STATE OF CALIFORNIA - THE RESOURCES AGENCY
BEFORE THE
CALIFORNIA ENERGY COMMISSION (CEC)

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Preparation of the 2013	)
Integrated Energy Policy Report	)
(2013 IEPR)	)

2013 Integrated Energy Policy Report

Staff Workshop

California Economic and Demographic Outlook

California Energy Commission
Hearing Room A
1516 9th Street
Sacramento, California

Thursday, January 24, 2013
9:00 A.M.

Reported by:
Tahsha Sanbrailo

COMMISSIONERS PRESENT

Robert B. Weisenmiller, Chairperson

*Andrew McAllister

STAFF PRESENT

Chris Kavalec

Kate Sullivan

ALSO PRESENT (* Via WebEx)

Panel 1

Brad Williams, Moderator, Capitol Matrix Consulting

Eduardo Martinez, Moody's Analytics

Jim Diffley, HIS Global Insight, Inc.

Jerry Nickelsburg, UCLA Anderson Forecast

Jeffrey Michael, University of the Pacific Business Forecasting Center

Panel 2

Brad Williams, Moderator, Capitol Matrix Consulting

Mike Rossi, Governor's Senior Advisor on Jobs and Business Development

Gino Di Caro, Vice President, California Manufacturers and Technology Association

Silvio Ferrari, California Building Association

Gina Grey, Western States Petroleum Association

Anne Smart, Silicon Valley Leadership Group

Loren Kaye, California Foundation for Commerce and Education

Panel 3

Jon Haveman, Moderator, Bay Area Council Economic Institute

Hans Johnson, Public Policy Institute of California

Jon Stiles, California Census Research Data Center

Bill Schooling, Department of Finance

Simon Choi, Southern California Association of Governments

PUBLIC COMMENT

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P R O C E E D I N G S

January 24, 2013 9:00 A.M.

MR. KAVALEC: Okay, we'll get started. Welcome to our Energy Commission staff workshop on Economic and Demographic Outlook for California.

I'm Chris Kavalec from the Commission's Demand Office.

A few housekeeping items before we start. If you're not familiar with the building, the closest restrooms are located out the door and to your left, by the door going outside.

There's a snack bar on the second floor, under the white awning.

In the event of an emergency and the building being evacuated, please follow Energy Commission employees to the appropriate exits, where we'll reconvene at Roosevelt Park which is diagonally across the street from this building.

Okay, so, on the schedule today we have three panels looking at California's economy and demographic outlook.

Our first panel this morning will consist of economic experts, economic forecasters.

Our second panel will consist of representatives from California's business and industry.

And on our third panel will consist of experts on California demographics.

This workshop we're putting together because there is such a strong relationship between California's population and other demographic characteristics, the economy, and our energy forecasts.

And the better we can understand those factors, we think the better our forecast will be.

So, I just want to take a couple minutes here to attempt to motivate the discussion a little bit. Here at the Energy Commission and in other State agencies who promote energy efficiency and other demand side measures, and these are having a measurable effect on electricity consumption in the State.

However, the fundamental driver of energy consumption in the State is still the economy. And I'll attempt to demonstrate that with this first slide.

Here, in this graph, on the top, the rolled curve shows total employment in the State, using the right-hand side scale.

And electricity consumption in gigawatt hours is shown using the left-hand side scale.

And you can see how closely these things move together. We started out in the 1980s with a recession in both series of that.

And then the economy picks up later in the decade, both series are moving upward.

Then we have a recession in the 1990s which hit California especially hard, and both series become flat. Then they pick up again later in the decade and then we have a hiccup in the early 2000s with what seems to be, now, a minor recession.

And for electricity consumption, in addition we have the electricity crisis which had a pretty big effect, as you can see on that blip there.

Both series pick up again later in the decade and then we're hit with the 2008 recession.

Now, if you look on the far right-hand side of this graph you'll see that employment has started to pick up, while electricity consumption is remaining flat or declining.

And there's a couple things going on here. First of all, 2010 and 2011, which are the last two years in these series, were historically, relatively mild weather years so that all-else-equal electricity consumption was lower.

In addition, the most recent recession could be referred to as a financial recession. So, with the other things going on that may not show up in the employment series, a lot of bankruptcies and foreclosures, but still affect the electricity consumption.

Also, our strong emphasis on energy efficiency is having an impact there, too.

So, we do our forecasts using the best available information, trends, the expected policy, and so on, and plan accordingly. And then sometimes what happens is a few years down the road we have a recession or a bubble and there go your best laid plans.

So, today we'd like to get into a little bit of the question of how better to incorporate economic uncertainty within our forecasts or, more specifically, the possibility of recessions or bubbles a few years down the road.

I want to start that conversation and, hopefully, we, the staff, can follow up offline with some of our economic experts.

A few factoids about California and its economy, the unemployment rate has finally broke 10 percent, which is good and bad. Good in the sense that it was a lot higher and bad because the unemployment rate is still almost 10 percent.

Driving our recovery -- or two key factors driving our recovery are consumer spending, which is finally on an uptick, and a strong high-tech sector.

Most analysts agree that housing industry has finally hit bottom and we're in recovery. However, we should point out that construction employment is still 40 percent below what it was before the recession.

And the recovery is uneven within regions of the State, which I will show with the next slide.

This shows unemployment rates for various counties in the State as of December 2012, brought to us by the Employment Development Division.

On the left-hand side of the table we have the counties with the lowest unemployment rates and on the right-hand side of the table we have the counties with the highest unemployment rates.

And you may notice a pattern there. The counties on the left tend to be coastal counties. The counties on the right tend to be inland, particularly in the Sacramento and San Joaquin Valley, and then down to Imperial.

So, what we want to do today is investigate this phenomenon of an almost bifurcated economy within the State. We have the coast recovering strongly and inland areas with a stagnant or very slowing growing economy.

So, we want to investigate why that's happening and is it going to continue because, after all, our forecasts -- we forecast not just for the State as a whole, we forecast for regions within the State.

So, with that I would like to introduce the moderator of our first two panels, Brad Williams.

Brad has been involved in economic forecasting, State budgeting and finance issues around Sacramento for over 34 years.

He was the Chief Economic and Revenue Forecaster for the LLO's Office from 1995 to 2007.

Brad is currently a senior partner and a chief economic for Capital Matrix Consulting, which is a firm serving clients dealing with a variety of State, local, and fiscal issues.

So, Brad, if you would get us started?

MR. WILLIAMS: Well, thank you and good morning. Thank you for coming here so early. And we're competing with the Governor's State of the State address, so we certainly thank those that are here, that economics is very important to all of us.

What we'd like to do this morning, I'm going to be the moderator for the first two panels. And we're starting off with the economics panel, a distinguished group, folks that when you hear comments about California economy, it's often coming from one of these four panelists.

And I think the way I'd like to handle this this morning is, first, I'm going to ask each of the panelists to -- after introducing them, ask them to make some sort of opening comments, maybe a three- to five-minute presentation, very short remarks to just kind of give us a sense of what they see for the California economy.

Again, I'd like to sort of shift over to some questions that I would ask, sort of responding to some of the issues that are raised in these opening remarks.

I'm going to touch on a variety of different aspects of the outlook. I think for purposes of some of the Energy Commission staff, they have a number of technical issues that they would like to have addressed. I'll throw in a few questions on those.

And then there will be a variety of other questions about, you know, the regional dimensions of the outlook, the industry dimensions, what is going on in energy and, you know, what kind of economy are we looking at now?

I mean, there's the basic question of how strong it's going to be but, also, you know, what is sort of the new normal, you know, post the great recession?

So, with that in mind, I'd like to turn -- oh, and then I guess one other thing I'd like to say is after I offer these initial questions, I would encourage you, if questions have come to mind either in the opening remarks or in some of the give and take, to write questions down and pass them up. Kate here will, I think, take them and feed them to me, and we will incorporate those questions into this discussion.

The plan there would be, you know, initially, I would ask some questions and then we'll turn it over to Commissioners to see if they have any questions, and then we'll open it up to the audience and see if you have any direct questions or comments.

So, I would encourage you, though, as we go through here to jot down questions that arise and we'll try to address them as we go along.

So, turning to the panel just very quick, brief bios.

I think our first panel member is Jim Diffley, who is the group managing director of Global Insight's Regional Services Group. Since 1998, he has supervised the quarterly economic forecast for the 50 States and over 300 metropolitan areas of the United States. And he's also responsible for various other consulting services that is provided by the Services Group.

Second panelist is Ed Martinez, who is a senior economist with Moody's Analytics' Westchester Office. As an analyst for the California economy, Ed is responsible for economic forecasts for the State and its major metropolitan areas. He also follows international trade patterns in the State, in its metropolitan regions.

The next panelist is Jerry Nickelsburg, who has been with the -- who has been the California expert for the UCLA Anderson Forecast since 2006. Jerry plays a key role for UCLA in the economic modeling and forecasting of the Los Angeles, Southern California, and statewide California economies.

And last, but not least, Jeffrey Michael, who is the director of the Business Forecasting Center at the University of Pacific in Stockton. The Center produces quarterly economic forecasts for California and ten Northern California metropolitan areas, in addition to special reports on current business and policy issues impacting the region.

So, with that as kind of openers, I think what I’d like to do now is just turn it over to the panelists and let them make some opening remarks. Like I say, we’re going to go, you know, three to five minutes.

So, Jim, if you’d like to start, that would be great.

MR. DIFFLEY: Thank you, Brad. And, you know, turnabout is fair play. We can leave Ed's slides up. I was at a conference recently with Mark Zandi and I made a presentation and he didn't, so he spoke with my slides' contents. That's how it works out.

But anyway, it's a pleasure to be here in the Golden State. You know, thinking about California in this economic environment, to me it’s ironic that 13 years ago, as we started the 21st Century, the U.S. budget was in balance. You know, Federal Reserve Chairman Greenspan was openly worrying about a diminishing amount of Treasury Bonds in circulating to use for monetary policy.

While California at that time had a budget crisis with a multi-billion dollar structural deficit spawned by dot.com boom and bust.

Today, the U.S. economy’s precariously poised on a fiscal cliff and debt crisis, while California is suddenly able to project budget balance in the upcoming fiscal year, quite an amazing turnaround.

And this despite California once again being at the -- and I wasn’t thinking when I wrote this -- epicenter -- sorry for the earthquake allusion -- of the national recession. First, it was that dot.com crash, and then the housing bubble where, clearly, California was a leader in the housing boom and bust.

Now, the key reason I think that California’s been relatively successful in this environment is that through it all it has retained its massive comparative advantage in human capital, embodied in knowledge workers, creativity and entrepreneurship. Most notably in the Bay Area and Silicon Valley, but spreading throughout the State.

Now, about that fiscal cliff, to put some context here, 2012, last year ended, the U.S. economy was advancing slowly, but surely. The recovery had weak momentum but the fundamentals, particularly in housing, as was mentioned here, were improving.

The key risk emanated from policymakers in Washington.

This year, while we avoided the January 1st fiscal cliff or fiscal slope, and pushed the debt limit crisis further into the year by a couple of months, at least now, but at some cost.

The payroll tax increase will knock, in our view, 0.4 percent off 2013 GDP growth for the U.S. And by the way, it will have a somewhat larger negative impact in California relative to what would have been the case.

We expect, now, that consumer spending growth will be just 1.4 percent in the first quarter. It would have been 2.6 percent without the tax, leading to a meager 1.0 percent GDP growth rate for the quarter, and just 1.7 percent for the year 2013 versus 2012.

Nevertheless we will, by year end, be poised for faster growth in 2014 and beyond.

In California we project GSP growth of two percent in 2013, three percent in 2014, a bit stronger than the nation, with job gains of 240,000 this year, putting the State on track to a full recovery in the sense of a full recovery on recession job losses that is getting back to employment levels that existed in 2006 by 2007, by the end of 2015.

On a regional basis Riverside, amongst the metros, will actually lead in growth this year but, of course, that's a growth rate coming off a very deep dive in the Inland Empire.

San Jose, on the other hand, will be the metro that's first to return to its -- and I think it already has -- return to its peak level of employment. Although, ironically or parenthetically, I'll note that it's still below its 2000 peak. It's a couple of years away from alleviating that, to be sure.

So, with that to set the table --

MR. WILLIAMS: Thank you very much.

Ed.

MR. MARTINEZ: Thank you for the opportunity to come out here, especially as a California native and a two-time Cal State grad. So, it's nice to put my dollars back to work, especially since none of you guys financed my education, so I appreciate the opportunity to be out here today.

There's three takeaways that I want to leave here with my introductory remarks. One, a relative optimism that we have for the State of California in the near term, going forward, and identify a very crucial inflection point in California recovery, which is becoming more evidence every day as we get more data releases.

Then, also, what was alluded to before in the introductory remarks is sort of like the bisectional nature of the recovery and, actually, of development going forward in the State, in the medium-term to the long-term.

In my first graph that I have here, like I alluded to we are -- okay, next. Oh, the first slide, back one. There we go.

Like you can imagine, we're fairly optimistic for the California's outlook for 2013. Over the last year and a half California has outpaced the country. Primarily, strong tech, obviously, if you think about the Silicon Valley and even some of the Southern

California metro areas, you know, really strong linkages to international trade.

We do identify some of the aspects actually broadening to that. And also the way that we just mentioned, with the Federal budget cuts in DC, our assumption is -- with additional cuts is that we're not going to see the worst case defense cut scenario, which would impact heavily in metro areas, like San Diego.

Instead, our baseline assumption is some kind of deal that would actually target more social spending, so that option will minimize some of the impact for California going forward.

And also, when you take a look at California's linkages internationally, a lot of it is Pacific Rim. It's relatively less with Europe. So, with Europe still being weak, still in recession at least the next quarter or so, we do see California having to reduce impact for that.

So, those are really the main reasons why we're fairly optimistic for the State in the near term.

The next slide, please. So, with that we finally do some very long-needed improvements in the labor market. We still do have the unemployment average well above the U.S. unemployment rate. A lot of that is just the hangover from construction. As we all know here, California was very hard hit. It's still going to take many years to get back to those construction levels and a lot of the investments people-wise, capital-wise that did go into construction, they're still being under-utilized. You know, that's one of the primary reasons why we have the unemployment rate lingering so high, for so long.

But for the next slide, though, like I mentioned, this is the inflection point that I really want to stress that we've identified. We've had some really strong decreases in the foreclosure rates. We do this forecast with our data partner, Realty Trac. So, when you take a look at foreclosures per 1,000 households, we're well below the peak level at the height of the housing crisis in 2008.

What that scenario allowed me to do, and you see this in the headlines when you look at the data, that's allowing housing in California statewide to finally reach bottom to transition.

In fact, in some of the coastal areas like Orange County, San Diego, the foreclosure rate is now, once again, below the U.S. rates. So, it's actually gone back down to its pre-recession level.

So, again, this is a very strong inflection point for housing. The way that I look at it and I try to explain it is housing is swinging from a negative more to neutral, and in our short-term forecast in the next couple of years, it's slowly going to start positioning to more of a positive driver.

And this is very important for the California recovery. It's what's been missing the last couple of years, what we finally need and what we're going to be seeing over the next couple of years.

And lastly, just to include it's going to be very different, obviously, from the coastal areas. I was just in San Francisco yesterday. It's a much different recovery as in the inland areas, especially for you guys here, or down in the valley. The valley and inland areas will trail behind the coastal areas by quite a bit, when you take a look at most measurements about the unemployment.

MR. WILLIAMS: Okay, thanks a lot.

Jerry.

MR. NICKELSBURG: Thank you. It's always a pleasure to be back here so thank you for the invitation to the Department of Energy.

I don't want to repeat what has just been said about the historical data. It has been relatively good news for California. Our unemployment rate is coming down faster than the U.S. rate.

But what I'd like to do is talk about some of the concerns on the horizon. But first of all, in terms of employment and economic growth, we're seeing, as I think my colleagues are seeing nationally, that 2013 is not going to be a year of fast economic growth because we have an increase in taxes, we have fiscal restraint, we have weak economies, oftentimes in recession abroad amongst our trading partners.

And what typically happens is, and particularly in this recovery, is that when the U.S. growth accelerates, California grows even faster. And when the U.S. growth decelerates, California's growth decelerates faster.

So, we still expect California to be growing faster in the U.S., but by much less than it has previously. And so I'm a little less optimistic about 2013 than I think my colleagues are.

And the reason why that happens is twofold. One is that when U.S. growth slows, consumption slows and, therefore, the amount of traffic or the growth in the amount of traffic through our ports, impacting our logistics industry, slows.

And secondly, as U.S. growth slows, investment in equipment and software, that's all the technology stuff that we produce, that also slows. So, the things that California really does well are impacted, you know, are magnified from the U.S. by the upside and the downside.

Nevertheless, we are also projecting faster economic growth in 2014 and I think I may be a little more optimistic about California in terms of our job growth in 2014. So, we'll make up for it as the economy gets going.

But as has been pointed out by all three folks who have spoken before me, we have a bifurcated recovery. This is -- on the coast this is our trade technology, globalized California that is growing inland, we still have significant problems. And you saw that in the chart in kind of the difference between the unemployment rates.

If California were just coastal California, we wouldn't have the third highest unemployment rate in the country.

There are a lot of difficulties, not the least of which is housing. So, we see this inflection point here in housing. That is coastal California, that's multi-family housing which takes fewer construction workers. It's not inland because -- and this is, you know, where I think we really need to dig into the details here. Foreclosures are down, but in many parts of California they’re way above the 1990s peak. And banks have learned that it is much more cost-effective to convince, even with subsidies, individuals who are eligible to foreclosure to do a short sale, so they don’t have to go through the foreclosure process, even to the point of paying them $30,000 to move out after the sale, and couched as moving assistance.

If you add in distressed housing, that is short sales, to the foreclosures, you don’t get that dramatic drop. And over 50 percent of the housing in inland California is either short sale or foreclosure, now, that which has been sold. So, we’re still not out of the woods inland.

Eduardo’s absolutely right, along the coast in many markets we are definitely out of the woods in housing. We’re seeing permits going in for new housing and that market being revitalized, but we still have this issue.

As far as energy usage, I think this is important because what happens with inland California? Does the population stagnate? Does it in fact decrease because of these awfully high unemployment rates relative to other parts of the State and other parts of the country?

And what is the new engine of growth for inland

California? You know, if it is now going to be healthcare, and education, and tourism that's a different energy -- different energy composition than traditional manufacturing. So, we've got some open questions there.

And let me finish up by saying there are some things that we need to be thinking about. Number one, Prop 30 is not a panacea, it's breathing room. And so we should be looking to what happens here in Sacramento to use that breathing room to change some of these big cycles that my colleagues have talked about.

And whether or not that happens, what happens to regulatory reform in an era of a super-majority, you know, these are all things that we need to look at and keep our eyes on when we're looking towards what's going to happen in the future of California.

And I said that was my final comment. I want to make one more comment. Human capital is critical to the future of California. If you look at the human capital numbers, we have to do a lot better if we're going to maintain the kind of better-than-the-U.S. performance that we have in the past.

MR. WILLIAMS: Thanks.

Jeffrey.

MR. MICHAEL: Good point. I find myself

agreeing more and more with Jerry these days. So, in one sense in that I look at the recent performance of California economy, I continue to be impressed and surprised on the upside by the tech sector and what it does.

I'm not terribly impressed with the rest of the California economy and have some concerns about it, and I also have some -- I'm certainly not a tech industry expert, but I think there are some concerns about whether that sector can sustain the kind of levels of growth that it's seeing.

We see concerns with business equipment investment and exports, and then we see some signs of, you know, the Bay Area real estate and housing economy, and things getting over-heated that will put somewhat of a constraint on the ability of that region to grow.

I, too am -- I'm not terribly optimistic about 2013. I think some -- we've heard a lot of optimistic statements about how California's, you know, outperforming the U.S. so much. I think a little bit of that is getting a little too excited over pretty small margins. You know, I'll start getting excited about that when I start seeing a one and a half percentage point gain.

Some of it is sort of what I would expect in the baseline given the trough that we're in and some of the demographic projections that we have for California.

When I look at -- there's two sectors I'm going to talk about a little bit and just part of the reason why I think 2013 might be a little bit muted, but I think 2014 looks a little bit stronger.

I know people in Sacramento are breathing easier due to the Prop 30. But also, if you look at recent years' data, the way we've budgeted in California is -- you know, we had a set of temporary tax increases expire and then we budgeted as if we're going to have future temporary tax increases pass.

So now, for actually the past year we know that the budget for next year is pretty much what we had next year. For the past year we've been sort of enjoying that Prop 30 budget without paying the Prop 30 tax bill, and it's been somewhat stimulative in a strange way.

So, I think in 2013 we have to start paying those bills without necessarily getting an impact from government spending.

Other things are very focused on housing. I think everybody's right that we've sort of hit an inflection point with housing. Certainly, we know about the bubble, as we saw a period of big collapse from '07 to '09. We've had about three years of relatively flat housing prices and just sort of grinding our way through the foreclosure prices.

And here in the last year and last six months, you know, we’ve been waiting for the prices to wake up and the housing sector to wake up, and it seems to be upon is.

So, this is a really interesting thing to look at because I think it has a lot to do with the shape of California in the future. We know we’ve hit a turning point and that housing is going up, but where is it going? And I think that’s the difficult question.

We’re seeing rapid price appreciation. Not just in the coastal areas, but also in the inland areas, now, have kicked in with the fairly rapid price appreciation and it’s something that I’ve been expecting.

But I think some of the key points is that what -- how far does this price appreciation have to go up before it starts impacting the real economy, or you start seeing building permits respond to that?

More, you see a supply response in terms of listings out of the housing market, and some of these things that drive real economic activity. I think you can see a fairly rapid price response and we’re not quite sure where that point is, is where we’re going to see some of the construction activity and stuff respond to it.

And that's going to tell us a lot about the pace and shape of growth in California in the long run.

The next one is healthcare, which I haven't done a lot of thinking about because I'm really bad at predicting courts and elections. And so I didn't invest a lot of time understanding Obamacare because I thought the Supreme Court might take it out and I thought the election might take it out. And now, it's survived and this is a really big deal.

I mean, it's close to one-fifth of GDP. In 2013, you know, certainly there's a lot of getting ready, changes to tax laws that aren't necessarily always beneficial to the economy.

But in 2014, we're going to see this expansion of coverage and expansion of demand for healthcare services which, potentially, is a push in 2014 that we haven't completely estimated.

Like I said, we're just now starting to invest our time understanding that sector, but I'd be interested in other people's thoughts on that.

MR. WILLIAMS: Thank you. So, let me start off. I think a question that Jeffrey raised about housing is one that I've personally had, and I'd like to throw this open to the panel.

You know, we have seen decline on sold inventories. We've seen some big price increases along the coast, but also inland in housing. I think a question that I think is fair to ask is how long is it going to take for those factors to translate into new construction in the residential area of the economy?

And if you could, if you could kind of give me a sense of what you see for construction activity, we'll talk about total number of permits, you can talk about just residential or residential and nonresidential together, if you wish, you know, over the next year or two.

And then what do you think the sort of new normal is for California? What would you expect to be sort of the equilibrium amount of construction activity over the next five to ten years?

So, I'll just throw it open. Anybody want to respond?

MR. NICKELSBURG: Well, I'll start.

MR. WILLIAMS: Okay.

MR. NICKELSBURG: Or did you want to start?

MR. MICHAEL: No, go ahead.

MR. NICKELSBURG: So, I think what we have to realize about housing is it's everywhere local. These are localized markets. And you see recovery in housing where you see recovery in jobs.

So, we're already seeing in California multi-family housing permits are back up to 75 percent of their peak. So, that's a really kind of nice recovery given where we are in terms of employment. And I think, you know, we kind of all roughly agree on the time frame when we get back to the employment that we had at the beginning of the downturn. It should be higher than that because we've had population growth.

But at any rate, multi-family permits are up. That comports with the demographics and it comports with the fact that the Gen-Xers, who should be, now that they're in their 30s, should be demanding single-family housing. A lot of them got in too early because money was cheap. And they got in, they were pushed out with foreclosures, so they're really kind of out of the market for at least the purchase of single-family houses, maybe not rentals.

So, we're seeing locally, in parts of California, markets recovering, new projects underway. And, of course, multi-family projects take more time.

But also, you know, there are parts of the State where you have over 50 percent of the market is distressed and you're not going to see much new building when that happens.

And I think the price increases that you see in those parts of the State, you know, where the median price goes up is just a function of composition. The same, identical house will sell for less if it's a foreclosed house than if it's a short sale, than if it's an owner-occupied house.

So, if you're moving from foreclosed houses to short sales, still distressed, still under-market pricing, to kind of blow it out, but you'll see an increase in price.

And so that's not really that meaningful, so it's really hard to interpret these price numbers and know if they signify an increase in demand.

One way you can do it is to say are the number of units being sold going up in a sustained way? And the answer is no, not really.

MR. MARTINEZ: A good way to take a look at construction going forward is by permits per household. So, a good way to standardize it is per 1,000 households.

What we're forecasting is that the peak trough loss, so from the high point to the trough point that was reached a couple of years ago, we're only expecting about a half of that loss to be recovered by 2015, by 2017.

One, that tells you that the previous peak was pretty much unsustainable, obviously, so that's pretty easy to agree to.

But when you take a look at California compared to another big state, Texas is easily a pretty good benchmark. We do have Texas actually going back to that peak.

So, that tells you, though, that construction will be coming back, rather belatedly, but it's only going to be a fraction of what it was before pre-recession.

And so then that becomes a little more important, especially when you're talking about energy usage and the rest of the economy, in that that's a big chunk of the pre-recession activity that's just not going to be there.

Because what we're seeing with our figures, when we looked at the numbers, it's just going to be much more sustainable going forward as opposed to the pre-recession period.

MR. NICKELSBURG: Does that mean that you're expecting larger households in California than, say, pre-2007?

MR. MARTINEZ: I think slower formations, yeah.

MR. NICKELSBURG: So, the bad news is that the kids and the parents aren't moving out as fast.

MR. MARTINEZ: Correct. Well, actually, as you know here, a lot of homebuilders, actually, they're doing larger houses but with that -- I think the term is the grandparent section of the house. Again, going for that multi-generational family and so the homeowners are responding to that market already. And we especially see that in Southern California and some of the inland areas.

MR. DIFFLEY: Let me comment on thing each of Jerry and Ed said. First, I strongly agree and have urged this across the country, it is -- as Jerry said, it's very difficult to truly interpret the underlying home price fundamental change from the data. The distressed sales really do influence the data quite a lot and you have to be very careful of it.

Phoenix this year, for instance, is -- over last year is found they're reporting 20 percent and 30 percent home price growth. But that's not an apples-to-apples comparison to the previous year. It's the way the foreclosure process worked very rapidly in Arizona.

Second, I was going to support something Ed said. I forget what it was. But on forecast, let me give the forecast numbers explicitly, then.

Oh, I know what it was. You have to be careful, also, going back and comparing housing in California in the future with the experience in 2004 to 2006, which clearly was shown to be unsustainable and we're not going to go -- you're not going to go back to that.

So, the question of getting housing back to normal should be compared with an earlier time period than the bubble years.

So, what we have are long-term, thinking now prior to 10 years out, we look at housing starts for the State of about 170,000 per year in our forecast. I'm not sure how that differs from Ed in terms of the percentage difference from the peak, offhand.

And how does it get there? About 75,000 to 80,000 this year in 2013, 125,000 next year in 2014, and then moving up gradually over a couple of years to 170,000.

MR. NICKELSBURG: I disagree slightly with Jerry. I do think that real apples-to-apples home prices are moving up in inland California. And in large part due to investors who have seen a really profitable buy and rent opportunity. And that's been going on for three years.

But we've seen a movement of larger investors acquiring more property, with more capital here. I mean, I've heard a local example that it's Black Rock is setting up its Sacramento home buying operation in the last six months. It's absorbing a huge amount of inventory.

So, while I agree that when you look at the median price is up 30 percent year over year in the Bay Area, up in the high teens in a lot of the valley, inland California, that the mix is a huge part of that as it increased to that extent.

But I do think we're seeing real prices increase just for no other reason -- you know, I bought one and it's going to be the best investment, you know, the rate of return is amazing. I wish I had the resources to buy more than one.

But the prices are, I think, moving up just because I do believe they're somewhat underpriced relative to the rental values of the properties within the region.

The question is you can make that correction based on, you know, rates of return that I think will -- you know, the investors are only pushing it so far. And the question is, is that going to be far enough to wake up the homebuilding industry, and I'm not sure if that's the case.

I mean, I think what we see in inland California is that even with a 20 percent increase in home prices homebuilders still can't really build and sell property, except for the case where they've scooped up lots for next to nothing that were finished previous to the recession.

So, I think we're going to have to wait a little bit before we see the homebuilding activity pick up, but I do think we'll see something significant in 2014 and going forward. But I think we've got to wait one more year for the single-family to really perk up across the State and particularly in inland California.

MR. WILLIAMS: Thank you. Let me switch gears to a technical question. I noticed that Jim, in his opening remarks, alluded to gross domestic product, the gross state product. And I think, you know, the indication of how California has been doing, how it's going to do. But I didn't hear from anybody else.

And so this kind of gets down to a technical issue that I think the Commission staff have about the sort of viability of gross state product as a fair measure of what is going on at the State level, at the State level.

And if any of you would care to comment on that? I don't know if, Jim, you actually have it in your forecast, it looks like.

MR. DIFFLEY: Yeah.

MR. WILLIAMS: Do any of the rest of you? When you put together your regional forecast do you use gross state product?

MR. NICKELSBURG: I took it out of our forecast.

MR. WILLIAMS: And? What about the reasoning? I guess both for using it and, in your case, Jerry, about why not.

MR. NICKELSBURG: Right, so I looked into how gross state product is computed and I think there's kind of one sort of serious issue because we think of gross state product like gross national product. And gross national product is consumption, investment, government and net exports.

The next exports is really kind of a problem because we don't know how much goods -- how much in terms of value of goods and services produced in California are sold in Nevada, Arizona, et cetera, nor how much we buy from those states.

And so I think that the -- you know, what we call the statistics, the variants, the potential error in those estimates is really quite high. Well, if it's sort of consistent in the same way, which is the idea which -- in which the BA, the Feds, who are putting this together think it is, then you just have to look at changes in it and you really get some, you know, decent information.

I'm not sure that it is. I'm not convinced. I haven't seen any evidence that it is. And it has a relatively high correlation with personal income, which is a much -- which I have much more confidence in, in terms of the way in which that measure is constructed and gross state product.

So, I go with personal income level rather than gross state product.

MR. WILLIAMS: Thanks.

MR. MICHAEL: You know, in the metro area, the GDP in any of our forecasts because it seems like the more local you get, you get more concerns.

MR. DIFFLEY: Can I make a distinction here? We will continue to forecast gross state product and gross metro product because we think it is the best measure of how an economy, how a regional economy is doing in the future. Right?

The measurement issues, however, are severe and I agree with Jerry in that regard.

The way the BA measures gross state product -- first of all, it does it on an annual basis, although they've got a program now to do it on a quarterly basis, or to start doing it on a quarterly basis, is really built up -- unlike the U.S. national income and product accounts consumption, investments, exports, et cetera, you don't have that data at the state level for reasons Jerry mentioned.

So, it's built up from wages and salaries, and then there's a large amount of imputation of what the rest of the business sector is doing; profits, for instance.

That's very shaky, frankly. If you're familiar with corporate income tax return accounting, you know, you get nervous that that's a key input into the process of estimating gross state product in the past. Right?

So, I am very worried about -- and the same is true of gross metro product, by the way.

So, I'm worried about the strict interpretation of the past historical series there, but I want to continue to forecast the concept because that's the concept to use.

I agree, it's closely correlated with income and income is measured better, so I'm not disagreeing with that at all. But I do strongly support the use of the concept.

MR. NICKELSBURG: One other comment on that. We have some colleagues at Claremont-McKenna College who are building up a measure -- and so I think there's something in the semantics of calling it gross state product. I think we ought to call it something else to be more representative of the measure.

But what they're doing is they're taking employment by sector, and productivity by sector, and then trying to build up -- so, you know, again, it doesn't deal with the net exports, but they're trying to build up an economic activity index, you know, with the same idea in mind.

So, you know, I think what they're trying to get at with gross state product is good. I'm just not satisfied with the statistical measure.

MR. DIFFLEY: So, parenthetically, that's the way we forecast gross state product is looking at employment and productivity by sector.

MR. NICKELSBURG: Yeah.

MR. DIFFLEY: And that's the way we project estimated and projected gross metro product before BA had an actual consistent series for gross national product, so I agree with that.

MR. MARTINEZ: We're the same way, too. We still do a forecast for our gross state product and gross metro product. But we're aware, obviously, there are some issues the way they're defined.

There is one area, especially when you're talking about trade and export, there is a new data series out, it’s about three or four years old. The Department of Commerce is now publishing data from the Census Bureau on metros by export and it’s a little bit different from the state trade data.

So, the state trade is a little bit corrupted because a lot of times, you know, it will capture stuff, let’s say it goes to the Port of New Orleans, but might have originated like up in Iowa and something that crosses the Texas border may have come from Chicago or even from like the California coast and gone by rail.

What the metro export series does, what they do with customs records is they identify an actual location of the main economic principle behind that shipment.

The example I like to use is say, Mattel, which is also, again, an L.A. County business, they might have a shipment of Barbie’s that goes to Mexico through El Paso, through Juarez.

The records will show that it has an El Segundo, California address, so it will allocate that as an L.A. County export as opposed to an El Paso County export.

So, this is one area I’m hoping to do a little bit more work over the next couple of quarters to kind of maybe finesse a little bit and use a little bit more of that macro, or that micro level data to get a better picture of what’s happening at the regional level.

MR. DIFFLEY: You know, that's useful but, remember, at the regional level the relevant concept of exports, and Jerry alluded to it, is not international exports, but exports to other states.

MR. MARTINEZ: Correct.

MR. NICKELSBURG: And the more difficult part of that is services.

MR. DIFFLEY: Absolutely.

MR. WILLIAMS: If I could here, I'd like to switch to kind of the regional dimensions of this recovery that all of you mentioned in your initial remarks, the strong growth in the coastal region and the lighter growth in the Central Valley.

Do you see this as sort of a new sort of structural change in the California economy where we are going to have sort of a permanent bifurcation, where you're going to see all this better growth in the coast, than in the inland region?

Or is this just kind of an extended case of what we've seen in past recession recoveries where, you know, we've tended to get the bigger growth first in the coastal regions, you get the prices bid up, pump prices bid up, spill over into the Central Valley in terms of population, construction activity and, ultimately, business?

Is it -- so, I guess the question here is over the next three to five years, and five to ten years, how do you see the central inland regions of California doing relative to the coast?

Do you want to take a shot at that?

MR. NICKELSBURG: You know, since I spend a lot of time worrying about the inland regions of California. The first thing to understand is that the bifurcation is not new. You know, people like to show these unemployment rates and how terrible it is in the inland areas. The bifurcation, in some ways, was just as dramatic, if not more so, a few decades ago.

In fact, you know, if you compare the level of increase in unemployment, you know, compare the 90s or even the 80s to where we are at today, some of what you see in places like Los Angeles is more alarming than what you see in Fresno. They had a 16 percent unemployment pretty much for the entire decade of the 90s and off into the -- the past, beforehand.

So, some of this bifurcation is just a reflection of the nature of the underlying economy.

The biggest industry in the Central Valley is agriculture, which by measures of profitability and revenues is setting records year after year through this thing and it has not translated, though, into employment growth. And this sector is a really strange employment relation. You can't really forecast with job growth and the data is somewhat problematic.

So, interestingly, the largest industry in the region is doing quite well, but it hasn't sort of translated into middle class income growth or job growth per se at this point.

So, that's one aspect of it.

From a housing thing, it's really quite interesting because you talk about that cycle and, you know, we've been plotting home price ratios between the Bay Area and this area we're focused on.

So, if you look at, you know, the price of a three-bedroom home between the Bay Area and San Joaquin County, that price differential, that ratio is higher than it was at the dot.com boom that started the inland migration. It's now about -- that ratio's about four and it was only about three and a half at those times.

And it's been there for a few years. And as we see the real estate recovery, the way it's progressing, that's only growing. And so there is some growing. You know, that pressure remains there and I think we're going to see some of that cycle come back again.

At the levels that we saw a decade ago? No. But I think it's inevitable that we're going to see some of that growth move inland.

And so while I agree that it’s the Bay Area that’s going to be leading things in 2013 and 2014, if we look out at the second half of this decade and look out a little bit further, you know, we could see that start to reverse itself and look more like the past.

MR. MARTINEZ: I agree completely. To me, if you want to talk about the new normal for the Central Valley, the normal was not the experience in the 2000s. It was the earlier years where the Central Valley was a lagging region.

What the housing boom and bust showed was I think the fragility of the economy in the Central Valley. Finally, it looked, you know, ten years ago that the congestion in the Bay Area, the rising home prices in the Bay Area, et cetera, was going to lead to that spillover into the Central Valley and Sacramento, amongst the rest of it.

And that, hey, maybe the Bay Area -- I mean, sorry, maybe the Central Valley will now grow as a result of the unsustainability or the density that was appearing on the coast. And we saw that dissipate very quickly.

The question is whether it comes back and to what extent it comes back and that’s -- but that is the key, I think, of Central Valley growth right now.

MR. MARTINEZ: I agree there are obviously differences. I don’t want to steal too much thunder from the demographics discussion, but when you take a look at the Central Valley, in addition to agriculture one of the big differences is educational levels of your workers.

A really good example, and an area that I’ve looked at the last couple of years, is the Bakersfield metro area, Kern County. Some impressive job gains the last couple of years but when we take a look at it, one, it’s still primarily an agricultural county. But also, a lot of the gains the last couple of years have also been because of changes in the price of oil. They have an endowment of oil and they’ve benefitted from that.

But this past year, when you saw oil prices not changing, you did see a lot of that growth start to dissipate, it wasn’t benefitting as much though.

And again, when you take a look at it, you know, it has done better than its neighbors like Tulare, and Hanford, and further north. But at the end of the day, though, it still has the same demographic and economic makeup as the rest of the San Joaquin Valley, basically agricultural and relatively low education levels compared to the rest of the State.

MR. NICKELSBURG: So, two quick comments on that. In the -- in 1990, Los Angeles and extending to other parts of Southern California was really heavily dominated by the aerospace industry. It went through the contraction in the 90s and Los Angeles is the most diversified economy in the State and maybe in the nation. So, you do get a lot of change that happens when you have these kinds of economic crises.

And we didn’t know the shape of the inland parts of the State, what that’s going to look like because of the Inland Empire being different from the Central Valley. But, you know, thinking that it’s going to go along sort of in perpetuity I think is belied by the data.

And the second, which I think is a wild care, is called the Monterey shale. Were California to develop that and facilitate the use of the oil -- I think it’s principally oil, but oil and gas that comes out of that that could generate cheap energy in the southern part of the San Joaquin Valley, central part of the San Joaquin Valley and it could foster new industries. But we have no idea if the Monterey shale is going to be developed or not.

MR. WILLIAMS: Thank you. Let me turn to a question from the audience. The question is -- well, it starts with a statement. "California has some of the highest retail energy prices in the country. What do you see is the short- and medium-term outlook for prices of electricity, natural gas, gasoline and diesel?"

And then, secondly, "What are the implications of all this for consumer spending and private investment in the State?"

Anybody want to take a shot at either of those two questions?

MR. DIFFLEY: Well, I'll start off by saying we don't have an explicit forecast of energy prices going forward in California. We'll say they're -- you know, California's always been, to my understanding, at a disadvantage in that regard. So, it does have an impact, a negative impact, relatively.

The big issue, though, and it's nationwide, in a number of different places, is the very cheap natural gas available across most of the U.S. And Jerry's point about the Monterey shale is right to that. So, that could be -- you know, I think it's a big player in natural gas prices, power costs for industries, et cetera, across the U.S., and changing a lot of industrial location as a result.

MR. MARTINEZ: The same here, we don't really have a state forecast for energy prices. But our natural forecast for natural gas prices continue to be at their current levels, at least through the end of 2013 and 2014 for recovery for the U.S. and global, and so I think companies will benefit from that.

Because of, obviously, the regulatory nature of electricity and not really going to try to predict that, I'll stick to economics, as opposed to regulated mass factors like that, with tariffs.

MR. NICKELSBURG: So, gasoline prices, or petroleum prices are determined in world markets. But as the world economy recovers, particularly as growth in China speeds up, and in India, you know, you're going to see pressure on petroleum prices.

California's gas prices are amongst the highest in the country because we require special blends because, you know, we have these mountains that trap in pollution and we've decided that that's what we want to do.

The consequence of high-energy prices for consumers is that we're, in California, very low per capita consumers of energy on a household basis.

I read recently that, in fact, Prius has become the best-selling car in California. And, you know, so we are responding to the higher prices by conserving energy.

But when it comes to the industrial uses, energy-intensive industries are not going to locate here. That's sort of fairly simple. And we'd be hard-pressed to have polices that would attract them absent subsidies for their energy.

MR. MICHAEL: Yeah, I think it is true that there is an energy price difference. I actually think that gap of California's energy cost compared to the rest of the country has narrowed somewhat over the past decade. I think it was higher back in the days of the electricity crises.

We've seen some prices come up around the country and our energy generation makes us very heavily dependent upon natural gas. So, I think these developments, and I think it's over 15 percent in California, and so I think these developments in the natural gas market are important for us.

MR. WILLIAMS: Thanks. Let me turn to an industry question and I think you touched on this a bit. But I wonder if you could give me an idea of what you see looking forward, again, you know, three to five years and five to ten years, in California as the top three growth industries, say, and the bottom three growth industries in the State as a whole.

And I'm going to follow that up. I suspect that manufacturing may be on your list on the bottom three. I'd like to hear a little bit more about what you see as the outlook for manufacturing in California, especially manufacturing outside of the high tech area. Is that going to be a viable industry in California or is it going to continue to shrink as a share of the economy?

So, if I could start with the first question which is your top three and bottom three, and just give us a quick sense of why you pick them?

I don't see any volunteers.

MR. MARTINEZ: I'll start off.

MR. WILLIAMS: Okay.

MR. MARTINEZ: Broadly speaking, I mean, if I had an identifier I'd probably identify technology services, obviously, and kind of lumping in that discussion with technology and manufacturing, especially the high value added.

I'm still optimistic on trade, but I'm also including foreign investment.

And, obviously, a big headline, you see this every paper that decides to publish this article every other week, with the Panama Canal expansion, what the impact is going to be on the West Coast, especially the Ports of L.A., Long Beach.

L.A., Long Beach is still going to be the primary entry point of cargo into the United States, roughly about 40 percent for ocean-bound cargo.

Primarily, if you raise the Panama Canal zone, you're actually adding extra days to the trip, which only takes about eight to ten days.

And for these businesses, who are often advertising these shipments, once they leave Korea or China, that's just more money for them.

And also with air shipments, a lot of the former air force bases in Southern California have been converted to cargo. That's how you ship i-Phones, you know, i-Pads, the high value added.

So, I think California's still going to maintain that really strong trade linkages, including foreign investment. I think services, broadly, would be the other area.

In regards to non-tech manufacturing, I think definitely it is going to under-perform in terms of employment. Any manufacturing, whether it's technology or non-technology related, I think the cost assumption or the value assumption's going to be the value added. Even before the recession, companies were already going to more capital-intensive production methodologies.

And also in our forecast, because I know Kate always has questions about this and I like talking about it, is that for our forecast we do have manufacturing output increasing going into the future, but we have employment going down. So, we do see manufacturing in both tech and non-technology that it could be more productive, more efficient, and more capital intensive on going forward. There's just not going to be as many workers going to work to be a manufacturer.

And the ones that do, again going back to demographics, it's going to be a much more higher skill base, a more proven knowledge type manufacturer as opposed to like my parents, the Vietnam war generation in Southern California were just with a high school degree and more of a blue collar type outlook and they built up the southland.

MR. WILLIAMS: I just had a real quick follow up on that. In that sort of world, you know, declining employment but increased, maybe in terms of value added, what sort of energy consumption, what are the energy consumption implications of that sort of outlook?

Do you see energy consumption actually rising in terms of the manufacturing sector or declining?

MR. MARTINEZ: Well, you know, Jerry had a really good point because, actually, California is second only to Hawaii, obviously Hawaii being in the middle of the ocean, in terms of energy efficiency.

MR. WILLIAMS: Right.

MR. MARTINEZ: You already see it today in some of the plants. Some of the plants, actually, even with some of the distribution centers. Amazon kind of going full in now that the sales tax situation has been resolved here and a lot of the distribution centers going up in the Inland Empire. They're going to be much more efficient as opposed to the old distribution.

In fact, for that type of industrial usage it's very hard to use an old warehouse that was built like, say, in the eighties, nineties or in the last decade, as opposed to what non-store retailers, like Amazon, use. So, there's going to be a lot of that, it's going to be much more energy efficient going forward.

MR. WILLIAMS: Okay, thanks.

MR. NICKELSBURG: So, a comment that Eduardo made I think is important to reemphasize. And that is that in California manufacturing's not on the decline, only manufacturing employment. And that's true nationwide as well.

We are making much more, now, in California with many fewer people. You know, we are using robotics and the like.

So, when you look at, you know, these graphs of manufacturing employment going down and you say where's the employment going to be, well, not in -- it’s not going to be growing at any sort of outstanding rates in manufacturing.

Energy usage though will because you’re producing a lot more, even though I agree it’s a much more efficient use of energy. You’re replacing a lot of workers with machines and you still need to power those machines.

In terms of what’s not going to be growing at impressive rates; construction, retail, non-durable goods manufacturing. Kind of regardless on the non-durable goods manufacturing.

And I think that what will be growing at the faster rates are going to be healthcare, professional business and technical services, so that’s, you know, a lot of where the tech industry is, education. And, you know, since Douglas Adams, in his “Hitchhiker’s Guide” had four books in his trilogy, I’m going to give you four sectors in my trilogy, leisure and hospitality is the fourth.

MR. MICHAEL: Again, the three fastest growing, I think the information and the tech services sector, the services certainly connected to that, and I would say construction and health.

I man construction largely in a rebound effect, not that it's going to, you know, surpass those previous peaks.

On the low end, I think what stands out to me are manufacturing and government.

You know, the non-tech manufacturing is interesting. I mean, when you compare -- you know, I've seen people saying, you know, California's manufacturing and employment has been negative recently and positive in the rest of the country.

I wouldn't read too much into that. I think that's in large part an artifact of where the auto industry is in the U.S. and where it's not, and it's not here. And, you know, if you pull that sector out I think it might look a little bit different.

But the non-tech manufacturing, I think this is an interesting question. I mean, when you're talking about -- there's a lot of talk nationwide about some sort of renaissance in manufacturing, and re-shoring, and all this stuff, and I believer that some of that could happen, but I'm not convinced California's going to be the epicenter of that economic change.

MR. DIFFLEY: Well, I'd like to add a couple of things. On Jeff's last point that, you know, talking about the renaissance of manufacturing is largely about cheap natural gas. You know, enabling a cost competitiveness that didn't exist.

I'll mention a couple of sectors. I agree with the industry choices that my colleagues made. I'll mention a couple of sectors they were thinking of, no doubt, but didn't mention explicitly, biotech and bioscience, very important.

Green environmental services and related products, one thing I think is important is California, with its energy efficiency, is well ahead of the curve of the rest of the U.S.

If the rest of the U.S. wants to follow, right, with the similar type of regulatory structures as California, California firms will have a natural advantage because they've already done it. And that's actually a competitive advantage, a potential competitive advantage down the road.

MR. WILLIAMS: Thanks. You mentioned the green economy and this is a question I just got from the audience, so I think if the panel wouldn't mind responding to sort of a general question about their views of the viability of the green economy in California, and what do you think it means for jobs, income, and visual impacts? Do you think it's a major factor in the outlook over the next few years or not?

MR. MARTINEZ: It's not going to be

manufacturing based. I think the last couple of quarters we've seen a big shake out of a lot of the solar panel manufacturers, especially in the Fremont area, and we mention that specific name, but even some of the smaller companies.

But what you do see, though, of the surviving companies, they're no longer solar panel manufacturers, but they're more consultants or broad spectrums, from like the financing of panels, working with financiers in San Francisco, in particular, in the financial district, or some parts of Orange County. But they're also working as the chief contractors for solar development projects across the country in developing farms, even working with the military, trying to increase the use of solar.

So, I think with the surviving green technology here in California, it's going to be much more broad-based, with the R&D, the technology, the financing of the panels, and being more of a consultant overseeing the entire systems, as opposed to trying to compete with cheap, overseas, Chinese, which they're not going to be able to do that from here in California.

MR. NICKELSBURG: There was an interesting study done at Berkeley on green jobs and its impact, and part of what they found was that as you have placed fossil fuel electrical generation plants with renewable energy plants, you have the initial impact of you've got to build them. But then once you build them, they take many fewer people to run them. And so, you know, kind of when you look at this, the absence of technology that's developed in California, and so the effect is going to be there, but small.

MR. MICHAEL: Yeah, I think we're going to -- you know, through policy are certainly forcing some growth in the green economy in the short run, you know, we do things like earmark Prop 39 funds specifically to buy energy efficiency things. And, you know, you're going to have a demand increase and growth in that sector.

I think, you know, the longer run question of whether having this greener energy mix in the State and how it affects the State's competitiveness, positively or negatively in the future, is probably more important.

MR. WILLIAMS: Thank you. Let me turn to a question we touched on briefly, earlier, when we talked about residential construction activity.

What about the nonresidential sector as a whole, when do you see that sort of approaching pre-recession peaks, if ever? What's your general outlook for nonres construction?

MR. DIFFLEY: Well, if I can start, the -- I mean, the nonresidential cycle lagged the residential cycle, so we're not going to see a return quite so soon. But the big issue in nonresidential construction is jobs.

And so we're still talking, as I mentioned earlier, and I'm sure the others agree, that it won't be -- you know, it will be 2015, late in 2015 before California has the same number of jobs as it had in 2007. And that translates directly into demand for office space. Never mind the fact that, you know, corporations are moving to less office space per worker, anyway.

MR. MARTINEZ: What was mentioned before, the residential housing market being really localized, I think it's the same situation with nonresidential. Obviously, what's happening in the Bay Area, particularly in San Jose, is much different than, say, Orange County where they're still suffering from an overhang, I guess from an implosion of the subprime market, so you still have really high, elevated vacancies.

So, by region it's really going to be really specific as to what kind of recovery they're still trying to get from going into the recession.

And like I mentioned before, a lot of the drive in industrial use is because the industrial use being used today, even distribution and things is different because it's more robotics related. It's a combination of the just-in-time inventory, especially with the online sales, as opposed to existing industrial space.

So, lots of the spec activity and distribution centers in the Riverside area, in particular, are these new types of retailers, new types of business models.

I think a lot of the uptick, especially industrial buildings, is more for more of these emerging industry usage, as compared to the pre-recession, so that's going to drive a little bit of it.

MR. NICKELSBURG: I agree with all of that. One place where you're seeing nonresidential come back, now, in California is in hotels. So, we're seeing a number of new hotels being built or, you know, in process in design.

And then the second comment I'd make on that is that these multi-family projects that are going up are overtimes mixed use projects, so they'll have some retail on the first floor, and they'll have some office space, and then residential. Possibly to spread the mix, possibly to, you know, serve sort of a new ethos. So, you get a little bit there.

But what my colleagues on the right have said I agree with completely.

MR. MICHAEL: And I think that the commercial sector may be more bifurcated regionally than the residential sector. When I look around, certainly inland California I see, you know, in the commercial, retail, office space and I think Sacramento's a wonderful example of that, of just really high vacancy rates. And I think it's a long time until there's going to be a need for additional product there.

And it's true, I think it's important, you know, businesses are putting more workers into fewer square footage and I think that's a trend that's larger than people within the housing and residential in getting by with less square footage for their housing.

I only have one positive point and that, you know, one thing we've learned is that the shelf life of the obsolescence rate of office buildings is quicker than many think.

A lot of -- for instance, in the northeast we're finding that a lot of the -- now vacant, 20 percent vacancy rates of offices built in the 1980s, when there was a big construction boom, are probably not going to ever be occupied because of the changing nature of technology, et cetera. They'll opt to build brand-new space.

MR. WILLIAMS: So, let me turn to sort of a regulatory type of question here, one from the audience. Can you please describe your view of the impact on California -- this says in 2020, but I would say over the next five, ten years -- of the greenhouse gas cap and trade program, and the low-carbon fuel standards. How do you see them impacting the California economy over the next five, ten years?

Anybody care to take a shot at that one?

MR. MARTINEZ: I think someone mentioned earlier, a lot of it depends as to how unique it is to California or how many other states or regions are also incorporating that. If California's sort of an island by itself, yeah, definitely that it's going to impact the State's comparative advantages.

The feasibility, just the affordability of the sector industries.

However, if it's more broad-based, there's other states, especially in the west, perhaps some of the Canadian provinces do that, I think it kind of reduces the differences.

I think to really tackle that question, I think what you would have to see is how different California's regulatory environment is going to be, the options where the companies can go to if they want to get around it.

MR. WILLIAMS: Okay, anybody else care to comment on that?

MR. DIFFLEY: I absolutely agree.

MR. NICKELSBURG: Yeah, I think the answer is that we really don't know. But a component of this, which I think we ought to pay attention to, is regulatory enforcement of regulatory compliance because it will have much less of an impact if it's very clear how to comply with it, than if as with some of the other regulations in California it's very difficult to tell whether you're complying or not, and that becomes a very costly exercise.

MR. DIFFLEY: What we've done with the cap and trade, though, is to reduce -- hopefully, reduce regulatory costs significantly, so that was in the details.

MR. NICKELSBURG: Right. That, hopefully, is the question.

MR. MICHAEL: Yeah, the relative issue as compared to other regions I think is really critical of whether this turns into a positive or a real drag on the California economy.

But there are -- I mean, there are some sectors that are really impacted. You know, in the regions I work in I am concerned about the impact particularly on food processors, and some of those industries that are energy-intensive and impacted by these rules.

MR. WILLIAMS: Thank you. Let me turn to a technical question. You know, I think, I suspect all of you, when you do forecasts have either internally, or I believe you publish kind of optimistic alternatives and pessimistic alternatives to your baseline forecasts.

And I think this question, I know when I used to do forecasts this was something that I struggled with, and I think the Commission staff kind of has a similar question, which is what sort of confidence interval do your typical alternative forecasts around your baseline, what do they represent?

Do they represent a 95 percent confidence interval or are they more just illustrations of alternatives?

Anybody care to address that? I don't know if I made that question clear. It's sort of the question of, you know, are those optimistic and pessimistic alternatives true, you know, boundaries around what you see as your mainline forecasts?

MR. DIFFLEY: Well, I'll tell you what we -- and I had a chance to do. I mean, we do put probabilities on the optimistic alternative and the pessimistic alternatives and we view them as well-thought out, you know, perspective events that could happen any time. But they're not statistical derivations in the sense that you don't think of they're results of a regression leading to a confidence band around the parameter estimates of the forecast. They're actually, you know, chosen probabilities given our sense of what the environment will be, and many times the political environment or worldwide environment.

Now, you know, typically, we try to talk about a 20 percent probability of an optimistic scenario and a 20 percent probability of a pessimistic scenario. We put business cycles in because we know when we over think a recession will happen sometime in the future. We can't identify where it is but -- exactly where it is, that would be too much to do.

But if we think about the timing pattern and we decide it's reasonably possible that there will be another recession in 2015, say, we can run the scenario and see what the impacts are on the economy and describe some probability around it.

What happened in this last cycle, I'll point out because I think it comes from one of the prepared questions as well, so I'll just veer off into this.

What happened in the last cycle was not that we hadn't anticipated the possibility of recession, we always had. We always had that environment. We just didn't anticipate that it would be so deep and so severe, and we all learned a bad lesson from that.

MR. MARTINEZ: We do something similar at Moody's at it's more of the probability of an occurrence happening. So, for instance, the pre-fiscal cliff, you know, the first part of it happened over the holidays, you know, we had 55 percent probability under our fiscal cliff scenario that some kind of deal would have been done, a 35 percent probability that they would have done nothing, that the full weight of the Budget Control Act would have gone into effect. And, you know, an even worst case 15 percent scenario where it would be even worse on something globally.

So, when we take a look at it, when we take a look at our different scenarios, we take a look at just the probability of this alternative scenario, worst case, you know, deeper, new recession, or an upside, you know, even stronger growth in the forecast in 2013. We try to focus a little bit more on that, just assigning how much of a probability that will come to fruition.

MR. NICKELSBURG: So, we do it a little differently, we try and identify the risks. And so, for example, the risk of jumping off the fiscal cliff.

Don't try and give it a probability, but basically say, you know, this is something that you should watch. If you want to assign probability, go ahead. But if this were to occur, here is what we think is the impact of it.

We don't try and put a probability of the Euro coming apart, but we do like to say this is a risk, it's something you ought to watch. And were you to see it's starting to come apart, this is what you can anticipate. And that's kind of the way that we approach it in trying to get out the information which I think is really important, which I think the other methods that have been described also do, that we make a forecast, it's what each of us think is our most likely scenario. But we all know that it is just a forecast and there is some band around it, and I think it's important to indicate that these forecasts, you can't take them literally, you can only take them as a likely scenario with risks associated with it, or probabilities of being to one side or the other.

MR. DIFFLEY: Right, the fiscal cliff is a great example. I mean, we put a probability on it in practice, but when I go to the State Legislatures, the State Legislators in the last few months, I'd always preface it with, well, you guys probably know better because it's the political judgment of what the percentage risk you should put on it, but here's the scenario.

MR. NICKELSBURG: Right and we had that with, for example, Prop 30 here in California. So, you had sort of two different scenarios if Prop 30 passed or not, and it was sort of anybody's guess whether it would.

And so, you know, we have maybe a little bit more of that in California than in the nation.

MR. MICHAEL: And I disagree. The key point is these scenarios aren't like -- you know, optimistic isn't consistently, you know, one standard deviation above, you know, what the baseline forecast is. And some people are familiar with that sort of thinking and that's not the case.

MR. WILLIAMS: Thanks. Before we go onto the next question, I just want to remind people listening in on WebEx that they can send in questions that I'll pose to the panels.

I think I'd like to go back to something that was raised, I think, in the opening remarks about, you know, the fiscal cliff, the negotiations, what's -- what's enacted so far at the Federal level and what may be enacted here over the next 30 to 60, 90 days.

And I'd like to get your sense of how you see California faring well to the rest of the country, both with respect to what was passed in terms of the tax increases in January, or late December, and what you see, you know, going ahead when you look at where the potential cuts may be. How you see California, sort of bottom line, looking at all this together, faring relative to the nation as a whole. Are we going to be hit harder by these changes or are we going to come out a little less scathed than the rest of the country?

MR. MICHAEL: Well, since Phil Mickelson just moved to Florida as a result, you know --

MR. DIFFLEY: It's a big example.

MR. MICHAEL: Yeah, it's a big example. You know, I think a lot of it hinges on how the different sector fares, and the spending cuts, I think that's certainly the biggest issue for California and how it may hit here in a differential way.

MR. NICKELSBURG: Yes, on the defense sector, and actually I have a question for those of you who study it more than I do. We've got two things going on in the defense budget. One is that the budget, itself, is shrinking.

Actually, maybe three things, the budget itself is shrinking, the mix of expenditure between consumables, things like bullets and bombs that you blow up, and durables is changing, and we don't produce much in the way of consumables, but we produce more durables in California, and the stated philosophy of the Obama Administration is to realign towards Pacific Asia.

So, what that ought to mean is that you start moving people and resources towards Pacific Asia, towards San Diego for example, and Pearl Harbor, and away from some of the East Coast bases.

How all of that adds up to what happens in California on the defense side, plus or a minus, I guess I have no idea. I don't know that anyone else does, but I hope so.

MR. MARTINEZ: Jerry brings up a really important point because when you take a look at the impact of just defense, regardless of the fiscal cliff, I think California, especially with the shifting of resources from Virginia Beach and Norfolk to San Diego and Hawaii, I think California as a whole, especially the San Diego area does come out as a net winner on that issue of the Pacific focus.

However, because a lot of the R & D and some of the construction that still does take place in San Diego and Orange County, those budgets are probably going to decline regardless of the full weight of the fiscal cliff or not. In fact, the last couple of years Boeing actually has already been downsizing a lot of their usage, consolidating their locations in Orange County and L.A. Some of that was actually related to the Space Shuttle, too, so once the Space Shuttle Program and they did a lot of it, in between flight work, still, in the L.A. and Orange County area.

So, that downsizing has already been going on and it’s part of a continuum going forward.

In regards to the fiscal cliff, I see it more as a direct and indirect impact. So, if the full weight of the cliff goes forward, as has already been mentioned, obviously San Diego will be hit really hard because of the defense R & D.

However, there’s also an indirect effect so if the full weight, the full ten-year time span of the cliff, our scenario, that’s actually another recession for the U.S. So, then other metro areas in the State, like San Francisco, like San Jose, that do rely on business spending, L.A., obviously with the entertainment industry, or linkages like with the commercial production, advertising and such, they would actually be impacted even directly.

So, the first impact, the full weight of the cliff will be military, San Diego, the Southland, and indirectly again, the full scary, worst case scenario will be those consumer-based industries in the State.

MR. DIFFLEY: Well, I had a point on the revenue side. You know, as a high income state, you know, most of the outcomes in terms of revenue enhancements will more severely hit California in terms of disposable income than other states, and so that's a factor to consider.

But really, you know, as we've all mentioned, the details matter here as to exactly how it will work through whatever the accommodation to whatever the lower Federal spending level is.

MR. WILLIAMS: A little follow up here, since Jeffrey mentioned Phil Mickelson. Let me use that as a segue to sort of a related question.

You know, with the increases in the Federal rates and the passage of Prop 30, and the new increases at the State for high-income individuals, is that going to matter? Is it going to have an impact on the level of investment, you know, migration patterns of high-income individuals? Do you see that as being a factor in the outlook over the next several years, a significant factor?

MR. DIFFLEY: No, I think the tax increases talked about led to extreme overreaction from Mr.

Mickelson.

(Laughter)

MR. NICKELSBURG: Yeah, so I looked at what happened in the wake of tax increases in the past, in California, ten tax increases on that upper bracket. And the answer is we can't tell that anything really happened and so it's hard to say from the data that, you know, there's going to be anything.

Now, we know that at the margin there will be a few people who will move out but, you know, when you aggregate it it's kind of difficult to see.

But I think kind of the more important thing is so these taxes are supposedly temporary. If we see reform here in Sacramento, in the way in which State government is financed, so we see tax reform going through during this period when we have budget surpluses, then I think, you know, the impact will be actually positive, because it will mean that Prop 30 was taken in the most constructive way and State government is functioning properly.

If we see a pattern of woo-hoo, we've got more money, let's spend more money because we've got it, and then two things will happen with Prop 30 because it goes on for seven years. And though I'm not predicting a recession in that period of time, the end of that is long past the average length of time between recessions in the U.S.

If we get a recession, the next downturn will be magnified with these top rates in California and then I think people will start looking at it and saying, you know, none of these guys -- you know, they promised us they could clean up State government, but it’s just more of the same.

And then you might start seeing an impact of less investment as a result of the Prop 30 tax rates and that the expectation that it was the solution is just tax the wealthy rather than fix the problem.

MR. MARTINEZ: I would agree that because it is at the highest margins we’re really not -- we haven’t adjusted our forecasts too much to reflect that.

And I think with the golfer, Mr. Mickelson, he’s certainly a unique example in that he’s sort of like a one-person human capital operation. You know, he can live anywhere in the world. As long as he keeps his PGA card and his endorsement, he’s still going to be a good investment to himself.

People who are relying on human capital, larger scale human capital, especially like the tech industry in the Bay Area, entertainment services financed in Southern California, agricultural distribution in the

Central Valley, those clusters, those endowments are still there, basically, so it would be harder to kind of move those out, you know.

You know, what a lot of tech people say, you go to San Jose because that's where these things are, and I really don't see that changing too much.

And as Jerry mentioned, also, too, something in our forecast, although we are optimistic on the State government, we think all the hemorrhaging, especially from employment is starting to go in the rearview mirror, we still all will be concerned about local government.

And I think, like you mentioned, if it's used adequately, with intelligent design as they know what they're doing, and not doing false promises, I think that helps put a floor on local government. Because going forward that's still a really big area in our forecast statewide, and also in specific metro areas, especially in the metro areas that were housing distressed local government is still a drag on the economy going forward.

MR. NICKELSBURG: It's not just a -- not to beat on Phil, but I looked at the example because that's not the only margin in which he can adjust his economic activity. He may have been talking about, you know, playing one fewer tournaments or two fewer tournaments in a year. And the fact that the California hits are coming at the same time as the U.S. hit, I think it just makes people in those brackets take a hard look at the whole picture and, you know, how they respond to those rates.

But I'm not predicting a major exodus. I'm sure some of the guys who play for the Kings are pretty excited to go to Washington and retain a higher after-tax income.

But, I mean, that's easier to measure. I wonder about the impacts on sort of the in-migration and inflow of people into California and how kind of a deterrent that can be to companies recruiting talent, and just like the housing costs and the other issues, on the increment it can be an impediment.

MR. WILLIAMS: Well, thank you. I think we have time for one last question and it's from Commissioner McAllister, who is listening in on WebEx.

And he looks at the panel and we've talked about the outlook for construction, residential and nonresidential construction in terms of new building. But the question he has is what about investment trends in existing properties?

On the residential side, you know, are people staying in their homes? If they're staying in their homes, are they expanding, are they building more, and to what extent would that maybe offset, you know, some of the weaknesses we might be otherwise seeing because of the slower growth in new construction activity?

Anybody care to touch on those questions?

MR. DIFFLEY: I'll start with making one point about that. You know, one of the major funding mechanisms for household investment, remodeling, et cetera, was the home equity market, which has now gone -- continued to be strapped because so many people lost so much equity in their homes during the course of this crisis. So, you're not going to see that type of remodeling activity that you did in the last decade

That said, it's going to be rising now, again, as incomes come up and jobs become more prevalent.

MR. MARTINEZ: I do think with additions and miscellaneous work, the way the permits are measured and structured, you should see an uptick.

But kind of related to this, we already are seeing, and we kind of do see this going forward, is a lot of new stuff, actually moving infill on development, especially in the larger metro areas.

So, you may have -- there just isn't a lot of space available in a lot of the coastal areas. You may have some existing houses that may be torn down and developed into new buildings that, again, like I mentioned before into the changing demographics, the larger family sizes, and other household creations, so I think the infill trend is probably going to continue going forward.

MR. DIFFLEY: Just a quick comment. Check at yesterday's *New York Times* and you'll see the results of a competition to design, I think it's a 370 square foot living space in Manhattan.

MR. NICKELSBURG: Actually, as you guys know, San Francisco, I think, actually approved that.

Yeah, I don't have anything else to add.

MR. MICHAEL: On the point you mentioned, actually some time a while ago, this could be a real story on the commercial side as you talk about the obsolescence of the buildings. And I think we see a lot of this activity as housing units move from the owner occupied to the renter occupied market, and we see the turning of the foreclosure properties. A lot of these properties are in poor condition and require renovation.

But as they move and if they stay in the rental side, in the rental market, you'll probably see less of that activity than you would see if those same properties were owner occupied.

MR. WILLIAMS: Well, thank you all very, very much. I really appreciate your versatility and you all have been very quick on your feet. We've been throwing questions from one end to another and there hasn't been a lot of flow, but you guys have done an absolutely great job of responding to questions that I've had and that the audience has had.

So, I think we're -- the plan here is to move fairly quickly from the Economics Panel to the Business Panel. And as soon as I can, I will introduce the Business Panel and we will get moving.

Well, without further ado, let me continue here. I think we're going to sort of go through this session pretty much the same way as we did the last one. We're going to ask the panelists to give opening remarks of a few minutes and then we're going to basically throw it open for questions.

You know, I have some here to start and I would encourage you to keep coming with your questions and I will try to get to as many of them as I can.

On the panel here we've had a couple of last-minute changes. But what I'd like to do is thank you very much. Let's just go through and give very quick introductions, very brief renditions of your bios, highlights, at least what you put on first, sort of highlights, anyways.

So, in no particular order here, I think the first one is Michael Rossi, who is Senior Advisor for Jobs and Business Development in the Office of the Governor.

And in this role, Mr. Rossi is the point contact between California businesses and workforce leaders in the Administration. He’s also the Governor’s key adviser on regulatory, legislative and executive actions aimed at facilitating job growth in California, something that is near and dear to all of our hearts.

The second person is Gino Di Caro, who was able to make it here on very short notice, I understand. He is the Vice President of Communications for the California Manufacturing and Technology Association, where he’s been for 17 years.

Third is Silvio Ferrari with the California Building Industry Association. Silvio currently serves as the Vice President of Legislative Affairs for this organization. He was hired by the Association in 2009 to serve as a staff engineer, in which he assisted the Technical Department with all issues related to residential building codes, including energy efficiency, renewable energy, rebuilding, fire, life safety and so forth.

So, the next person is Gina Grey, who's the Vice President of Strategic Policy for the Western States Petroleum Association where she provides policy advice on a wide range of Association issues. Ms. Grey has spent 24 years with the Western States Petroleum Association and is focused on -- has been focused on refining fuels in the marketing side of the petroleum industry in the Western U.S.

Next is Anne Smart, who is the Director of Energy for the Silicon Valley Leadership Group. And her responsibilities at this Leadership Group includes clean energy advocacy, energy efficiency, Smart Grid and data center efficiency, and also organizes the Energy Summit, Data Center Efficiency Summit, and the Customer Energy Solutions Partnership with the Pacific Gas & Electric Company.

Lastly, Loren Kaye, who is the President of the California Foundation for Commerce and Education, this group is affiliated with the California Chamber of Commerce and they serve as a think tank for the California business community.

Mr. Kaye is also a Gubernatorial appointee to the State's Little Hoover Commission, and has served in a senior policy position for Governors Pete Wilson and George Deukmejian.

So, with that as a brief introduction I'd like, if you don't mind, each of you perhaps providing some introductory remarks on how you see things going in the business community in California.

Perhaps I'll just start at this end. Loren, would you like to start or I'll take volunteers. Go ahead. It's up to you.

MR. KAYE: I was going to -- seeing that we have such a large and diverse panel, mostly of folks who work in the business community, and I wanted to avoid -- I wanted to avoid repetition. And anticipating that there might be a lot of folks kind of going through the business plan and talking about the troubles of the recession and government regulation, and business climate, and the like, I was going to take a slightly different path, and then we can, you know, circle back if there are things that are left unsaid.

And what I wanted to do was actually put on my other hat, which is a Commissioner on the Little Hoover Commission, which is a bipartisan, independent group that's appointed. I'm an appointee of the previous Governor, under some Legislative appointees, as well, as well as two appointees by the current Governor.

And we take a look at State activities and look for efficiency and economy opportunities.

But one thing that we -- our most recent report that we've released was on California's energy climate, and it's called "Rewiring California: Integrating Agendas for Energy Reform."

And I just wanted to highlight this because I think it's very apt to the development of the Integrated Energy Policy Report and it's something that I hope that the Energy Commission and the staff take note of because I think it's quite relevant.

And I'll just take a minute to summarize what we found and recommended, because I think it's very relevant to how business and economic developers view opportunities in California, where energy is a very large cause for many -- for many businesses that are thinking about investing or remaining in California, and kind of what they see as the future role.

And our main concern was that the -- that California has passed and is implementing a number of really important and, in some cases, landmark laws and regulations that are geared toward a number of different agendas. And whether it's carbon reduction, or energy independence, or reduced use of petroleum, or improved air quality or water quality standards, all of these different regulations and laws are and will have an effect on the cost of energy, all sorts of energy, fuels, electricity, gas, but in particular electricity.

And our concern is that, you know, that while each of these laws is being, you know, appropriately implemented by the various agencies that there is not an overarching look at what this means for the cost and reliability of energy, in particular electricity.

And we've had some enormous successes in energy policy and electricity use over the years and, in fact, I want to commend Governor Brown who, this morning, basically, you know, he gave credit to something that he initiated in his first administration, which were energy efficiency standards. And he claims that over the last three decades they've saved California $65 billion and have resulted, basically, in flat energy use.

And, you know, that's something that -- but that's the base that we're building off of here, we're a very highly energy-efficient economy and we're being asked to do a whole lot more with various regulations ranging from cap and trade, to RPS, once-through cooling by the Water Board, and the like.

So, my message this morning is to consider the overall cost of these regulations and future regulations will have on electricity costs and our main -- our main recommendation was to take a look at the RPS, AB 32, the Water Board's once-through cooling, the Governor's goal of 12,000 megawatts of distributed generation, and anything else that's coming up in the near future and to look at them comprehensively in terms of what the costs are, and then use that as a framework to both -- both for implementation and for, you know, understanding the effect it's going to have on economic development and business retention.

So, I'll just leave it at that and we can get to some of the other business climate issues later.

MR. WILLIAMS: Thank you very much.

Gina.

MS. GREY: Thank you. First of all, I just wanted to add to my resume a little bit to give people context. I have not just worked 24 years with the oil industry. I've also worked for the electric utility industry and also with South Coast AQMD. So, I've had a little bit of a broad-brush approach to issues.

But I am sitting in today for Cathy Reheis-Boyd, who is our President of WSPA. And, unfortunately, she is in Southern California today dealing with other issues.

I think, first of all, some of you may or may not be aware as to what WSPA is and so I just want to give a two-second overview. And we do represent 27 companies that do book upstream which, in our lingo, that's exploration and production, as well as downstream issues, which is more of the refining and marketing end of things. And we represent these companies in six western states and California is one of our states.

So, I would just say that electronically I'd like to thank Commissioner McAllister for inviting us here to discuss our views today and staff as well, obviously.

And I think the issue that this panel is trying to address is sort of our perspectives on business climate. And to make it very short, in terms of our oil industry perspective, I would say it's dismal and uncertain. And so just keep those two words in mind as we discuss these issues, for us today, anyway.

And I think, as Loren mentioned, there's a number of both, you know, laws and regulations that are currently on the books, about to be on the books that will be directly impacting our industry and, certainly, you mentioned that, you know, this review has to be done for electricity and I would broaden that definitely to all of energy.

This Commission here, over the history of this Commission has typically focused on electricity issues. And I know one of our main recommendations from the 2011 IEPR, as WSPA, was to make sure that the transportation fuel sector is given equal treatment. And in fact, we recommended at the time that the Commission review the transportation fuel issues on an annual basis, the same as the electricity issues are, because of what we consider to be sort of this impending series of laws and regulations that are coming into play that will potentially have very significant impacts on the transportation fuel arena.

And the need for this Commission, which we think has an extremely important role and we continue to support that role, but we would like to see that role sort of expanded to look a little bit more at transportation fuels and not necessarily just electricity.

I think, you know, the Economics Panel mentioned some of the positive economic things that may be headed down the pipe, so I don’t want to sound all doom and gloom.

One ratio was mentioned and definitely there is a possibility of increased, you know, exploration and production of those resources. I think a lot of that will be depending on what laws and regulation come into play with respect to those resources.

And I’m sure that’s the same for a lot of transportation fuel folks in the State that are considering either something in terms of research, or get it's natural facility on the ground.

There are, as you know, in California a lot of laws and regulations in place that are meant to protect the citizens of the State. But on the other side of the coin, it can also either slow things down tremendously to the point where people aren't wanting to move fast because they know it's going to take far too long, or there are other economic considerations that come into play and, basically, make it uneconomic for parties to enter into those types of activities.

So, I think, you know, we've said many times before the Commission that, you know, we're not against alternative fuels. Our companies actually invest billions of dollars in alternative fuel development. A lot of that, obviously, is renewable fuel standards, et cetera, federally is encouraging our companies to enter into that type of thing.

But again, we are regulated like the utilities. We have shareholders who we respond to, and so we have to make sure that whatever endeavor we're moving along will at some point pan out and be economic.

So, as we transition, or evolve, or whatever word you want to use, into the new world and we back off of petroleum and into the new renewable type transportation fuels, I think one of our main messages would just be, and we've said this continually before the Commission, that this be done in a very careful and thoughtful way. That as you move to try and remove petroleum from the scene that that has to be done in a thoughtful fashion so that there is a base transportation in fuel in place as the smaller volumes of whatever alternative fuels you want to pick start to come into play.

And as most people understand, so there's the fuel, the vehicle and the consumer. All three of those have to work together in order to move forward into the transition phase.

So, in closing, I'd just say the degree and timing of a lot of these changes are critical. And so we'd just, as usual, caution the Commission that when they're looking at these issues for the 2013 IEPR that you look at not only in terms of -- you know, here's the supply and demand scenario and here are the challenges, but to try and step forward one more step and say are there certain things that this Commission feels from an energy stand point needs to be addressed and, therefore, highlight that, versus just a simple report that comes out and says here's the supply/demand scenario, here's where we think it's headed and, oh, by the way, here's some challenges.

So, we would really encourage the Commission to do the next step forward and that's consistent with our comment for 2011 as well.

MR. WILLIAMS: Thank you very much.

Anne.

MS. SMART: Hi. I wanted to explain a little bit more about the Silicon Valley Leadership Group. We are a business trade association based in San Jose. We were founded in 1978 by David Packard, of Hewlett Packard.

Most of our member companies are in the tech community, the hardware, software. Twenty percent of our membership is in the green technology sector, either a clean energy company, or in transportation, or the Smart Grid sectors.

We also have financial institutions, banks, universities, and broadly some staff in organizations that help support the Silicon Valley community.

I'm hoping to bring some optimism to the discussion. We do have -- have overcome most of the recession in terms of job numbers in Silicon Valley, and we do see lots of opportunities from the California Energy Policies for our sector. So, thanks.

MR. WILLIAMS: Thank you very much.

Silvio.

MR. FERRARI: Thank you, again. My name is Silvio Ferrari. I'm with the California Building Industry Association.

Just so you guys know exactly who are members are, they are the largest public and private residential builders in the State. We have members who are also the smallest mom and pop shops who are doing one unit to 20 units a year. So, we really have a full range of representation of the people that we're speaking for.

Hopefully, when you walked in the door you picked up a housing chart that looks like this. My opening comments are going to kind of be directed at this and sort of where we've been, and where we believe we're going to go over the next few years.

But at first glance what you'll see is 2005 to 2009 was obviously the big impact when the recession really impacted our industry and we dropped off about 176,000 units over that couple-year period.

It came on the tail end of what is really classified as a housing boom for, really, kind of the last decade that we've seen.

The housing boom, if you kind of look at the numbers that are there, are numbers that are just over the 200,000 mark.

Now, while it is classified as a housing boom, we've only ever hit that 200,000 mark a few times in history, since we began keeping statistics in 1955.

And if you look -- if you hear what the Department of Housing and Community Development says, they always estimate that somewhere between 200,000 and 220,000 units is required annually to keep pace with population growth and migration.

So, only a handful of times have we ever actually not been building annual in what would be considered in deficit.

So, we get to 2009, the abyss for housing industry, the worst year we've ever had on record. We then follow that up in '10, '11, and now that the numbers are coming in, in '12, with the second, third and fourth worst years.

So, most often we get asked, you know, what does that really mean in real world economic terms?

So, just as a reference point, in 2005 the entire housing industry was producing about 960,000 jobs, so just under a million jobs for the entire housing industry.

In the new construction area, that our members work in primarily, we were seeing an economic output of about $67 billion that was going to State and local economies.

When we got to 2010, that jobs number came down to 176,000, so we'd lost about 80 percent of our workforce out there.

That economic output number went from $67 billion down to about 18.

So, as we move forward and we believe we are, certainly and the Economic Panel that spoke this morning, that we do believe that we are now on the cusp of seeing a resurgence in housing coming. And based on that differential of where we were, we believe that we're going to be well-positioned to participate and be effective participants in the recovery as we move forward.

How fast our recovery is going to be? I think you can go to kind of any one of a number of sources and find that they're going to say, you know, we'll be at positive, good housing numbers between '14, '15, '16 and '17. And we're saying anywhere in there. You know, we don't know for sure.

Our members are saying, you know what, we've got projects that are ready and are waiting, but we are looking for the right time for them to be able to react to the market.

So, you know, I'll just say that the economy that we’ve seen has been the deepest and not only the widest recession that we’ve seen in a very long time, but we believe we’re going to start recovering here. So, I’ll just stop there.

MR. WILLIAMS: Thank you very much.

Gino.

MR. DI CARO: Well, thank you, Brad. And once again, as Brad stated earlier, my name’s Gino Di Caro, I’m the Vice President of Communications with the California Manufacturers and Technology Association.

Our president, who really wanted to be here, is quarantined with the shingles as of about eleven o’clock, p.m. last night, so he couldn’t attend. And our energy expert was already down south to do a presentation down there, so you get the communications guy, fortunately for you.

I want to thank the CEC and Brad for -- and Kate for getting us here. I want to thank my fellow Business Panelists and I want to thank Mike Rossi for being here. Jack, and our staff, and Mike Rossi are constantly trying to find middle ground between promoting the State and understanding the realities of the difficulties businesses have operating in the State. So thanks, folks.

Since I’m the communications guy, I’m going to start with a really quick story that Jack and the rest of us use quite often to set the tone for how important manufacturing is to California and anywhere else, for that matter.

And I know I don't need to explain it to the economists and most of the people in the room.

But a few years ago one of our manufacturing members down south, Ace Clear Water, they are an aerospace supplier, they do precision welding for the aerospace industry and they are a medium-sized manufacturer, you could say.

They had some elementary school kids come into their facility for the day. They show them how manufacturing worked, and what their employees did, and how big manufacturing was, et cetera.

The kids sat down after a little floor tour. One very stocky kid raised his hand and said I want to be in movies. Why would I want to be in manufacturing, this looks boring?

Immediately, one of the plant workers, who had been there about 20 years, stood up proudly and said, I have only a high school education, I make $72,000 a year and I design and build things that are on the planet Mars. It's pretty exciting.

And it's just a good way to outline exactly how important this is, not only to kids growing up and trying to find a career and success for themselves, but the economic impact it has on a large majority of the families up and down the State of California.

Some of the panelists earlier said manufacturing is not doing well and it's an unfortunate reality that we can't around. We feel otherwise.

And that will lead me to my three slides, which should be up there right now.

I'm going to talk a little bit about the state of manufacturing as we see it in California.

That first slide is the manufacturing employment decline over the last 12 years; California's roughly lost 630,000, 34 percent of its industrial base.

The U.S., at the same time, has lost 30 percent of its manufacturing employment base.

While that doesn't seem like a huge difference, that's still a 13 percent difference, we are not doing as well as the rest of the United States as some of these jobs slowly come back, and some of these numbers will prove out and it's concerning.

The next chart is we took a look at new and expanded manufacturing investments across the country and by that chart, you'll see that chart goes back to 1977. That is California's percentage of the U.S.

manufacturing investments for those 30 or some odd years. You'll see in the eighties we had a peak of 17 percent. Of course, with the aerospace, we all know about that. We had a peak with the tech manufacturers in the nineties.

And we generally did fairly well from 1977 to 2000. Once you get to 2000, the thing that stands out most is our highest highs in the last decade were basically our lowest lows for the two decades before that in terms of manufacturing investment as a percentage of the U.S.

And if you go to the next chart, we're getting back to employment declines. This is of a more recent nature. This is the last two years, since January 2010, the U.S. has increased in manufacturing employment by 4.2 percent, while California's basically been stagnant.

And if you look at a manufacturing-rich county, like L.A. County, they're negative 3.3 percent.

So, we feel like something's wrong. We feel that these numbers prove that manufacturers have a very, very, very hard time competing in California and growing. We have energy costs that are 50 percent higher, industrial electricity costs that are 50 percent higher than the rest of the country. We have a tax burden that is generally the highest in the country.

Most importantly, because we are one of three states that actually has to pay sales tax on the purchase of our manufacturing equipment, South Dakota, Wyoming and California are the only three.

And base manufacturing is capital intensive. You have to purchase very expensive equipment. And the minute you need to scale up in California and purchase that equipment, you're already at a competitive disadvantage because you have to pay that sales tax, compared to the rest of the country.

We have Workers Comp rates that are in the top five in terms of the most costly in the country. And we have accounting costs -- that's what it is now. In the coming years we have an AB 32 cap and trade auction that's going to heap billions of dollars on industry, billions on the oil industry, hundreds of millions on the food processors.

We have a Prop 30 that we've, of course, now passed. It's going to raise that sales tax problem that we just talked about.

We have Prop 39 that's going to collect a billion dollars in new taxes from manufacturers. We have an RPS that's going to double. According to the utilities, our industrial electricity rates over the next ten years.

We just don’t -- the reality of it is we can’t compete and we’re very, very concerned. California naturally is a great place to be. These companies, if you look at the entire valuation of all these costs, it’s impossible.

We could probably afford a few of them and the companies will find a way to stay here because they started here and, you know, but once they start looking at this broad spectrum of costs, they just can’t make the decision to invest and grow, and that’s a real concern of ours.

So, with that I’ll leave it to Mike.

MR. WILLIAMS: Thank you.

Mike.

MR. ROSSI: You know, the nice thing about being at the end of this panel is I’m just ready to leave because California’s clearly falling off into the ocean and I want to get some new water front property some place in Nevada.

I mean, you know, the Governor just had his State of the State and I would certainly not suggest that we don’t have issues, and I’m happy to discuss those issues.

But, you know, the business I grew up in, which is risk management, finance, I spent my entire career in the financial sector of this country and globally, and we tend to deal with the numbers in all of their ramifications.

And so let me just give you a couple so we can sort of bracket what we're talking about here.

In the last 12 months, California gained 257,400 jobs, tied with Texas for leading the nation. I'm not quite sure how that dovetails into the other scenarios I've heard.

The third, number two was New York, with 132,000.

Again -- 123,000, I'm sorry. Again, I'm not sure how that dovetails into -- what was it, June had declined and whatever the words were?

UCLA forecasts that we will have 1.3 percent job growth in 2013 and 2.4 job growth in 2014. Now, I think that will probably be a steady growth given the numbers I've seen and we can have that debate any day they'd like. But I'd say look at those numbers, they seem pretty realistic.

And we have had tremendous growth in business and professional services against the national average in biotech, information technology, healthcare, education and trade.

The only job declines we've had in the last year came in mining and logging, 1.1 percent. My manufacturing number is 1 percent from the Department of Labor.

The biggest decline, would anyone like to guess what the biggest decline was? All right, now talking about manufacturing -- I wish Jack had shown this because he doesn't want to talk to me.

The fact is that we still have those shown on Gino's chart, and this must be the Italian corner.

MR. DI CARO: That's right, Sicilian.

MR. ROSSI: No, no Italian, I'm sorry.

(Laughter)

MR. ROSSI: 1.2 million, still the largest in the country by far. Texas is only at about 800,000. So, let's deal with some of the realities we're talking about here.

And what is much more interesting, you know, which is the one that your association needs to talk about more, is that when we look at manufacturing numbers today and what you've seen over the last ten years is that investment is in modernization of plants and the reduction in employment. That's where your capital is. If you look at capital per employee, it's changed dramatically over that period of time.

So, if we're going to deal with issues, we at least need to agree on a fact set that we can all work from.

But the last time I looked, we're leading the country in job creation.

Now, the number I like the most, by the way, when we talk about manufacturing, as a guy who's spent his life lending to manufacturing companies, is that the average monthly electric -- and by the way, I agree with Gino that we have a higher energy price. Now, I don't know if it's 50 percent because I don't know that number, but I'm going to take your number because you're usually pretty damn right.

But here's why, the average monthly electricity bill for an industrial facility in California is well below the national average. It's $5,523 versus $7,415, the national average. Texas is only $600 less than us.

So, what that tells you is that, yes, we have done a number of things, getting back to Loren's issue about all of the efforts we've made in this State to try and preserve the California I grew up in for my grandchildren, is that we have made this populace terribly cognizant of the importance of efficiency, and it has worked.

Now, the question will ultimately be, as we move through the phases, because efficiency will only work so long, you can't get down to zero. But if we constantly talk about the sky is falling, we're going to deal with the real issues.

One of the interesting things about this chart, Silvio, is if you take these years, they weren't real. And we all have to recognize the realities of the -- of the economy. These numbers were driven by an excess of cash, a lack of conditionality in lending, and that drove these -- this production cycle.

So, as we move through this, yes, there will be a pick up, but if people gear their life to this and, hopefully, it won't happen again because then my grandchildren will go through what we just went through. But I could be sure, as you're talking about the Little Hoover Commission and integrated policies, we need an integrated economic and energy policy.

But we also had to be realistic about what that drives. The real question at the end of the day for Catherine, and you all, Gina, is it is a depleting asset. No matter how much horizontal drawing you do, no matter how much gas we find, and those prices will ultimately go up as the market catches up to it, whether it's $3.00, $4.00 or $5.00, we have to recognize -- and I don't even care about -- I shouldn't say this, the Governor will be -- I'm not interested in talking about climate change. I'm interested in talking about what's the real economy and what's the energy that's going to drive that?

Because what we're talking about is the old economy, which is carbon based, and we all know it's going to go away.

In the board rooms of the people you represent, they have those discussions all day long.

So, as you move through that process what is the right balance between the economics, as we sit today at the downside of the second industrial revolution and move into the third industrial revolution? What are those economics? How do you make that the most efficient energy process that we can have in this State? How can we lead the world so we can lead, again, the next economic revolution?

That seems to me to be the issue that the Energy Commission should focus on, that the PUC should focus on, ISO should -- whatever that acronym should focus on, and CARB should focus on. You talk about cap and trade, we can all -- I mean, whoever's numbers you want to look at, including the ones that you guys had done by a very fine group, we don't have a problem in any of those issues until 2017.

So, we need to hunker down and figure out how to avoid many issues of upticks in 2017. What's the dramatic impact is of LCFS? What's the impact of putting fuels under the cap?

When we talk about -- when Gina talks about the billions of dollars, when I looked at the first auction, it's a long time before we get to a billion dollars of impact on anybody.

So, which is payable for me because I want those dollars for --

(Laughter)

MR. ROSSI: But the fact is when you look at the math, it doesn't pencil out that way given where the first auction is, and given the fact that ARB has said that they are going to reevaluate whether or not the allowances are right as you move into 2015, at 70 and 50.

So, I wouldn't worry -- I don't think you'd agree to look at the allowances and assuming that you're going to raise them.

So, as you look at that exercise, some of those efforts are being made.

As you look at what do we do with LCFS, we have a time frame here to sit down and really figure out what we need to do.

So, I would just be happy to take the other side of the table and say I think California has had a spectacular year. If I was getting a bonus predicated on California's performance, I'd be buying a new Lamborghini.

But the fact is that the year is good, all of the inherent numbers appear to be positive. That doesn't mean we don't have problems. We've got way too much regulation. The Governor said it today, we've got too much duplication.

We do need a much more integrated energy and economic policy. All of those things are resolvable as long as we deal with the same facts and not talking points.

That's all I have, I'm going home.

MR. WILLIAMS: Thank you very much.

Before I move ahead with questions, I'd like to note that Chairman Weisenmiller is here. And if you have any questions you'd like to begin with, or any comments, please --

CHAIRPERSON WEISENMILLER: Actually, I wanted to just start with a couple of comments. I sort of got tied up with the State of the State and the sort of follow up for that, so I wasn't able to be here for the beginning this morning, but this is an important workshop and certainly appreciate everyone's involvement and contribution.

One of our statutory requirements is to come up with a demand forecast and that demand forecast is to be used by other State agencies for things like how many power plants do we need, or where do we need them.

And, you know, having done a lot of due diligence for the banks over the years, I can tell you those are tough questions. You certainly get some degree of humility afterwards when you realize that there are things you didn't take into account.

But one of the things that's really important to note on the uncertainty is the California economy. That's certainly a major driver of our forecast.

And as I said, we have to get the forecast right. You know, that basically there's a lot of different pieces to the puzzle, you know, in terms of what's going on in energy efficiency, what's going on in the economy, what's going on in electrification, what's going on with climate change, but our bottom line has to be right because we want to make sure we're building the right level of infrastructure.

We don't want too much and at the same time we don't want the infrastructure to basically hinder your expansions or your drive.

So, again, it's very important that you help us in this process. And, certainly, this again looking at sort of our uptake, you know, that will translate back directly into what we're going to need in the State.

And we've learned, just echoing what Mike Rossi said, and I can certainly appreciate Mike's being here and making contribution, is that certainly when I've looked at the utility numbers and have compared rates and bills and, obviously, that's pretty easy on the residential side, but also for the commercial and industrial. It's pretty clear that if you just look at rates and stack them up around the country, it's one number. If you stack up bills, it's a different number.

Obviously, we have a lot of cogeneration in California, we have a lot of renewables, we have -- you know, a lot of companies are not leaving their energy destiny simply to buying from the utility, so the rate comparison can be a little misleading.

And certainly in residential, I know when I talk to people in Houston they have -- obviously, they like to talk about what their rates look and every time I talk about the bill they end up shaking their head about how much our energy efficiency has reduced people's bills.

So, anyway, again, thank you all for being here. Certainly, this is an important part of developing our record going forward for this round of the IEPR.

MR. WILLIAMS: Thank you very much.

If I could, I'd like to sort of jump around. We have representatives from a variety of different sectors here. And I think that struck me, I think in the opening remarks, is sort of another bifurcation. I think between what we heard this morning, earlier, in the earlier panel about, you know, the overall outlook, but also even within manufacturing.

We talked a little bit about where you had job -- you know, jobs have been declining in California and they've been declining in some of the rest of the nation.

But if you look at output, you look at value added, it's a different kind of picture, that it's not so bad, it's one that's been growing and it's expected to kind of continue to grow.

So, I'd like to spend a few moments talking, asking you to respond to some questions, I think, about -- first of all, some on the picture that you showed earlier about California as a share of the nation as a whole.

Could you comment a little on sort of the industries that you think are contributing to that? Do you think is that an across-the-board sort of situation or is it more related to some specific things that have hit California in the great recession, like the housing bust and the reductions in manufacturing related to, you know, housing materials and that sort of thing.

So, I guess the question here is to what extent, if you open it up and you look underneath, of the declines that are shown there are related to sort of cyclical factors that have hit us particularly hard, and what percent of it would you see as being more structural related, ongoing.

MR. DI CARO: That’s a tough question. There’s a couple of things worth mentioning there. First of all, California’s been one of the most efficient places to produce a product for the last 20 years in terms of energy consumption. And they’ve been that way because electricity’s just been expensive here, so we’ve had to make more with less.

And, well, the pie of manufacturing, in terms of employment, not GSB, but the pie of manufacturing point is shrinking in California. It is also shrinking across the country and we understand that.

Our point is that we feel that across the board, with some exceptions in Santa Clara County, et cetera, across the board only manufacturing industries -- they are choosing to scale up somewhere else because they can't get any more efficient here, they can't afford.

In fact, one of the panelists earlier, I think it was -- in fact, it looks like he's gone. He made a comment. He said we'd be hard-pressed to get energy-intensive industries without subsidies in California. And that, to us, rings very true, unfortunately. There's just no more room to pay for more efficiency in California, there just isn't.

And we feel that that's a -- you know, there's many reasons for the larger percentage decline in California, but we feel that that's a major one, they just can't -- they can't afford to get any more efficient.

And, you know, with the AB 32, come -- you know, there's so many pieces to that, as Gina would attest to.

But this cap and trade auction, you know, AB 32 said go decrease California's emissions to 1990 levels and give CARB the authority to create the regulations that get us there.

Well, now, we -- that's all it said, that's all the bill said.

Now, we have a cap and trade auction that has set a cap that we're going to meet, industry is going to have to meet, they'll have no choice. But to meet that cap there are billions and billions in terms of cost for credits.

And, you know, you said earlier you need it, everyone needs it. But we need it. They're taking money from us in the Prop 39 initiative, in terms of mandatory single sales factor. Our ability to compete is just -- it's gone.

MR. WILLIAMS: Can I ask, though, on that one question about Prop 39, it's something that I've followed a lot over the years. And, you know, California, I don't think there are many other states, are there, that actually have ever allowed electric single sales.

So, I guess the question to you is under Prop 39 are manufacturing companies not better off than they were under the old regime where you had a three-factor formula, property, payroll and sales, where now it's single sales.

Which I think back when we had property, payroll and sales as the standard many manufacturing companies and companies in other industries would have been happy to receive the single sales factor.

We've had the benefit, a couple of years -- or the businesses had the benefit of the elective which, you know, I think there's a lot of discussion about the extent to which that helps in-state companies versus out-of-state company because your company, presumably, that would elect the three-factor formula would be one that had relatively small operating payroll factors.

So, is that really -- it's a difference. You know, it's a bit of a difference from where we were over the last couple of years. But long-term, as a policy, is the single sales factor that we have, now, under Prop 39, that difficult for California? Does it really set us apart?

MR. DI CARO: Two points, to very important points. One, your first one you said, well, the rest of the country doesn't use an elective -- or, excuse me, a multi-prong factor.

Well, if we want to be like the rest of the country, we can start with getting rid of some other policies that we have, that we don't need, that the rest of the country doesn't have, like the 33-percent RPS, like an AB 32 to 1990 levels, et cetera, et cetera, et cetera.

So, if we want to be like other states, that's great for us. We'll start in another place to eliminate.

In terms of mandatory single sales factor, the multi-factor that companies had prior to 2009, that was existing tax policy for 30 years in California. That was widely known as an appropriate way to appropriate tax liability.

Then after 2009 they gave the companies the choice, as we all know, to stick with the multi-factor or single sales.

And they did that under the premise that it would help with job creation. And then they said, okay, now let's get rid of the elective sales factor and that will help us create jobs somehow, which I still don't understand how they can make that case, no idea.

And all we ever said was just give companies the choice.

And if you don't -- if you want to make it so they don't elect every single year, we're fine, they can elect every seven years.

But there was no reason to take that away from the many very large companies, like Kimberly Clarke, and International Paper that employ many workers in California at very high wages. There was no reason to burden them with that substantial tax increase.

MR. WILLIAMS: Loren, did you have any comments?

MR. KAYE: Well, I just wanted to maybe put this back in the context of IEPR or of the larger, what Mr. Rossi said about putting the economics into that as well.

And I guess my admonition would be to really try to rationalize your policies that you're looking at with the goals that you're trying to achieve. And I think that really having explicit and specific goals is really important for this. And I think that you have -- but beyond that you have an obligation not to just look at -- because energy -- you know, I hope we can agree that energy availability, reliability and cost has an effect on the economy, you can't separate it.

And so I think that you have an obligation to look at the economic impacts of that and to see how your policies, to the extent they achieve those goals, affect the economy.

So, for example, on cap and trade, which my organizations supports, we support the implementation of, and we support the efforts to reach the goals in AB 32, you know, there are different ways of getting there.

And if the goal of cap and trade is to not just reduce carbon emissions which is self-evident, but also to provide some national leadership that can demonstrate to other states, or regions or provinces that this is achievable, that this can work then you wouldn't want to take the most expensive route possible to get there. You'd want to look at the most cost-effective way of getting there. And we'd submit that that's into what's happening.

But I think that those are the sorts of -- you want to look at what your goals are. If your goal isn't to be a national leader but just to -- if your goal is, instead, to raise money for high-speed rail, or other --

MR. ROSSI: There's no sense of humor in this place.

MR. KAYE: Well, actually, I thought that was -- I think I'll note that.

MR. ROSSI: Okay.

(Laughter)

MR. KAYE: That's good to know.

But if -- not your goal, but if somebody else's goal, Senator de Leon, his goal is to raise some money for some -- what's the phrase? I think justice -- you know, if your goal is that, then you've got, you know, certain other things that you want to do. So, I just would like to keep that in mind.

The same is true for once-through cooling for the Water Board. You know, they have an environmental goal there which is going to have, you know, an absolute effect on electricity availability, reliability and affordability or cost. And that needs to be -- you know, the goal that they have set which, you know, has to do with -- well, it was polluting the ocean. You know, that should be rationalized against those other -- and I'm just afraid they're not.

But I think that the IEPR provides a great opportunity that it's not done since you've done this the last couple of times, to really explicitly connect those up and then hold the various, you know, stakeholders, or yourselves, or other State actors to account for that. See are you achieving these other goals including, as the Governor has pointed out, the economic competitiveness of California.

Are we -- you know, we can achieve the 1990 goals of cap and trade, but are we doing it in a way that can minimize the hit that we take, the inevitable hit that we all recognize that we'll take on competitiveness, and then you just sort of roll that out to the various other policies that are included in this.

MR. ROSSI: Well, I think that's right. Correct. The issue, the other thing we don't talk about very much, and I'm very new to the public sector, so accept the fact that I'm the least knowledgeable person in the room.

But as a stranger in a strange place, let me tell you what strikes me as odd. We don't talk about cost, we talk about single-dimension measurements. We're going to reduce GHG by X, we're going to have renewables of 33 percent, whatever the heck it is. Those are single-dimension measurements about something which is multi-dimensional chess.

And with all due respect to the various associations that have important roles to play, it becomes even more singularly dimensional. Like, now we've got the bulkinization of the exercise, where everyone would be better off, as a whole, if we could create an environment where when we talk about we're going to do X, here's what it's going to cost in all of its ramifications.

Then we can all make decisions as Californians whether or not we want to do X. Right?

So, we do need to take the conversation away from silos and do this in a horizontal fashion. Otherwise, we will never get to an integrated policy that maximizes, is optimal for the guy who lives in the valley, one of the most economic depressed places in the United States today, maybe he earns $36,000, after taxes he's maybe got $27,000. He pays 21 percent last year for his energy cost, transportation and utilities. You know, we've got to figure out how he keeps employed, and is able to get his kids to school, and is able to move forward in his life. There's an upward trend, while we're still doing these other things that are terribly important, as well.

And we don’t have that conversation. We tend to talk -- my deal is, and I don’t mean to pick on Gino, but here’s what we need for manufacturing, someone else says this is what we need for oil, someone else says, no, this is what we need for the environment.

Well, what we need is to be cognizant of the fact is that everything is connected, we are the spider web. And as we move through this process we need to be focused first and foremost on cost because it is only understanding the cost can you make the best decision.

MR. KAYE: So, I mean, that’s great. I mean, that’s really encouraging. Can you shoe that into this process. I mean, can it be integral to this process because there’s really -- there’s really no other -- there’s no other forum that lends itself -- the Legislature has shown no interest in doing this, and so it has to come from you.

Is it this forum that can do it? Can the Governor create a sort of a meta-forum to do this? It’s really encouraging, I just don’t know how it gets actionable.

CHAIRPERSON WEISENMILLER: Well, I mean, certainly this forum is part of the way in trying to address it. I mean, one of the nice parts or great parts about having Mike here today is these are precisely the sort of questions he's asking all of us.

And so, certainly, going forward we're trying to figure out ways to get those answers. And again, you know, we certainly haven't -- we, the Energy Commission, can help in that exercise. And this is a good forum in the sense of it's legislative, it's not like we're all -- you know, no one's lined up with their attorneys actually doing the speaking.

So, this can do it. And exactly how far we go, again, we need to certainly spend some more time with Mike on exactly how this can dovetail with what he's trying to do, and where he's got other forums or ways of getting to what he wants to get to.

MR. ROSSI: I think right now there's a group of us that are trying to get our hands on the cost because in the conversation I had yesterday -- well, in a horseshoe, whatever the hell that means, in the horseshoe, as we're sitting down in this group it's interesting, we all come from our own backgrounds, and ask questions, and look at things the way we've been raised.

And the conversation is what are our goals? Well, you know, it's interesting, I don't think you can create a strategy until you know how to measure your goals. If you don't know what the measurement is, it doesn't make any difference what your goals are.

So, we're trying -- in the energy principles you're putting together your own particular set of numbers. We're trying to get a set of numbers that we can all look at.

And when Kevin talks about, well, Mike, what do you think about Boston Consulting Group's on LCFS? And I look at the numbers and to 2017 we're good, after 2017 we got problems. I've got a little time to figure out what those -- how do you integrate LCFS into cap and trade? How do you do a series of other things, what are those cost factors?

So, at the very least when the person has to make the decision will know what that is going to cost to make that decision.

So, we're starting that -- I mean, the energy principles, they've been working on that. We're working on it in the horseshoe, so we're moving to try and do that. To get the cost -- you know, it's something that -- BAU, I've never seen in the business world, but we use it up here all the time, business as usual, trying to figure out what that line is, because we do have -- you've got cap and trade, in 2015 you bring in the fuels, you've got LCFS, you've got the issues with

39, you’ve got -- I can’t even remember all of the numbers. Brook has to tell me what they are half the time.

But we have all of those very -- and then we have the taxes, just the straight taxes. And I have to tell you, I don’t think the taxes are the issue. I think the issue is much more the cost of trying to understand what it takes to get from point A to point B for a permit.

How do you develop -- how do I commit to develop this piece of property if it’s going to take me 30 years, up to 30 years to get it. There’s a whole series of those issues that the Governor is focused on. And as he talked today in the State of the State, how do we make -- without walking away from what’s made this State great on the environmental side, to what -- without walking away from what made this State great on the economic side?

Well, look at the history of this State. A little Italian produce guy creates the Bank of America, the most amazing financial institution in the world that’s been run into the ground by some other people.

But when you look at the movie business or you look at the innovation in the Silicon Valley, I mean, this State is as -- this is the stuff that dreams are made of.

And we've had some unpleasant dreams, which are not all of our making. But the best way to get to resolve those issues is to get that integrated policy, an integrated economic policy, integrated with the environmental thrust of this State.

MS. SMART: I just want to add to that that I think it's important, most of our discussion has been on costs, but to also look at many of the benefits. And from a business perspective, obviously, the ROI for any sort of policy and regulation can be longer than what might foresee, but we have known the value of 32 since 2006, and I think, at least from a Silicon Valley perspective we've been able to see the potential opportunities there.

But from a benefits perspective, it's also important to look at why are jobs being attracted to this State? Why are employers able to convince an employee that it makes more sense to locate in Northern California than it does in freezing, cold Michigan, for example, and part of that is our environment.

And I think that if that is a goal of this State, then it should be reflected in any sort of cost benefit analysis.

MS. GREY: I would just add that I think our industry should start investing in software.

(Laughter)

MS. GREY: That's where the money's being made. Great comments, Mike, and great comments, Loren.

I think another factor to fit into this is that especially in our industry, it's not just California, we're global enterprises and it has to be taken into consideration. It's not just U.S., either, it's global. And the companies are making decisions based on their global assets.

And as such, when they look at the under-performing assets in California, they will make decisions. And it's not a threat, it's just business, as you know, Mike.

MR. ROSSI: I don't have a problem with that.

MS. GREY: And an unnamed refiner, just to use an example, in Hawaii -- you visit Hawaii quite frequently -- just made a decision not too long ago to close that refinery and make it a terminal.

And, you know, it was interesting because I don't know all the specific business decisions that were made, I'm not privy to that. But in the press, one of the things that was kind of interesting was they stated that the company had indicated that it was making money. It wasn't that the asset was not making money. It was making money. But relative to the rest of their assets, it was under-performing.

So, and I will also add that Hawaii has some draft greenhouse gas legislation that, you know, makes California's look pretty nice, actually.

But these are some of the issues that have to be added into this.

You know, I go back to your comment about the integration and that's kind of the root of what I was saying earlier, that year after year, after year we do these IEPR documents and, literally, our industry feels very strongly that based on the charge that you folks have, that's written out in legislation, it's a very important role to play.

But as I mentioned, it seems as though it gets cut short, where it just talks about, you know, the facts and here's sort of the situation. Here's where we think the situation may lead, here's some challenges. But then that's where it stops. And we would love to have the Commission step forward to kind of be the integrated role player here that Loren was talking about, or at least someone to step up to the plate and deal with, okay, so across the board what needs to be done then.

When we see this picture, we see what may occur, we see the costs, are we going to do anything about it? Or, does government have no role to play and industry just makes those decisions on its own? I don't have an answer to that one.

But as I indicated, you know, our industry is definitely looking at the picture and making those decisions as it goes so --

MR. ROSSI: I can only speak for myself. I'm not sure what -- we talk about the difference between what industry and government is in this regard. If we can figure out what is the right integrated policy, you don't have a cost factor and that cost factor will be clear, and then businesses will have to make their own individual decisions. I can't ever remember ever having any government entity make a decision for me. So many businesses do.

I think one of the interesting things, you know, when you talk about the sky is falling in California and how many businesses are exiting, there are no numbers that indicate that to be the case in any way, shape or form that you can look to.

I mean, if I would have looked at some guy in Orange County that says 250 companies left last year, and he has no idea and, more importantly, what the employment base was. If in fact there were those 254 companies and where the only study that exists, that's of any value, indicates that it's 11,300 jobs a year, over a 30-year period, against an $18 million base, even if it were right, 250 companies, that's .007 percent of our total companies in this State.

We tend to talk about stuff that doesn't let us get down to what counts. This is what counts, by the way, because if you know these numbers are inflated and they're not coming back soon, in order to make this work for your members, we have to figure out how we get an economy that every time oil hits $140 a barrel, and I don't mean California, I mean, globally --

MS. GREY: Right.

MR. ROSSI: -- it just does. It does because you no longer have a multiplier in a carbon-based economy in the world. So, you reach a place where it just dies.

Would you guys disagree with that over there? Have you got any numbers that indicate that that's wrong?

Okay, so it just dies. And what you find out is that if we can't figure out how to move forward so we change that, we won't be able to fix this.

MS. GREY: And I would just add, though, that I think a lot of the dialogue gets focused on the cost to the industry and I will just say let's presume the old story has died, let's presume there's a thriving bi-fuel, electricity, natural gas, integrated type of --

MR. ROSSI: And the electric car.

MS. GREY: Right. It's the cost to consumer that's really important. So, you know, definitely the cost to industry from our perspective is important, but that translates somehow to the consumer.

MR. ROSSI: But what you don't want to do is get into the conversation somewhat myopic that we're only talking about manufacturing.

MS. GREY: Right, but I --

MR. ROSSI: And I'm not being critical of Gina. What I'm saying is we tend to do that up here. We tend to get into our silos and to have that conversation running from one silo to the other every day, all day long.

MR. DI CARO: Can I say something?

MR. ROSSI: No.

MR. DI CARO: No.

(Laughter)

MR. ROSSI: Go right ahead.

MR. DI CARO: You know, this is a key chart and someone said earlier, one of the comments that housing follows jobs and that's obviously true. We would say that housing follows good, high-paying jobs even more like manufacturing and other sectors, healthcare, high tech, et cetera.

So, I just wanted to make sure that we're part of that equation. We're not talking about just --

MR. ROSSI: See, my --

MR. DI CARO: That's why we talk about the story about the kid and the guy with the 72 grand without a high school diploma. He probably sent a kid to college and he's a garbage man, right.

And one more point, we talk about companies exiting and I agree, Mike, that there's too many people talk about these grand situations where companies are picking up and trucking off to Texas. That's really not happening that much, it's much quieter than that.

These companies are just dropping California off their investment list. Smaller companies aren't growing in California.

When's the last time you saw a company that started with four employees, you know, as a manufacturer and grew to 5,000? Never, probably, because it doesn't happen in California anymore.

MR. ROSSI: That's just not true.

MS. SMART: I think SunPower started with four people in a garage and they --

MR. DI CARO: I mean, so there are some.

MR. ROSSI: But with all due respect, I didn't hear that housing follows jobs. I will tell you that that's not true here and I'm happy to have that argument. It was housing that created the jobs, it was the excess of money from some prime lending that created so much velocity and no conditionality that it had to go someplace.

It seems to me that housing actually created all of those jobs that didn't exist before.

MR. WILLIAMS: You know, if I recall, that comment, I believe, was in a non-double like economy looking forward.

I think everybody would acknowledge that during the bubble in the mid-2000 period there was clearly, temporarily, a lot of job creation related to speculation in the housing market.

MR. ROSSI: That's true. This doesn't happen -- and when you look at our economic history and you look at the percentage ownership of homes historically in this country, and then it jumps 30 percent because of this kind of influence -- I know, you're looking for the guy who tried -- who wanted to turn around -- but trust me, it's one of the largest mortgage lender in the country. I understand the problem. I wish I didn't, but I do.

And so in order to get those good jobs we can't look back to this. We got to figure out how we move from an economy that starts to slow down when a barrel of oil gets to $1.47 -- $147. I wish it was $1.47, then we'd have a whole lot of gas problems.

MR. WILLIAMS: Can I jump in here with a question just real quick?

I mean, I think to one degree or another, some very strongly advocating and others maybe acknowledging, but we do have a problem with regulations in California.

And so I guess my question, and I'm going to throw this open, is realistically, I think looking ahead, where do you think the greatest potential is for getting some sort of regulatory reform or relief that would have a meaningful impact on jobs in the manufacturing industry or in other industries?

Would it be in, you know, CEQA type of things? Would it be just basically permitting process?

Or is it we're talking about some of these, you know, landmark AB 32, the cap and trade, and that sort of thing?

Where do you think the biggest problem was and for those of you who want to try, where do you think the greatest potential is to get meaningful reforms that would have an impact on job creation that wouldn't, you know, have the negative impacts on environment, land use, that sort of thing?

Loren?

MR. KAYE: Well, basically, there's two types of reg reform that I think need to be considered. One is reg reform that reduces costs. And the other kind is reg reform that increases certainty for investment. And they're not always the same thing.

I mean, I think clearly the Governor hit it today, the most important reg reform we can do to increase certainty for investment is CEQA reform because that is a bottomless pit of litigation that is wide open and, you know, I need to make that picture.

The other kind of reg reform has to do with -- has to do with costs, and that's where you get into things like the cap and trade auction is a big example, but there are other examples, too, like various occupational safety and health regulations that you can just go down the list.

And I think the great opportunity --

MR. ROSSI: What cost, just so I understand?

MR. KAYE: It's the cost of the auction, itself, beyond what is necessary to cap the emissions. So, it's whatever the -- I'd say the cost is whatever the auction revenues are.

MR. ROSSI: $55 million.

MR. KAYE: Well, it's whatever the auction revenue is. But anyway --

MR. ROSSI: Well, I want to know what you're talking about, it's the $55 million --

MR. KAYE: Yes, it's the --

MR. ROSSI: -- that's predicated on future vintage sales by a price that is going to be somewhat above the floor. And there's no cap and trade operation that's existing that is trading above the floor, historically.

MR. WILLIAMS: Excuse me for one second. Could I ask, when you have these cross-conversations, if you can pull the mics a little closer to you so we can record everything.

MR. KAYE: Anyway, my point on the real opportunity that we have on leg reform that addresses costs is something that the Governor's Office and the Department of Finance is working on right now, which is a new way of doing economic analysis on regulations. They're looking at some of their own regulations and procedures that may apply to all State agencies to increase the usefulness, transparency, and relevance of cost-effectiveness analysis of the regulations, of the major regulations.

And that could be an extraordinarily helpful tool, not just to people who get regulated, but to government, itself, and especially the senior management in government in trying to rationalize the obligation that they're given by the Legislature to implement regulation and whatever obligation that the Governor and his leadership feel to kind of minimize or use those -- implement those regulations most cost-effectively.

So, I would just point to that as being a great opportunity.

MR. DI CARO: May I say a little bit?

MR. WILLIAMS: Sure.

MR. DI CARO: You know, there's no one silver bullet for this, we all understand that.

The larger guys will benefit from certain policies and the smaller guys will benefit from others. Certainly, the cap and trade allowances and getting the free allowances up to the cap is pretty significant for most of our medium and large manufacturing base, and we feel that's pretty simple to do, actually.

But and that's not rolling back any environmental regulations, we still get to 1990 levels.

But that being said, a more broad policy focus for us, we feel that would have the biggest bang for its buck, is take some of that cap and trade -- continue with the auction as is, hopefully with some fixes and, obviously, we have the Prop 39 money coming in, and somehow find a way to get that back to companies in terms of a sales tax exemption. They either do it under the premise of efficiency credits, I don't know, but let's find a way to get that back to the manufacturers so they don't have to pay sales tax on the purchase of their capital equipment.

That will go a long way in terms of getting limited investment for some of the smaller guys and, absolutely, the larger guys as well.

MS. GREY: Yeah, I just wanted to add that I think the petroleum industry typically gets painted in this box of not wanting to do anything, particularly with respect to anything, you know, environmentally oriented.

And after working quite a few years in this industry I would say my perspective is that's false. Obviously, we want to make money, we want to be able to probably minimize our costs in order to produce the products we produce, but that's any business.

So, you know, I think I agree with Loren about the two aspects of things that probably need some revision.

But one thing that needs to be considered is that, you know, industry in this State, whatever the industry is, has to remain viable in order to produce the tax revenues that then go towards various government programs, et cetera.

So, in order to make sure the industry remains in this State and, you know, there are possibilities. For example, I'm not even sure if folks are aware of this, that there are interest in terms of refineries who are out there right now, who decide that they want to convert those refineries to turn mills, just like what's being done in Hawaii, and import transportation fuel and export transportation fuel, and make their decisions as to where those would go.

And I think earlier someone mentioned the island, that California produces, you know, the cleanest gasoline in the world, et cetera.

So, those tax revenues have to be considered. We do want to -- if our companies decide they want to continue producing transportation fuel in this State, whether it's petroleum based or renewable based, et cetera, that's fine.

I think we're -- our industry gets a little bit perturbed if we're -- our industry, because we're perceived to have deep pockets, is being looked to, to pay for all these programs. Whether or not it's our core business or not, whether it's totally unrelated or not doesn't seem to matter and, as I say, we get painted in the box of being recalcitrant, and we're the oil industry, and we just have lots of money and we can obviously donate it to all of these different societal goals.

So, I would say if the challenge is thrown before our industry to evolve, to produce transportation fuels that are more environmentally, et cetera, preferable, that's one thing.

If we're being expected to bankroll everyone else's businesses, that's another.

MS. SMART: In response to the question on regulatory, so the number priority of the Silicon Valley Leadership Group, as voted on by our 375 members, is CEQA reform this year.

Our number two is immigration reform, and corporate tax reform. So, it's not like we're just focusing on one little thing. This actually what we see as the biggest issue we have to face is located jobs here.

The example from our membership is Netflix is trying to add 1,000 jobs to Los Gatos, which is in Silicon Valley, just outside San Jose. And the original plans included a five-story building, and on an existing business site, and the residents issued a CEQA lawsuit and said, you know, we don't want five stories, we only want four stories, and we don't want any housing element, we only want business because they were worried about degrading their schools.

And so they ultimately won that CEQA lawsuit, which had nothing to do with the environment, and now they have to go back and look at new plans and figure out how to build a four-story building.

Does it change the environmental impact whatsoever?

(Laughter)

MS. SMART: So, you know, the potential to add 1,000 new jobs in Silicon Valley.

So, that said, the other part of our world is the clean environment and we want to see some sort of meaningful CEQA reform that balances both the environment, and as well as the economics.

The other thing I'm putting on my concern pad as well, the other thing would be rate design. I think when looking at the State's energy policies there is an impact of electricity rates. We applaud the efforts of the PUC to look towards residential rate restructuring, particularly a transition to dynamic rates which should over time help customers be more energy efficient, and use their appliances more efficiently. And so those two, I think, would be something that both could occur this year. We have the structure in place and we hope by the end of this year we see those on floor.

MR. FERRARI: You know, I'd like to jump in on this real quickly. I'll try not to be repetitive, so I want to kind of hit on some very specific regulations and those are the regulations that come through the Buildings Standards Commission, whether they're the Building Code, the Green Building Code or our Energy Code.

As needing to sell and market a product, we continually need to make sure that whatever regulations are going to be passed along to the homeowner are cost effective.

What that means is that for each percentage increase in energy efficiency that's being received, the homeowner needs to essentially understand that they're going to get their money back from that investment over the life of the dwelling and for residential that's 30 years. That's important. That was actually -- the definition of cost effective was actually put in place in Governor Brown's first term, back in the late seventies and early eighties, so that's something he's very familiar with.

Now, where I'm going with this is we have a statewide policy goal of getting to zero net energy by 2020. That's going to -- what we're seeing now is becoming clear, especially in this last updated Energy Code, the low-hanging fruit is essentially gone, so things like insulation, and windows, and roofing materials, those things have really kind of hit their peak of as efficient as they're going to get.

So, now we're looking to other construction methods that can be incorporated to get that next increment of energy efficiency.

As we do that, each one percent of energy efficiency is becoming much more costly than it used to be. And we've worked with the Energy Commission now for multiple updates, and I've supported every update, you know, as far as I believe since the mid-nineties.

MR. ROSSI: What is it, when you say that an incremental one percent is much more costly, what does that mean? Is it more costly to build to get that one percent or --

MR. FERRARI: So, yeah, for instance in 2008 the Energy Code did a 15 percent increase and it was costing about $1,500 in the field to apply those increased energy efficiency measures.

The newest update, that's going about 25 percent, is beginning to cost anywhere from two to three times more than each one of those one percent increases previously.

So again, and what that mean is that the Energy Code has done such a good job over the last several updates of going after the things that are easily done and cost effective, and now we're getting to a point of what are those next things going to be? And typically, they're not completely in the norm construction techniques that are potentially more cost effective -- or more costly to build in the real world.

MR. ROSSI: Require additional training.

MR. FERRARI: Say it again?

MR. ROSSI: Does it require additional training on behalf of the building trades?

MR. FERRARI: You know what, it does. For things like, well, you know, highly-efficiency framing techniques. It's going from 16-inch studs to 24-inch. Things like that do require additional training. To take a normal roof structure and then in order to get insulation all the way to the edge so you don't have a void, they do something called a high-heel truss roof system. That is additional cost and additional labor that isn't typically in normal construction process.

So, one thing the Energy Commission has done a tremendously good job of doing over the last update is working with us to incorporate, you know, measures that are cost effective.

But as we try to get to zero net energy by 2020, it's going to be even more important to work with each other to design what those techniques are going to be.

CHAIRPERSON WEISENMILLER: And I was going to say, certainly going forward, as you know, just using cost effectiveness we could have gone to more stringent standards than we did. And, certainly, some of my friends in the environmental community were unhappy with where we ended up, actually, the utility community, too.

But we sort of worked out an arrangement to come up with pretty aggressive goals, saying that, you know, moving forward to zero net energy is certainly going to be a push for the -- you know, we have two more cycles. But, I mean, that's certainly part of the Governor's plan.

And so at the same time, as we go through, I'm sure one of the things Mike will be pushing us on is, okay, what's the cost and the tradeoff.

MS. SMART: Well, also looking --

CHAIRPERSON WEISENMILLER: But certainly we will -- you know, whatever we do, it is going to be lifecycle cost effective.

MS. SMART: I was looking at what the cost is to use those buildings. So, from an end-user perspective, if you have a more efficient building, then we pay less electricity costs which, you know, over time should help some support of that.

CHAIRPERSON WEISENMILLER: I know, we certainly appreciated that.

MS. GREY: One thing I just wanted to add, too, is if you sit through some of the alternative fuel workshops, say at ARB, et cetera, three things that keep popping up. One is investment dollars, where are they going to come from, et cetera.

Secondly, is regulatory certainty because there seems to be a lot of uncertainty and especially ARB changes the regulation every year so it's hard to, you know, convince investors to invest when there's so much uncertainty with regulatory changes that have a dramatic impact on how this regulation's going to be implemented, whether it's LCFS, or AB 32, or the cap and trade, whatever it is.

And the third thing is CEQA, and it comes up over, and over, and over, people that are running into tremendous problems and lag time that's unbelievable to put in the facilities. Even if someone, as they said earlier, wants to invest and they want to do something for California, move into complying with these regulations.

So, I'm sure Loren probably knows better than I do, the changes of CEQA reform and whether that CEQA reform would be, you know, effective enough to overcome a lot of these difficulties

But I just wanted to mention it just seems to be the --

MS. SMART: Challenge accepted.

MS. GREY: So, definitely back to your question, anyway.

MR. ROSSI: So, I'll answer your question this way, dealing every day with a multitude of businesses and their issues -- just from this table you can see the complexity of each individual's issues are messy at best. I guess democracy is messy and it's still the best option.

But I think you need to group these things into two broad categories. The ones -- and also to understand what it is you're really trying to do here.

And we always seem to talk about this stuff and the investment coming in. When you look at how a lot of the jobs grow in the State, it's not from investments coming in, it's from companies, the 3,500,000 small businesses that grow their businesses in this State.

So, as you look at those options, the first thing that occurs to me as a business guy is I'm going to take -- not unlike solely on the business, in building, in the construction industry, we ought to get all the low-hanging fruit we can and permit it. So, we need to fix the permitting in this State because it is way more complex than it needs to be. The State, municipal, county, I mean we need to get -- like my universal remote at home where I watch the 49er's, I need a universal remote for permitting.

So, we need to -- if we can get that fixed right quickly, then we're going to get CEQA fixed, whatever we do with CEQA.

So, we need to get the permitting aspect as efficient as possible so those 3,500,000 companies can grow in California. So that if the guy wants to open another restaurant or a fast food place, it isn't going to take him 18 months to two years to get it done.

The issue of -- the bigger issue, when you talk about CEQA, one of the interesting things if people read the new infield aspects of CEQA, it is a pretty broad definitional characteristics in that change, which will be very helpful in how people do a series of things.

The bigger issue with CEQA and, again, as the amateur in the room, there are less than a couple of hundred suits a year of any substance on CEQA, as you move through the period. It’s not the issue of being sued, it is the issue of having some idea that if I start today, whether it’s yes or no I’ll know in whatever time frame I’ll know it.

That is really what needs -- the ability to say to people that -- one of the places I live is in Pebble Beach, next to Carmel. In Carmel they have this thing called Flander’s Mansion.

The City has voted three times to sell this damn thing. Three times it’s gone to court under CEQA, so they can’t sell this decrepit building. So, they voted again to sell it and we’ll see what happens.

But it is that kind of exercise in the CEQA -- of all of the things, environmental justice, which is part of CEQA, which is the story, it’s not the events in environmental justice, but how it impacts the children in the area and all that stuff.

And that aspect, all I need to know as a business guy is it’s going to take this amount of time to get my answer and I need a -- I’m either going to take that amount of time or I’m not.

That’s what’s needed. Not the issue of whether real issues in the community are addressed or not addressed, they need to be addressed.

But we need to -- I believe we need to figure out a way, and I hope Senator Rubio's efforts will focus -- I know they'll focus on it. I hope they resolve something so you can get some finality.

If you read -- I don't know how many people here have ever read the original CEQA documents? It's one of the things about government, there's more than enough stuff to read.

Well, if you read the original CEQA presentations, they're two pages. Two pages, maybe five. Today there are thousands of pages, it's an industry. It's created an industry at the expense of others.

And so my view of that is that that clearly needs to be addressed, as the Governor has said.

But there's this whole other aspect of duplicitous regulations, the issue of trying to deal with a three-tiered permitting system in this State. If we can get that fixed or certainly streamlined, that will go a long way for helping those 3.5 million small businesses, whether they're manufacturing or retail, to grow because we want those to grow.

We are never going to drive this economy by bringing businesses in from outside.

MR. DI CARO: Can I make one point on that real quick?

The policy of CEQA reform, et cetera, is very important to us. But I wanted to make a point on getting companies to grow here, we agree and echo that tremendously.

One statistic we have on that, and that we think it's very problematic, California for the last 15 to 20 years has received about 50 percent -- 50 percent or a little more of the country's venture capital.

But in the last five years, if you look at the investment in California in new and expanded manufacturing facilities, when the country's average is 40.2 per one million people, California's average is 4.3 per one million people. We were, basically, it was either dead last or second to last among all the states.

So, we have all this venture capital which we always get because we're California and we're good, but that money isn't necessarily translating into scale-ups of good, high-paying manufacturing jobs and other types of jobs.

It's just not scaling up here for one reason or another, and one of which is probably CEQA and a host of other issues, but I just wanted to kind of underscore that point.

MR. WILLIAMS: Well, on that note I think we're about out of time here.

Commissioner Weisenmiller, if you'd like to --

CHAIRPERSON WEISENMILLER: Yeah, I'd certainly like to thank people for their participation today. And, you know, I'd certainly like to thank Mike Rossi for being here and sort of being part of the dialogue.

And again, certainly the rest of the day's, hopefully, going to be as interesting as this panel.

MR. WILLIAMS: Well, thanks. We're going to break now for lunch and the Demographic Panel starts at 1:30.

And thank you very much to this panel for a very interesting discussion.

(Off the record at 12:23 p.m.)

(Resume at 1:42 p.m.)

MR. KAVALEC: There was a question from the audience for one of the morning panels that we thought it would be best for an Energy Commission staff person to answer.

And the question was along the lines of in your rate forecasts are you going to incorporate all these environmental policies, like AB 32 and so on, that we talked about?

And the answer is we don't really do rate forecasts, we do rate scenarios for our Energy Demand Forecast.

But the answer is, yes, we incorporate all available information and that includes policies that have already been implemented or will be implemented, so we will.

And the rate scenarios that we use we will be presenting at a workshop on February 19th, along with all the other input assumptions like going to -- going to our forecast so we can discuss rates more at that time.

So the other major cog from a public policy perspective is demographics, meaning population growth, migration patterns, household size, other factors and this is, obviously very important from an energy point of view.

And for our panel today, if we could, we'd like to get into a little bit about the relationship between the economy and population growth, feedback between the two.

So, I'll turn this over to our moderator for this session. Jon Haveman, who is the Chief Economist at the Bay Area Council Economic Institute, which is a nonprofit research institute providing public policy and economy research designed for policy debates and throughout California.

Jon has a doctorate in economics from the University of Michigan. He has taught at Purdue University, worked as Deputy Assistant Secretary of President Clinton's Council of Economic Advisors, served at the Director of the Economy Program at the Public Policy Institute of California, and is a founding partner at Beacon Economics.

And Jon was widely known as an expert on the regional economic development in economic issues and goods movement.

So if you would. Jon.

MR. KAVALEC: Pardon? Oh, I'm Chris Kavalec with the Commission.

MR. HAVEMAN: Thank you, Chris. I want to start off by thanking Kate Sullivan and the Commission for inviting me to participate here today. And I you give me just a second, I'm going to get some of my cheat sheets back from Chris.

I'm thrilled to be here to moderate this panel because I think it's a really interesting time to be talking about demographics in California.

Demographics tend to change very slowly, my impression is that the recession that we just went through may have changed some fundamental demographic trends in the State of California. That, coupled with the baby boomers starting to retire en masse, I think the demographics probably for the next 10 to 20 years are very going interesting.

You saw during the recession that innovation flows to California, at least I think we did, slowed dramatically as opportunity here declined for money from abroad.

We saw changes in domestic migration that I think are important for the State.

You know, the issue here from this panel of four very esteemed experts in the Californian demography, about whether or not those trend are even true, how much they will change over the course of the next 10 years.

So, I don't need to speak very much more about demography in California. Instead, I'll introduce each one of our panelists in turn, provide a little bit of their bio and then give them about three to five minutes to offer some opening comments.

Before we get started, though, I want to remind the audience to please feel free to submit questions on index cards.

And those who are following on WebEx, I believe you can still submit questions and they will be brought to me as well.

Okay, so why don't we go ahead and get started. We'll start off with Hans Johnson from the Public Policy Institute of California. Hans is currently the Director of Research at the Institute. His areas of expertise are immigration and migration, population issues and demographics, in particular, census, population growth projections, regional population and fertility. Also, housing is also very paramount, and education projections, and workforce skills of late.

He was formerly a senior demographer at the California Research Bureau and demographer at the California Department of Finance.

He has a PhD in demography and a master's in biostatistics from the University of California.

Recent publications include "California 2025: Planning for a Better Future, Defending all Education; What are the Effects on College Enrollment?"

So, Hans, I'll give you three to five minutes to open up.

MR. JOHNSON: Thanks a lot, Jon.

So, what I'd like to do is just briefly set the context for talking about California's population and population change, and talk about really kind of two California's, two demographic histories of this State.

And the long history of this State, from the

Gold Rush to about 2000, was one characterized by tremendous population growth.

In 1900, the State was home to 1.5 million people. Today, the State is home to about 38 million people. And that growth that California experienced in the 20th Century was unprecedented anywhere in the developed world.

If you look at our growth rates and compared them to other regions of the world that were of a similar economic status as California, we were by far and away the leader. And in fact, California's growth rates rivaled those of many less-developed countries. And in fact, in many years exceeded those in Mexico, for example, a country that had been long-characterized by very rapid population growth.

So, we were in this with tremendous population growth, but first world infrastructure and social service demands and needs.

The sources of that growth varied over that time. So, when I sources, demographers, there's only three ways a population can change from one point in time to the next, birth, death and migration. The difference between birth and death we call natural increase.

And so from the late 1800s to the early 1900s there was international and domestic migration that fueled much of the growth.

In the mid-1900s it was domestic migration, as well as natural increase. That is really the baby boom, a very large increase in family sizes that was occurring during that period.

And then in the late 1900s California's growth was fueled primarily through an international migration, as well as natural increase.

So, that was the old California, the first tale.

The second California is the California we're in now and I think it really is right to make that kind of demarcation that things have changed so much now that we look like a very different state demographically than we did historically. And I'm just talking about population growth, others and I can talk about the composition of the State's population as well.

But since 2000 California has grown no faster than and, in fact, in some years slower than the rest of the nation.

The 2010 Census which is, of course, used for reapportionment, was the first census ever in California in which we did not gain any new members of the House of Representatives because our population did not grow faster than the rest of the country.

In 1920 we didn't gain any new members, either, but that was because the Congress was unable to agree on the apportionment in that year and partly that was because rural Legislators were able to fight off reapportionment as their numbers were declining, and urban Legislators lost that battle for reapportionment.

So, in any event, except for that weird kind of census or result of the census in 1920, this last decade was the first time California's never gained any more political seats in Washington.

A key question that we face now, as demographers, and for anyone who's interested in California's future population which, of course, includes the Energy Commission and many other people is, well, what's the demographic future for California?

Are we going to return to the California of the past with rapid growth rates, a booming economy, a tremendous population increase or are we going to become the next what I would say demographic New York?

So, New York is a state that for over 40 years has experienced very little population growth. It receives international migrants from abroad in fairly substantial numbers, but sends out equally large numbers of people to other states.

California's population growth has slowed because we're sending out a lot more people to other states than we have in the past, but we still receive substantial flows of international migrants.

And we're not the next demographic New York yet. Our net migration flow is, when you add the international and domestic components are still positive, whereas in New York they're often negative.

So, we're not there yet and I think the real question is whether we're going to get there.

A few years ago I was asked to do some population projections to the year 2100, which any other demographer who had an ounce of intelligence would immediately say no way, I won't do that, but I agreed to do it.

And I wasn't comfortable just giving a single projection out to 2100 and we're going out almost a hundred years, right.

And imagine, if you're in California in 1900 and there were 1.5 million people and someone asked you to forecast how many people there would be in California in the year 2000, it seems like kind of a crazy endeavor.

So, I gave a range of projections for what California's population might be in 2100. And that range is extremely wide.

The minimum that I forecast, my minimum scenario was 48 million people. I realize today we're at about 38 million. And my maximum scenario was 148 million people.

You can imagine that the users of these forecasts weren't very happy with that range because it really didn't help them a lot to try to figure out what service needs might be or what energy consumption might be.

And my response and my defense was, and still is, is that it actually represents, I think, not an inaccurate sense of the uncertainty of what our future population might be. And that uncertainty is very much a product of where we are right now, as I said, with this seeming sea change in terms of California's attractiveness to people from other states, and sending out a lot more people to other states.

So, finally, just the discussion here, again, with this connection between population and economy and let me just say that, you know, the primary means by which most of us think that the economy and population interact, the most immediate level is through economic attractiveness of a place.

And in this case, when we look at domestic migration to and from California, it very closely tracks employment growth or the lack of employment growth in our State, unemployment rates in our State compared to unemployment rates elsewhere. And where we are much higher in unemployment rates, lower in employment growth than the rest of the nation we see larger flows out of the State. And, certainly, that's been characteristic of this last recession.

And then, finally, there's another connection here that I think is maybe less immediate, but maybe even more important and that is, to a large extent, we've done other work at PPIC looking at forecasts of our future population and the educational attainment of our future population, and one of the biggest challenges we face as a State right now is we have a very large and very well-educated cohort, the baby boomers, who are going to be retiring and starting to retire. They are the single set of age groups in California most likely to have graduated from college. Young adults in California are actually less likely to have graduated from college than baby boomers.

And this, I think, poses perhaps the greatest challenge to the State and is, of course, a very strong link between our population and economic outcomes.

MR. HAVEMAN: Okay. Well, thank you very much, Hans.

On Hans' immediate left is Bill Schooling. Bill is the Chief of the Demographic Research Unit in the California Department of Finance. Demographic research is responsible for the State's population estimates, projections, schooling projections and are the lead agency for the State's Census Data Center.

Bill returned to demographics research last year after working as a state demographer for Arizona. Bill began his career in the estimates program in demographic research and was asked to develop the State Data Census Center.

He was elected as the first Chair of the U.S. State Data Center Steering Committee. And Bill is the former Chief of the Population Estimates Program at the Census Bureau and the former manager of the Demand Analysis Office at the Energy Commission.

Bill has a master's degree in public administration from UCS and a master of science degree in Cornell's Population Program in the Developing Sociology School.

MR. SCHOOLING: Thanks, Jon, always good to see some familiar faces.

Jon talked about letting us talk about some myths today, so I thought I would -- I wanted to dispel two very common myths. And the first that California's in a death spiral, as a few seem to think. And one of the things that pundits are citing is they're talking about the lack of population growth in California.

And the second myth is that baby boomers are immortal and I'm afraid that's not true, either.

As Hans was talking about the history of California's demographic growth, I'd like to add a few comments to that.

California led the nation in growth every decade between 1920 and 2000. Between 1850 and 1980 we grew at an annualized rate of 4.36 percent. And then the bottom fell out and California essentially stopped growing.

In the 1980s we only grew by 2.3 percent, which represents 6.1 million, and established the record for most growth any state has ever had and that still stands.

And what I also found interesting about the 6.1 million is that it also represented the largest proportional growth of the United States that any state had ever had, and that was 27 and a half percent of U.S. growth.

And I think that's part of the problem that I have when, whether it's pundits or others want to talk about, well, we're growing slower, what's wrong?

And you look back and you can't really compare the different time periods because California has changed so much and we're a much larger State, we're much more densely populated.

According to the Census Bureau, we have the four top most densely populated areas in the U.S., and some of those are a little bit entertaining. I think Delano is one of them and that's simply because there's a prison there.

No other State has grown by as much as 5 million, other than California, which we also grew by 5 million in the 1950s.

And as a little aside, if we had continued that long-term annualized growth rate of 4.36 percent after 1980, then next year we would hit 100 million people. So, those numbers, just dump them into an Excel sheet and they do get entertaining after a while.

Since most of us arrived in California after 1920, it did seem somehow less than normal after 2000, when we were no longer the leading state as far as growth is concerned. We grew by 3.4 million, which was the second most of any state between 2000 and 2010, but it is a much slower are.

The point is that we sometimes fail to understand what causes the growth to fluctuate. We really have to dig a little bit deeper than just looking at the percent change from year to year because it's too easy to think in terms of, well, we've had this pattern in the past, why isn't this pattern going to continue in the future?

And if you dig down into the components have change, as Hans was suggesting, then it starts to explain a little bit more.

For those of you who have read, cover-to-cover, the Governor's budget, in the budget he talked about some of the reasons for the slower growth in California in the last decade, like the housing collapse, the fact that there's interstate migration, not just to California, but nationwide we see less interstate migration than we used to.

He goes on to point out some of the structural changes that we see across the nation and in some cases across the developed world, like the aging society, the reduction in fertility rates.

In California, only the Hispanic population is above replacement level fertility, and they're just a razor thin margin above.

Contrary to what the *Wall Street Journal* pointed out a week or two ago is that California's fertility is in fact higher than the rest of the nation, and that's largely because of the Hispanic population.

Were currently projecting that the Hispanics will be the largest group in California in about one year and they do have -- their fertility's about 2.2 right now.

California also has the benefit of sitting on the Pacific Rim and so we think the long-term outlook for immigration continues to be good.

By the time the Integrated Energy Policy Report period is complete in 2024, we'll be able to look back on that 12-year period from last year to 2024 and see just how different this period is going to be from any period in the history of California, and it will be different.

The aging of the baby boomers is simply one part of that, but there will be a lot of differences.

We know that we're going to be top heavy as far as the age structure is concerned. The youngest baby boomer will be 60 years old in 2024, the oldest will be 78.

However, because of immigration we think that California is going to continue to be younger than the rest of the nation during that time period.

Eventually, because the life expectancies are a little bit longer in California, maybe around 2040 we think that California may even be a little bit older than the nation as a whole.

But by 2030, we're going to have eight counties where the median age is at least 50 years of age. San Joaquin Valley stays young.

Domestic migration has been a lot lower since 1990. In fact, as Hans mentioned, we're having a net domestic out migration in most years. But there are some other factors that we think may change some of the dynamics of that.

In 1950 there were -- the majority of Californians were actually born in another state and that's now down to 18 percent. We don't know how that's going to cause people to change their migration patterns, but it's bound to have some impact.

Also, the out year of our projections is 2060. We're expecting that there will be at least 13 counties in California with at least a million people, including six of them that are inland, not coastal counties.

MR. HAVEMAN: Okay, thanks very much, Bill.

Immediately to Bill's left is Jon Stiles. Jon is the Executive Director of the California Census Research Center and Director of Archive Services at the UC Data Archive at UC Berkeley.

He received his PhD in sociology from UC Berkeley and has research interests in educational and population dynamics, integration, segregation, inequality, stratification and transfer programs.

Recent publications addressed by sees Federal estimates of food stamp rates, the use and validation of survey-based administrative reports of public assistance, patterns in segregation in metropolitan United States in 1960 and population changes in education outcomes in California for the next 50 years.

He’s served supporting, secondary data use at UC Berkeley since 1995 and is the campus representative for the Intra-University Consortium for Political and Research, the Roper Center for Public Opinion Research, and the Census State Data Center Network at UC Berkeley.

Jon.

MR. STILES: Thanks very much for having me. I’ve really enjoyed watching this process unfold over the last few weeks as there’s a circulation of questions, which perhaps you elaborated on, which helped us focus our attention on exactly how we can contribute to this conversation.

As I was driving up this morning, it struck me that one of the questions that hadn’t been asked was what am I doing here?

And I don’t mean that in an existential sense, but what is it the demographers can contribute to this conversation that other people can’t?

What I concluded is what they can contribute is not actually predicting the future. There's a lot of variability in population projections, they're on a lot of assumptions. And as Hans mentioned, the further out you get, the wider is the band around what you can expect around either population size or population composition.

What I think demographers can contribute is a focus on the underlying mechanisms which are affecting population size and population composition, and focus our attention on what we should be watching for if we are concerned about the way those things influence other factors.

Population -- demographic techniques are really easy. I mean, they're basically accounting principles that say if you have a population today and you want to know what the population in one year looks like, you're going to add entrants to that population, so people who are born or people who migrate, and you're going to subtract people who leave, those who die or those who out migrate.

We add that to another simple accounting identity which is, basically, for every year you age, you get one year older. And together these two things can tell us that we can project, that we can step through populations and look into the future based upon rates which deal with those underlying mechanisms.

The other thing that demographers bring -- the other thing that demographers bring to the table are they create some really pretty pictures. And one of the pictures that demographers are really fond of are population pyramids, which represent the population as stepped, five-year age bands, where the width of the band represents that portion of the population that is in that area.

And if you take a look at California in 2010, what you'll see is a nice, almost house-shaped figure, but it has two kind of characteristics. One is it's got a set of shoulders and that set of shoulders is the population aged 55 to 65, and these are the baby boomers.

It has a little bit of an indent for a waist, and then we have a set of hips on this population pyramid. And this is the population that's age 15 to 25.

Well, the population that's age 55 to 65 is the population that's going to be retiring in the next 10 years. And the population that's 15 to 25 is the population that's going to be replacing them in the labor force.

It’s also a population which is dramatically different from the population which is retiring. The population that’s retiring is largely non-Hispanic white, while the population which is entering the labor force, or which is in the ages of 15 to 25 is becoming more and more Latino. Over half of the population between 15 and 25 are Latino.

These are populations which have traditionally faced education with disadvantages, whereas the population which is leaving the labor force is the most highly educated set of cohorts in California.

Which brings us to the question of when we do projections and when we want to relate this to other issues, we often say there’s an association between a set of characteristics, whether it’s a stage in the life cycle, or other things like home ownership, or poverty rates, or labor force participation.

And we do the same thing with other characteristics that we link to our population projections, things like race and ethnicity.

It’s important to realize that those are not fixed, but those are associations, that those are things that could change. And those are things that we should be thinking about when we’re thinking about the relationship of demographics with the economy, as to what kind of policies can change those associations.

In particular, when we look at the population who is entering the labor force, who is making the decisions either about to stay in college, going to college, going to school, we need to think about how we are going to be moving that set of the population into a position where they can fill the void being left by the most educated cohort in California.

MR. HAVEMAN: Okay, thank you, Jon.

Immediately to Jon's left is Simon Choi. Simon joined the Southern California Association of Governments in 1991 and has 30 years of experience in the field of applied demography and planning.

As Chief of Research and Forecasting for the Southern California Association of Governments, Simon develops long-term regional demographic forecasts for diverse urban and regional planning purposes.

He develops and maintains the state of the art demographic forecasting models at SCAG.

Simon taught project courses on urban planning and growth forecasting at the University of Southern California, and Simon was a research member of the Korean Institute for Human Settlements.

He received a bachelor's degree from the Yonsei University, master of city planning from Seoul National

University, and a PhD in planning from the University of Southern California.

Okay, Simon.

MR. CHOI: Thank you. It is my pleasure to be here. Since I came from a different work environment, the other three, you know, are real demographers, but I am a demographer and also a planner, so I will add a different flavor in the discussion.

Of course, I have been working on this projection over the last 20-year period, but also and always I try to work together as planning. You know, the travel plan is to work together with the many, many stakeholders. That flavor is included in our agent's projection, like the many other, the NPO or Region Planning Agency in California, they do similar to we.

And, you know, SCAG is covering Southern California's counties. You know, I don't know other parts of California so, probably, you know, I'm going to focus on that six counties. But the population is pretty big, 18 million plus, and that accounts for six percent of the nation and 48 percent class of California population.

And it is the fifth largest state if we call it a separate independent state.

So, because of that size, we always look at, you know, population using -- of course, we use cohort model and different model to, you know, understand what the picture should look like.

And, you know, I'm going to share my experience with you and for how I developed our new projection.

Actually, we had a new projection adopted in April 2012, that happened just a month ago and for three years we had been working on finalizing projections, and a lot of things happened. So, I'm going to share that one.

Before I get in there, you know, Hans and the Bureau talk about historic pattern of growth in California, and I'm going to add Southern California, SCAG region's growth in compared to the nation and to the State.

Actually, until 1990 SCAG was guiding -- the SCAG region was great California growth, research showing much faster growth.

But after 1990, over the last 20-year period, the growth is really behind the California growth. That means SCAG region is no more leading area of the California's population growth.

And, you know, if you look at relation, of course, you know that now the SCAG region, as well as California, are one of the other regions not anymore showing faster growth we observed, you know, 30 years ago or 40 years ago, so that has happened.

And monthly I look at the Census Bureau’s new population projection and that projection is a little bit lower projection than they did -- they had four years ago, 2008.

And when I look at 2035, they’re new projection is 20 million more than previous one, previous years, and basically migration is a big factor over there.

And I look at the SCAG region’s population growth that I have and then their new number. SCAG’s growth, you know, the annual average is 0.9 percent. And Census Bureau’s nation level annual average growth is 0.8 percent.

So, still, we are -- you know, however, still we have a little bit better more optimistic outlook in terms of population growth.

So, that is where we are and I feel, you know, how we’re going to project in SCAG region’s projection pretty much seems high from that perspective.

And then let me talk to you about, you know, my experience related to the power purchase development, the first one.

When we started, you know, our projection, we do that for our regional plan, called the Regional

Transportation Plan, or the Sustained -- or Region Housing Assessment.

We need to develop population and other variables, too, housing and employment. You know, those things are used to develop plans, so we should have a really good, you know, forecast to figure over there.

And in 2009, we started this projection and at that point, you remember that, in 2007 we started a new growing recession in the nation. Of course, basically started in our area, Southern California Region, and in two or three years when you look at it, 800,000 jobs lost, 800,000 jobs are gone immediately.

That happened in SCAG region. They can't develop projections without looking at the jobs. However, 800,000 jobs are gone and, you know, what would happen to population part? You know, people keep asking the question and we would answer that question.

And in many cases before, you know, what it did is, okay, short-term conversation or those things are not part of our population projection because we don't know the recession is going to happen in the middle of population projection. So, we didn't know that and we use some average, something like that.

However, this time it's different. We had the recession and we need to develop population for the next five years, ten years. And, of course, eventually we did develop 30-year projection and we had difficulties. So many challenges over to answer the question, you know, in order to answer that question we need to link job recession and recovery. We're just framework, we're the population -- you know, in order to tell the story for our local jurisdictions, all of stakeholders involved in this population projection process. That was the difficult part.

Of course, we eventually had an annual panel of experts to get input about where this region is going so we cannot -- so, we did it every year to collect information and then, eventually, and that was our third one, I think.

And the second one is you need a good trend data set, a recent data set to develop some projections. But at that time we have a choice, right, DOF develops estimate, also the Census Bureau developed estimate.

You know, in 2008, 2007 over here estimates are far from U.S. Census. And now Census and DOF give us maybe a different estimate over there. Usually we stick to DOF because we are part of the State. And that is not small.

You know, when we check data in 2009 and '10, there is 800,000 or more. That is the -- so, that is the chore that we faced.

And, eventually, that was corrected when the 2010 Census was conducted.

The point is, this is not traditional activity. You needed to change your projection every moment, whenever the information is available, and you should be objective. We did it. And, usually, the projections were wrong perhaps half the time -- there it was, then they forget and the next two or three years they need --

And from the one is, you know, the later -- the May 2012, Europe developed entry projection for the State of California and it was recently, the December 2012 Census produced the projection.

Fortunately, our SCAG region's population projection for 2035, when I compared that one to DOF number, its difference is only 0.3 percent.

And I feel very fortunate and lucky, and because those two different agency are in the same position, you know, the same page. And, also, the region developed data from the county to this regional block, area, and then they already -- you know, they agreed by all those local cities and counties in the region.

And, basically, we were able to develop whole data from large area of the State to very small area, you know, through the kind of nice consensus, collaborated by -- you know, that is the kind of work, you know, I think, already a high submission of the balance of economic and population we've always considered the kind of relationship between jobs and population, and household, and tried to -- you know, the relation of that, all of the projections make sense in terms of relation. That is the emphasis.

And also, we talked about uncertainty here. And, you know, of course, eventually these projections have created some uncertainty.

But, you know, in our case we put those two -- major variables, like population, households and jobs to give a nice package and develop a -- and if these -- you know, we have a different cause of -- underline those differences.

That is how we do it. And we don't know which one is correct, but that -- you know, that perspective, I think that the emphasis is pretty much, you know, the consensus approach of so many stakeholders I involved, and we listened to all of those stakeholders to put those things together and tried to come out with, you know, the consensus forecast.

That's how we do it and that's my story.

MR. HAVEMAN: Okay. Well, thank you very much, Simon. And thanks to all four of you, those were very informative sets of opening remarks, almost rendering a bunch of my questions that Jon alluded to a little bit obsolete.

But I'm going to go through them, nonetheless, so that we can collect all of your thoughts on the various issues.

And I think the issues will sort of boil down to three different categories. And one is trends and population growth forecast for California as a whole and we'll talk a little bit about that.

Then we'll move down to the various regions. You know, are forecasts substantively different for the various sub-regions of California? I imagine that they are and look forward to hearing what you have to say about that.

And then, perhaps, we'll get on to some special topic issues such as, perhaps, integration, household formation rates and the like.

So, to start off, and I would like to get thoughts from all four of you on this question.

Actually, before I forget, let me go through a question that Kate just handed to me. You know, she's wondering, you know, what data are you more likely to use, the Census or the DOF data?

And the answer really is both. Is that

sufficient?

(Laughter)

MR. HAVEMAN: We would like to get a little bit more insight into the differences between the two data sets.

Hans, maybe we'll start off with you.

MR. JOHNSON: I use both.

MR. HAVEMAN: Yes.

MR. JOHNSON: Sorry, Kate.

So, the Department of Finance has more information on what's happening at county and city levels, so it produces its estimates more recently. And for those of you who don't know, demographers characterized an estimate as a population that represents now or the past, and a projection is a population figure that refers to the future.

So, I use both. And as Simon alluded to, in the late 2000s, just before the 2010 Census it was problem because they were so very different.

And Bill will probably want to talk about why they were different and how the 2010 Census came out, which, if you take it on its face, seemed to suggest that the Census estimates were actually closer to what had been happening in California than the Department of Finance estimates.

Having said that, though, I think I appreciate and used the Department of Finance estimates partly because they're more timely, they provide more detail at the county level, but also because they have, I think, an understanding and a discussion with stakeholders in California about what's happening locally.

In terms of projections, again, at PPIC, where I work, we rely on the Department of Finance, primarily, again because they provide more detail, they're here, and the Census Bureau doesn't really do much. And whatever they do, they have to do for the entire nation and California's just one subset of that.

But there are other sources of demographic data that come from the Census Bureau, including their surveys, and the American Community Survey, most importantly, that I use all the time, and that I think a lot of us use and I know Bill uses, and his staff uses when they're looking at what's happening with our population and how it's changing. And that's a tremendous resource. The sample size is huge. It's much larger than the Current Population Survey which is used to look at unemployment rates. We use the Current Population Survey as well.

But the American Community Survey from the Census Bureau's a fantastic product for those of us who are looking at state level data.

MR. SCHOOLING: I'm afraid to say we use DOF data. But, no, we also look at the Census Bureau information. And in fact, the last decade, before I went to Arizona, I arranged a meeting between the Census Bureau staff and DOF staff to try to understand why there were differences, and they were substantial. And this was the first decade where the Census Bureau's method turned out to be better than the DOF method.

And I think there were a number of explanations for that, but part of the answer is simply that the county/state method that Finance had been using had grown a little bit tired, and some of the data that had been used for that method didn't test very well, and it's in the process of being reworked.

So, we'll see what the next decade holds.

MR. STILES: We're very omnivorous when it comes to using data. So, from the Census Bureau we rely on the ACS, we rely on the Decennial Census, we rely on the Current Population Survey. All of those ask different questions that allow you to get at different things.

We also take a look at things like vital statistics, which feed into demographic models so you can take a look at, first -- instead of kind of dealing with it in a simple way by, you know, race or ethnicity, you can also break it down by education, you can break it out by negativity, which allow you to get at some issues that, you know, simple population projections may not do.

We also take a look at kind of new forms of data, where they are kind of merging administrative data with survey data, so a really popular source of that kind of information is called LED, or LEHD. It's the employer household data which comes out of the Administrative Quarterly Workforce Earnings Data, which is subsequently linked by the Census Bureau to surveys of businesses, until you get extremely fine detail. It's released as synthetic data because, of course, there's disclosure risks with it.

But all of these forms of data can inform different parts of the discussion about how the population is changing.

MR. CHOI: Yes, we also, as a planning agency, use both, each data set for different analytic purpose.

But sometimes we are, you know, bound by State law to use -- we are supposed to use the DOF data set.

For example, we have the State Regional Housing Assessment Program and they clearly say that we need to use the DOF data for the base year, even for the projection we should -- our numbers should be close enough to DOF. If not, we are supposed to use DOF numbers.

That kind of, you know, the State laws are there and, you know, make us use it.

However, we also develop different plan, like the Region Transportation Plan, it is Federal program and they don't specify the kind of requirement, but only requirement is they want to us to use most recent, latest information when we develop plan. So, we have a choice, Census or DOF.

So, otherwise, we generally use both data whenever needed, you know.

MR. HAVEMAN: Okay, thank you, gentlemen. Now that we've satisfied a bunch of the data junkies in the room, let's turn to sort of some bigger picture issues for California.

Several of you remarked on this issue already, but the issue is how do you expect California's population growth to be in the near future?

And, Hans, I don't think we need to go out 100 years, but probably just the next 10 to 20 would suffice.

But how do you expect future population growth in California to be different from the historical rates and what are some of the driving forces behind those differences?

MR. JOHNSON: I’m going to punt to Bill, who’s about ready to be producing new projections for California.

MR. SCHOOLING: Okay. Well, as you know, growth in California has slowed down after 2005, with the housing collapse. And even it’s still been slow in the last couple of years, but we’re seeing some signs that it’s picking up and we think that it will start growing and has started to grow a little bit faster over the period that you’re concerned with, the 2024.

However, again, it’s not going to be -- we’re not going to see those three and four percent per year type growth, it’s not going to be anything that high.

And by the way, the UN projected all the way out to 2300, but their range was 2 billion to 36 billion.

MR. JOHNSON: And they don’t even have to take into account migration.

MR. SCHOOLING: That’s right.

MR. HAVEMAN: Anybody else want to weigh in? Jon?

MR. STILES: Well, I would expect it to be fairly small. If you look at kind of the post-work period, we’ve had basically three kind of peak periods where there’s been relatively large growth. And kind of in the late fifties and early sixties where you got growth that was up to like 4 or 4 and a half percent of the population.

We had another peak in the late 1980s where it got up to about two and a half percent of the population.

We had a third peak around the turn of the century where it got up to about one and a half percent.

Those were all driven by different factors. So, in kind of the first peak what we saw driving that was primarily domestic migration. I think that Hans went through this, as well.

In the second peak what we saw driving this was still largely domestic migration, but also fertility.

The third peak was driven almost exclusively by natural increase. In fact, what we've seen since basically 1990 is domestic migration has been negative in the State except for, you know, a brief period around the turn of the century.

If you break down the domestic migration even further what we see is in-migration to California seems to be actually fairly steady, around 300 to 400 thousand per year.

What really seems to be jumping around and driving the variability of the net migration, net domestic migration is migration out.

So, part of that is absolutely being driven by the economy. It's a little difficult to say what's going to happen. We expect our economy to be recovering. But we also expected the economy of the rest of the county to be recovering.

So, I would anticipate that we would be seeing growth along the order of what we've seen it the last, you know, five to six years which is, you know at one percent or below.

MR. CHOI: Yes, I looked at the DOF, the database focusing on our SCAG region and, you know, in early 2009 I looked and every year we added 300,000 people, you know, then regionally. And now, it became 150,000 per year. So, we added only 300,000 since 2010 Census.

Now, we are having 20.3 million and 48 percent of the California State population.

So, that is what's happening. However, given the Census Bureau's national level projection, still we are within range, still we maintain six percent of the future national population, you know, in 2035. So, I think still we maintain our share.

And Jon was mentioning about the migration and it cannot be -- definitely, we translate that into our monitoring process. So, if there is a kind -- if the economic is -- then, you know, unemployment rate is going to get low and, you know, then eventually get a -- bring in more migrants, especially from the other parts of the country.

And international immigration is beyond our control because we never know, so we try to use the same kind of historical pattern to some extent. But always we adjust our domestic in and out migration depending on economic value. So economy plays a big role as constrained over there.

So, if somebody gives us a big, you know, job projection then eventually we need to bring in more migrants and then we have a more population compared to available jobs.

By doing that, we maintain some balance and we have some set, a coherent set of data set.

MR. HAVEMAN: Thank you. And a related sort of question here is to what extent might water supply influence California’s population growth?

MR. JOHNSON: Let me note, statewide demographers have not used and still don’t use water supply or constrained water supply as a factor in developing their projections.

My understanding is that there is plenty of water in California in urban users if we have a tradeoff between urban and agriculture uses. And so the vast majority of water use in California remains in agriculture. That doesn’t necessarily mean it’s a good outcome if some of that water starts getting used for urban use instead of for agricultural use.

But it is the case that urban users have been and will continue to pay a lot more for water than -- per unit of water than agricultural users do.

So, there were water markets in times past where agricultural users have been happy to sell their water to urban users because the urban users are willing to pay a pretty high price for it.

So, I don’t know that there’s really so much of a problem with capacity. And I know that there are a lot of water people who are working on water capacity and figuring out how to increase capacity.

But from a population stand point, it’s hard to imagine that water is going to be really the key constraining factor in our population growth going forward. That’s my view.

MR. SCHOOLING: I agree with Hans.

MR. CHOI: The water supply user is -- you know, the population did a county level of the probability that it might not be an issue at all because water can be available through many sources.

But if you go down to some city level, some city might be very concerned about their water and, you know, supply, and water increment because they need to invest money to make water increment available, or those things should be available as part of infrastructure, but they cannot invest. That is the region.

So, sometimes because of the water supply or water issue, they might have, you know, the lower, you know, the projection. Then we think, you know, we say so what's the solution and there might be some concern there.

MR. JOHNSON: And I think sometimes local governments have used water to keep growth from occurring. So, there's a causal question here of whether it was -- for example, Marin County has had very little population growth for a long time. That is an intentional policy in Marin County, there's open space preservation.

And one way they've achieved that is by limiting water hookups.

Marin County, presumably, if they wanted to have more growth, could probably go out and find more water to bring in and provide more water hookups.

But there's a political consensus in Marin

County that is opposed to new growth.

And so I would not necessarily characterize that as a water issue for Marin County, as much as it is a political consensus in Marin that they don't want growth, and one way they can run with that is by not having new water hookups.

MR. HAVEMAN: Okay, that's enough bad-mouthing of Marin.

MR. JOHNSON: Where Jon lives.

MR. HAVEMAN: That's where I live.

So, a bunch of different demographic trends have been mentioned throughout your opening statements and answers to the previous questions. Now, I'm going to get you to sort of pinpoint what sort of the most important trends are for California, you know, just your top two, of course, over the next decade, decade and a half.

MR. JOHNSON: So, my top one is the aging of the baby boom and the need to replace those skilled and highly-educated workers with a new cohort of young adults with high levels of educational attainment in California.

Jon Stiles has done a lot of work with this. We've done work on this at PPIC. I think it is the single biggest threat to California's future prosperity if we aren't able to improve educational outcomes for young adults in our State.

And that's certainly both something that feeds into the economy and that the economy helps create the demand for.

But right now, from our projections, California's going to fall well short of where we need to be in terms of producing college graduates unless we have increasing rates of college going among recent high school graduates, and then our college completion for those who are in college.

MR. SCHOOLING: And again, I would agree with Hans and I think part of that discussion involves ensuring that the future of Californians, who are more diverse than historical California has been, are able to have those educational opportunities to ensure a smooth transition into the future of California is going to be big.

MR. STILES: I'm going to have to sing with the choir on this one. I absolutely think one of the most important things is how we're going to be educating that large cohort of young adults in California who are going to have to replace the retiring baby boomers.

Somewhat related to that is the issue of domestic migration and to what extent that California is going to be able to attract and continue to attract the most educated.

Because while in general domestic migration has been a net negative for California, that is not true equally across all educational veins. California continues to attract the more highly educated and tends to lose the less educated. And the extent to which California is able to do that is, I think, important.

MR. CHOI: I read, you know, a lot of those numbers and the aging baby boomers, this really has a serious effect. In the SCAG region we have two million people that are 65 years old or more. But, you know, 20 years later that number will double. So, you know, guess what might happen? We need to do a lot of study over what kind of community needs are needed.

In addition to that, actually, you know, I have one issue that we need to pay attention to, and that is relatively low fertility rate of Hispanic immigrants. And these women, you know, they do not have a baby or children that is as observed in the past and they're quickly reducing the number of children they might have. And it moves very, very fast to a certain extent.

And, of course, it is relative to the kind of recession we recently observed. But to a certain extent many of the women who are in the minority go to college, and they delay their marriage and delay their having kids, and those things.

So, probably, that could have a serious impact. So, on the one side we are seeing more of aging population and then less children and middle, the working population where we, to some extent, need to support all those people.

So, that is one thing. And the other one is a little more of the region is that, you know, we see more people that are in place in suburban areas, they're not going to move back to the city or where the cities are developing.

So, probably, eventually, you know, probably 20 years later this is probably very severe. But, you know, a lot of facilities need to be available through the mortgage system, you know, because they can't drive from the suburban areas, you know, to the service areas. So, those kind of service delivery systems should be, you know, conducted or discussed.

MR. HAVEMAN: Those are the two that I think are certainly just aware of. And I look at population change charts for the Bay Area and you see a decline of a population of about 200,000 in the 35 to 54 age group, and a similar increase in the 65 to the 75 age group. That's got serious implications for policy in that area.

And at the same time you see home prices -- even after the bubble has burst, you see home prices much higher in the Bay Area relative to other places in the United States than they have historically been, making it harder to attract people to fill those jobs that are going to become available.

So, it's really a challenging opportunity.

You know, that said, and those two I think are the elephants in the room, what we'd like you to talk a little bit about is sort of what's the major trend that nobody's aware of? Is there something happening out there that's sort of off the radar screen that, you know, the Energy Commission or other policies might do well to be aware of?

MR. JOHNSON: Well, I think there are a couple that I would mention. Certainly one thing, if I was at the Energy Commission and I wanted to be thinking about new housing, from a population demography stand point, we look at household formation rates. And one characteristic of young adults in California, and more so here than in the nation, but also in the nation, is that they've had relatively low household formation rates compared to previous generations of young adults.

And there are a lot of reasons people are positive for that, certainly the recession is one of them. It's harder to go out and form your own household it takes money when you don't have a job.

And also, people have mentioned student debt and rising student debt as a competing source or prevention from people being able to consume more housing or housing in the way that they would have in the past.

On top of that we have these long-standing trends in our society towards later ages of marriage, later ages at having children, and that fewer children as well, all of which would serve to depress household formation.

So, I think one key thing that I would look for and it's not a trend that necessarily anybody doesn't know about, because it hasn't happened yet, but it is to what extent is this young adult generation going to start catching up as they age into their thirties and older, and start consuming and forming households at rates that we would expect based on an historical standard?

And if they do that, then there will be a pretty dramatic increase in the demand for housing in California and that demand for housing will occur in the context of even though we've had this big bust, vacancy rates in California are pretty low. They're low compared to the rest of the nation. They're higher than they were in California in the past, but there isn't a tremendous amount of housing that can be consumed because it's vacant now and people would be able to move into it.

And in fact, when we look at rental housing for example, we have some of the lowest rental housing vacancy rates in our metropolitan areas in the nation.

So, that does mean if there's this uptick in demand for new housing among these young adults, as they start to age, that should get expressed as new housing construction in the State.

The other trend that I think is at least somewhat new and really remarkable has to do with international migration to California. Over the last five years or so we've had a tremendous change in the countries of origin of those migrants. In 2005, about -- well, I have the numbers here.

For the preceding year, 142,000 arrivals came from Latin America, this is using the American Community Survey, 108,000 came from Asia, so substantially more from Latin America than from Asia.

In the most recent year we have data for, 2010-11, and this is continuing a trend, this isn't just a one-year thing, but this has been happening consistently, now the number of immigrants from Asia is about two and a half times greater than the number from Latin America, 159,000 from Asia, 60,000 from Latin America.

And there are very large differences in those immigrants in terms of educational attainment. Some of the best educated residents in California are, for example, immigrants from India, over 70 percent of them have a bachelor's degree when they arrive here.

MR. SCHOOLING: Well, I think one of the things that at least I consider interesting is, and Simon talked about this, how far the Hispanic fertility rate, even though they are still the highest in California, how far they have fallen. And watching that to see how much of a bounce back we get once the economy is pumping along at a little bit higher level than it is now, we do expect to bounce back, but we don't know how far it will bounce back, or if that will be a temporary rebound.

I would also think the -- a couple of studies that I've seen recently have indicated that interstate migration has fallen across the U.S., which is interesting in and of itself. But I thought that might be just attributable to the older age groups because as we age, we're less likely to move across state lines.

But we did look at it and in fact it's across all age groups that there has been a decline in interstate migration.

It's not very much once you're past 35, but it's very significant under 35 how much less they're likely to move across the state line. And we don't know how that's going to play out in California in the long run.

We don't know, for instance, if it's a generational issue that the current generation wants to stay closer to home?

We're also considering maybe this is due to smaller family sizes. You know, back in the Middle Ages people who weren't the oldest son would tend to go off and join the military. And maybe because they're all only a couple of kids in most families, maybe that's just drawing them a little bit closer and a little more reluctant to move out.

International migration; California's still the primary gateway for the U.S. and I don't see that changing. I think U.S. policy can certainly have a major impact there.

We see studies that talk about the huge increase in foreign-born population in other states. I think there was one that talked about a third of the foreign-born population in several states, Montana, North Dakota, and so on have arrived since 2005. And that kind of blows you away when you think of the huge number, but then you look at it and in fact it's only a few thousand people. So, we have 10 million, so it's not a real comparison.

So, I think that U.S. policy is kind of an unknown there.

MR. STILES: I can't think of any particular hidden trends. I guess what I have is a question and a topic that I'm watching pretty closely and that's when this recession is over, when this housing bust has bottomed out, which it seems to have, what's going to happen? How's that going to affect the population change?

And there's at least three paths that we can think of. One is that recessions, in general, tend to have an effect on depressing fertility. So, we're expecting that there's fewer people that are being added to the population in the recession than would otherwise be the case.

The second is because of the over-valuation of houses many people were locked into their house. Even if there are job opportunities elsewhere, they can't take advantage of those job opportunities because it would force them to take an extremely large loss, and so that has depressed migration.

And then the third, of course, is that in depressed economies we tend to see people pooling resources and so we get household consolidations among generations and among friends and relatives.

As this recession recedes, it will be really interesting to see how those things which, presumably, all should lead to increase in both household formation and in population size will play out.

MR. CHOI: In the morning session I saw the nice, two-line charts showing the pattern of energy consumption and job employment. And, interestingly, those two variables showed a really good, high-level correlation, and I am very impressed.

But in order to be a good model and in order to regularly, tell the history and align the model, and I believe it's probably considered more variable.

And from the demographic side we have a great data set by age, and by immigration status, by length of period, overall period of immigrants. Because depending on how long the immigrants stay here, they have a different energy consumption pattern.

And then, also, you know, the fertility behavior of different ethnic women and those things can be part of our modeling framework and tell us, you know, that we can develop a different scenario depending on, you know, how demographic future look.

So, at least by doing that I know we can have a more, you know, plausible policy options.

MR. HAVEMAN: Okay, thank you.

So, this is a question that I know each of you could probably spend hours talking about, but if relatively briefly you could talk about the regional differences we might expect to see in population growth, are coasts more likely to grow or are inland areas more likely to grow?

And in particular, is migration within the State currently coast to inland or vice-versa, and is this a long-term pattern?

MR. JOHNSON: I'm punting, again.

MR. SCHOOLING: I think we'll see a continuation of that coastal to inland trend, with the coast reinforced with immigration.

We see a lot of growth still in the Inland Empire, and the rest of Southern California as well.

MR. HAVEMAN: Excuse me, Bill, I'm just told that people are having a hard time hearing.

MR. SCHOOLING: We do see a lot of growth in the San Joaquin Valley, as well as in the Inland Empire. We think that the Sacramento area, including some of the outlying counties will grow substantially, as well.

Where we don't see growth are the more remote areas. If you get up into Northern California, to the North Coast, or the Siskiyou, and Modoc, and Plumas, and even further down into Mono and Inyo County, and in between the population is aging. We're looking at a median age of more than 50 by 2030. So, we don't see the growth until that population is replaced, which it eventually will be, but very little growth there.

MR. SCHOOLING: Anybody else want to weigh in on regional differences?

MR. CHOI: In California, you know, as I mentioned to you, SCAG region is pretty big and we observe, you know, the several organizations, actually, the Coastal County, Los Angeles, and Orange County, you know, they are what your county and natural point is there already, and a lot of people have now moved to neighboring counties, Inland Empire, Riverside, and San Bernardino County.

And let me read some statistics for you, the last 20 years, between 1990 and 2010, those two towns, Riverside and San Bernardino County, we called it Inland Empire, increased their share from 18 percent to 23 percent, simply the share increased by 5 percent over the last 20 years.

That, you know, a lot of people have moved from that coastal town to Inland Empire.

And, of course, we assume that this pattern will continue the next 25-year period, between 2010 and 2035 the path of growth in the region will occur in this Inland Empire.

Total growth over the region is around 4 million, we will add 4 million people into SCAG region between 2010 and 2035. And, you know, almost nearly 2 million people will live in those two Inland Empire Counties, as you heard about it in kind of a big movement that will occur.

Even though the future projected total population size was scaled down compared to previous projection surveys, still the pattern continues.

And also, in terms of aging distribution, you know, the aging employees happens, still the people are getting old in the place they live now.

MR. HAVEMAN: Okay. Well, thank you very much, gentlemen.

I think I'm going to offer you the opportunity to offer up some closing comments. If any of you would like, take a minute or two to summarize your thoughts?

MR. JOHNSON: So, I'll start. I think that one of the fundamental tensions going forward is that we've gone through this period that's been pretty volatile, caused by a lot of uncertainty or a lot of volatility especially in domestic migration. It was the source of the difference between the Department of Finance estimates and the Census Bureau estimates in the past.

And there's some really interesting trends that we're observing, that you've heard about here today.

And I think most of us think that the international migration is going to remain strong to California, maybe not as strong as it was in the past, but still pretty strong.

And so the real question about what the State's future population is going to be is going to depend on how much movement we have here from other states.

There's, I think it's Gallup, it might be another one of the national survey firms, that asks a question every year or two about what state you would like to live in, if you didn't live in your own state?

And California almost always ends up number one or number two in that list. You know, it's kind of a pop question so we probably shouldn't take the answers too seriously, except that I think it suggests that there is still a strong kind of attitude or idea in much of the country that California's a desirable place.

And I think what keeps a lot of people out of California has to do with certainly the economy, most recently, but maybe more longer term has to do with the cost of living here, and really that comes down to housing.

And the places in California that have the highest housing costs are also the most constrained in terms of how much population they can or are willing to accommodate.

And I think that those kinds of issues are going to govern, to a large extent, where we end up as a State in terms of future population.

MR. SCHOOLING: Well, there are just a couple of things that I'd like to mention. A PEW Study from last year talked about a survey that they had done in Mexico and the background on it was that right now or over the last couple of years that emigration has equaled immigration from Mexico to the U.S. And they talked about how the fertility in Mexico has gone down, the economic improvement that Mexico has seen, and what the potential is for the future.

But they also conducted this survey in Mexico where they found that 38 percent of the residents would move to the United States if they had the opportunity. So, there's still that dynamic out there and that potential.

The aging of the baby boomers, there's still some cards that haven't been played, I think by the baby boom.

Kate, at one point, had asked the question of what demographic trend is going to have the biggest impact in California and I think the answer to that is the one we don’t see coming. There’s always going to be a surprise.

MR. STILES: I don’t think I have anything to add to my comments.

MR. CHOI: Okay, I want to say that, you know, I came from a planning agency so pretty much I have a comprehensive or more, you know, integrated perspective on dealing with demographic issues.

So, when I develop a population projection of course it’s composed of three major components. First, there’s migration and, however, when you develop -- some, you know, assumption over there I look at job perspective, also. And also, housing, you know, there are projection, too. All of those information are coming from different sources, so many people and, you know, you need to sort out how -- you know, which one would be reasonable in the future to be used when you develop those assumptions.

And then you can get ready, prepared to tell the proper story, you know, to testify your compilation projections.

So, I think there is kind of, to some extent, a planning approach.

The other one is I want to add one more thing here, household size, there was some question about household size. You know, household size is derived by looking at housing number and population, right, so it’s simple, straight forward.

And you already heard about demographic process. The population is aging and we are not going to have the children we used to have, as recently we’re supposed to have household size as the past, or in the future.

But, actually, the SCAG region is interesting, household size went up from 1980. 1980, you know, let me give you a number here. This is household size, so regional population divided by household. In 1980 it was 2.73, and then in 1990 it was 2.9. It jumped. At that point we added 3 million people in that kind of period. Of course, we didn’t put much in housing in comparable to that population growth.

And 2000 we increased again, 3.01. And in 2010, 3.03. Now, the pattern is very stable, however, you remember that between 2007 and 2010 we experienced great recession. We lost 800,000 jobs as a result, and we also has less immigrants over there.

So, we have more population, still, because of that we have 3.03. And we do not see, you know, the lower household size. And, however, in our projection still we are optimistic and we assume that immigrants will get assimilated and they will have less family member and then, hopefully, they'll go down in the future.

But, you know, of course, college is important. We need to make affordable housing available. Also, many college issues or colleges should be -- you know, are there to be in line with that kind of demographic pattern we're going to see in the future.

MR. HAVEMAN: Okay. Well, thank you very much, gentlemen. Certainly a very informative discussion, certainly for me, and I'm guessing for the Energy Commission as well, so thank you very much for your time and your comments.

MR. KAVALEC: Do we have any public comments that folks want to make for the record.

Well, in closing I'll just say that we, the staff, want to continue this discussion with some of these economic and demographic experts in a more informal manner because this is, obviously, such a critical part of the analysis that we do here.

Also, these issues will come up again as we develop and present our demographic forecast, which is going to be used for our IEPR Energy Demand Forecast.

And as I mentioned, we're having a workshop on the 19th, where we're going to present all of our forecast assumptions, including the economic and demographic assumptions that we propose be incorporated into our Energy Demand Forecast.

So, that's it, thanks a lot for coming. Drive safe.

(Thereupon, the Workshop was adjourned at 3:02 p.m.)

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