new development, enforced by the threat of
7 withholding state funds, might be an interesting
8 approach to local governments in getting them to
9 take a more active role. Although I think that
10 the emphasis might better be on reduction of
11 greenhouse gases rather than energy, per se,
12 because I think there's more of a passion toward,
13 you know, climate change issues at this point in
14 time.

15 In fact, one of the reasons I'm here
16 today representing the League is to get an answer
17 to the question of how local climate change
18 initiatives can reduce emissions and help achieve
19 the state's energy policy goals.

20 The general public will purchase more
21 energy efficient homes, provided that the price
22 differential is not excessive. Market incentives,
23 such as tax credits, can serve as inducements.
24 However, the single family home with the white
25 picket fence continues to be the dream of the

1 average prospective homeowner.

2 Creative design of more compact housing
3 as a component of an integrated user-friendly
4 community gradually sells itself. But currently,
5 in most communities, existing communities, not new
6 communities, higher density housing does not carry
7 much status. Our affordable housing committees
8 consistently are up against city councils that,
9 you know, say nay.

10 The League's energy policy states that
11 decisions about the energy planning process should
12 be made on a regionwide basis through a mechanism
13 that incorporates participation by local
14 governments. It is important that local
15 governments not have the prerogative of veto
16 power. Although they have the responsibility to
17 communicate local concerns to regional planners.
18 local governments still have implementation roles.

19 On another point, according to the
20 executive summary of the sustainable urban energy
21 planning roadmap, although there exists myriad
22 best practice manuals, model policies and case
23 studies, the information is scattered among a
24 variety of disparate sources; lacks extensive
25 evaluation; and is less than comprehensive.

1 It seems that the highest priority for
2 near-term action is to sort through and critique
3 the available resources, and then fill in the
4 gaps.

5 A second priority would be to foster a
6 statewide discussion of the importance of
7 addressing the interrelationship of land use and
8 energy and water planning and utilization.

9 The League's current policy on
10 sustainable communities encourages the adoption of
11 full cost accounting to address all direct and
12 indirect economic, environmental and social costs
13 of production and programs. The policy also
14 supports the adoption and use of indicators that
15 are oriented to the needs of the communities in
16 question.

17 In other words, smart growth principles
18 will need to be quantified. And the monitoring
19 process will need to be understood and accepted by
20 the general public.

21 The League's energy positions include
22 support for open meetings and workshops, community
23 outreach and extensive use of communication
24 technologies. The state agencies should not be
25 the solo voice in this conversation.

1 Local governments also have a
2 responsibility to inform their citizens about
3 developments in state and regional energy
4 planning. How to bring them into the discussion
5 is a challenge. And I urge you to accept the
6 challenge.

7 The question directed toward whether a
8 generic proposal for the development and adoption
9 of statewide energy planning requirements to be
10 used for local development would certainly and
11 deservedly spark controversy. Local residents are
12 likely to perceive the concept as only one step
13 away from eminent domain. However, there
14 certainly would be merit in fostering discussion
15 of the reasons for considering such a proposal.

16 We do think the state should implement
17 an integrated energy planning process that
18 encompasses forecasts for needs and establishes
19 consistent statewide procedures for the set-aside
20 of land that will be needed for future energy
21 infrastructure. The work that Southern Cal Edison
22 has done with Mary Deming's leadership certainly
23 exemplifies a very important step in the right
24 direction.

25 Such a process would not place the

1 entire responsibility for insuring adequate energy
2 infrastructure on the state. Rather, local and
3 regional bodies should also have responsibilities
4 for energy resource adequacy.

5 You have taken on an enormous challenge.
6 We think it's a very timely challenge. And we
7 urge you to go ahead and bring this to a
8 culmination, or at least a step forward in the
9 2007 IEPR.

10 Thank you.

11 PRESIDING MEMBER PFANNENSTIEL: Thank
12 you. The last blue card I have for a speaker is
13 Michael Meacham from the City of Chula Vista.

14 MR. MEACHAM: Commissioners, I know it's
15 getting late and a lot of people have planes to
16 catch like I do, but I wanted to at least take the
17 time to thank all of you and staff and the
18 speakers, as well, for a great program today.

19 It was really great for me, and I know
20 for those from the City of Chula Vista that were
21 listening in to be able to participate.

22 And a lot of things I'd like to talk
23 about; we were mentioned a few times. There are
24 some activities that we've done in the past with
25 both Commissions that have been extremely positive

1 and very helpful, contributed a lot to the
2 accomplishments that were mentioned today and any
3 of them that Chula Vista has been involved in.

4 And John was far too generous in giving
5 me credit. There really are a tremendous number
6 of my colleagues back in Chula Vista, the planning
7 department, general services, public works and
8 engineering. It really takes an entire city.

9 And I think it's institutionalizing that
10 commitment and goes back to Chula Vista's
11 involvement, back in the early 1980s. And that's
12 what I really wanted to talk about, if anything,
13 in just a couple of minutes.

14 I waited to speak because the last item
15 about actions to advance state energy goals and
16 policies. I really wanted to kind of add to that.

17 If Chula Vista has accomplished
18 anything, I wanted to kind of point out why I
19 think it has. Our elected officials really bought
20 into the concept of climate change, and their
21 concern about public health and quality of life,
22 back in the late '80s. And participated in the
23 U.N. Climate Change Committee in 1990/91. And
24 through the Kyoto Protocol process; a couple of
25 our councilmembers actually participated in that

1 process and signed the papers that local cities
2 did.

3 And someone, you know, kind of mentioned
4 earlier about, you know, where the impetus comes
5 from. And I think it's really that leadership.
6 And bringing these types of events and these
7 activities, and providing the research and science
8 that allows that we could not afford on the local
9 level. Some of us participating, but being able
10 to take advantage of that research and use it to
11 explain to the public and to demonstrate to the
12 public with local models somewhere in California
13 really makes a difference.

14 And I think that's what gave our council
15 the opportunity to take advantage; to start doing
16 things like converting stoplights to LEDs before
17 we had grants; and to put cool roofs on our
18 buildings early on; and to work in the Otay Ranch,
19 I think Pat used one of the pictures of our narrow
20 streets with small lots and trees in the street
21 and sidewalk meeting for the first time in 25 or
22 30 years.

23 I think that commitment, participating
24 in ICLEI as a founding member, the first city in
25 the world with a population under a million to

1 join as one of the initial cities worldwide. It
2 was that kind of organization, that development
3 and that research that we couldn't have done on a
4 local level that made a difference.

5 But I wanted to close with one example,
6 and a lot of them came to mind. But one of the
7 speakers, I think it was Mr. Flynn, mentioned
8 recycling. And in our reports with ICLEI you can
9 see a lot of -- one of the components is
10 recycling.

11 But I'd like to suggest that as a kind
12 of a model, when you talk about carrots and
13 sticks. In the AB-939 in 1989 we set the goal
14 statewide and said we're going to get to 50
15 percent recycling. We can argue about whether we
16 got there and how the numbers are; but it took us
17 about four or five years longer, but the majority
18 of the states, in the high 40s. And it's
19 incredible how many jurisdictions across
20 tremendous geographic rural, urban, suburban and
21 population sizes have accomplished or nearly
22 accomplished that goal.

23 In addition to what he said about kind
24 of, and we heard things people say about getting
25 out of the way, however, the authority to act with

1 a goal was given to local officials, as well as a
2 local fee authority, with the responsibility to
3 make the decision about how it applied. And we
4 were exempt from the requirements of things like
5 prop 218, although that came later, from that kind
6 of a concept.

7 But we were made accountable for a goal
8 and we were given the tools, the authority and the
9 responsibility to carry it out, as well as a way
10 to fund it. And I think that that's a pretty good
11 example.

12 Following up on that program, the
13 Integrated Waste Management Board has had block
14 grants that provide consistent and long-term
15 funding that cities participate in with things
16 like advance disposal fees. And they've had
17 competitive grants, if you want to take your
18 community to another level, you have to compete
19 and produce quality and results to be able to
20 participate in those levels.

21 And I think that kind of thing is
22 already beginning to happen. And I'm really
23 pleased, and I'm sorry Commissioner Bohn has left,
24 but I think the long-term resource plan and the
25 recent expansion and development in the PAG and

1 the local funding and the partnerships that are
2 being developed, as challenging as they can be
3 sometimes, is the right direction. And I think
4 we're doing some good things. And I appreciate
5 you for taking another step today. It's been
6 great for Chula Vista, and I think it's going to
7 be great for California.

8 Thank you.

9 PRESIDING MEMBER PFANNENSTIEL: We
10 appreciate your comments and we appreciate your
11 participation today.

12 Yes, Steve.

13 MR. ST. MARIE: Commissioner Bohn is
14 here in spirit.

15 (Laughter.)

16 PRESIDING MEMBER PFANNENSTIEL: Is there
17 anybody else in the room who would like to address
18 us? Yes.

19 MR. OROZCO: Good afternoon,
20 Commissioners, Staff, I'll be very brief. I just
21 want to touch on two quick topics. The first
22 one -- oh, I'm sorry, Bernie Orozco with Semptra
23 Energy, representing San Diego Gas and Electric
24 and the Southern California Gas Company.

25 The two topics I wanted to touch on very

1 quickly is the first is the sustainable
2 communities program. The Sempra Energy Utilities,
3 both SDG&E and SoCalGas, believe that a successful
4 sustainable urban planning program can lead to
5 one, reduced utility infrastructure; reduce
6 imported resources; improved air quality and a
7 better quality of life.

8 We also believe, though, that the
9 utilities, themselves, can play a very significant
10 stewardship role in development of these programs.
11 In fact, so much so that in 2003 Sempra Energy
12 Utilities requested from the PUC authorization to
13 establish our sustainable communities program.

14 This is a program that we assist local
15 cities in completing a sustainable building
16 projects on city buildings, and acquire valuable
17 experience in development and adoption of
18 sustainable building policies.

19 In addition, we also work with local
20 developers, schools, building owners to integrate
21 renewable energy systems with green building
22 projects.

23 The goal of the program, or the goals of
24 the program are to reduce load on utility grid,
25 foster sustainable building practices, proliferate

1 local renewable power generation and advance
2 SDG&E's electrical delivery system.

3 That said, the program, as it stands
4 now, is very good for fostering development in
5 very specific projects. But as you look at some
6 of the projects that were proposed, they require a
7 much longer period of time to develop. And
8 typically the regulatory structure that we have
9 now doesn't always help us to achieve that. It
10 kind of works against us.

11 Projects can require anywhere between
12 five to 20 years to develop and integrate into a
13 system. Our regulatory case review process, or
14 ratecases or our program cycles typically are two
15 to five years. So this is actually something,
16 Commissioner Pfannenstiel, I had hoped to make at
17 the solar low-income program advisory committee
18 meeting today that we would like very much to
19 participate in programs like that. But we'd have
20 to look at other ways to make sure that given our,
21 again, regulatory structure that we can
22 participate. So that's my first comment I wanted
23 to make.

24 The second thing, and you touched on
25 this, Commissioner Geesman, and Edison did, on

1 transmission. The 2005 Energy Policy Act, the
2 federal energy policy act, required that DOE
3 conduct a transmission study, looking at
4 congestion across the country.

5 And that report came out in 2006, August
6 8, 2006, and identified two locations. One on the
7 east coast and then, not surprisingly, southern
8 California.

9 We think that that report in identifying
10 southern California is a very strong step in the
11 right direction to helping us in San Diego deal
12 with our transmission congestion that we have. So
13 the report, now that it's out, is taking public
14 comments by October 10th of this year.

15 And we plan, at San Diego Gas and
16 Electric, -- or comments are due by October 10,
17 2007, we plan on filing comments and saying that
18 we appreciate that study. That study identified
19 congestion that raises prices for customers. It
20 also identified that in some cases transmission
21 was a barrier to developing renewables energy.
22 We see a lot of renewable opportunities in
23 Imperial County. And so we hope that this will be
24 helpful for us in relieving our transmission
25 problems in San Diego.

1 In regards to our Sunrise transmission
2 project, on August 8th the ISO Board of Governors
3 approved the Sunrise Power Link project as being
4 economical and a reliable beneficial project. It
5 identified that we can bring in 1000 megawatts of
6 renewable generation from Imperial.

7 And on September 8, 2006, the PUC deemed
8 our application complete. So we are now going
9 through the public process; what we have
10 identified as -- preferred process. But we also
11 want to thank the Energy Commission for SB-1059 in
12 the Governor's Office. That also will go a long
13 way to helping us with our transmission issues. I
14 won't go into it since you've already spoke on
15 that personal project.

16 Thank you very much.

17 MR. ST. MARIE: I don't mean to put you
18 too much on the spot, but one of the earlier
19 speakers today talked about the on-bill program
20 for energy developments in homes or in businesses.
21 Can you speak to what that program is? And also
22 the speaker said that he thought the amortization
23 time was too short on that project.

24 MR. OROZCO: I'm not familiar with that
25 project. I'm actually --

CERTIFICATE OF REPORTER

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

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

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of October, 2006.