REVISITING CALIFORNIA'S ENERGY FUTURE

(REPORT #223, OCTOBER 2014)

A LITTLE HOOVER COMMISSION LETTER REPORT
TO THE GOVERNOR AND LEGISLATURE OF CALIFORNIA

To Promote Economy and Efficiency

Little Hoover Commission

Pedro Nava
Chairman

Loren Kaye
Vice Chairman

Katcho Achadjian
Assemblymember

David Beier

Anthony Cannella
Senator

Jack Flanigan

Don Perata

Anthony Rendon
Assemblymember

Richard Roth
Senator

David A. Schwartz

Jonathan Shapiro

Sumi Sousa

Commission Staff

Carole D'Elia
Executive Director

Jim Wasserman
Deputy Executive Director

Ciana Gallardo
Research Analyst

The Little Hoover Commission, formally known as the Milton Marks "Little Hoover" Commission on California State Government Organization and Economy, is an independent state oversight agency.

By statute, the Commission is a bipartisan board composed of five public members appointed by the governor, four public members appointed by the Legislature, two senators and two assemblymembers.

In creating the Commission in 1962, the Legislature declared its purpose:

...to secure assistance for the Governor and itself in promoting economy, efficiency and improved services in the transaction of the public business in the various departments, agencies and instrumentalities of the executive branch of the state government, and in making the operation of all state departments, agencies and instrumentalities, and all expenditures of public funds, more directly responsive to the wishes of the people as expressed by their elected representatives...

The Commission fulfills this charge by listening to the public, consulting with the experts and conferring with the wise. In the course of its investigations, the Commission typically empanels advisory committees, conducts public hearings and visits government operations in action.

Its conclusions are submitted to the Governor and the Legislature for their consideration. Recommendations often take the form of legislation, which the Commission supports through the legislative process.

Contacting the Commission

All correspondence should be addressed to the Commission Office:

Little Hoover Commission
925 L Street, Suite 805,
Sacramento, CA 95814
(916) 445-2125
littlehoover@lhc.ca.gov

This report is available from the Commission's website.

State of California

LITTLE HOOVER COMMISSION

October 24, 2014

The Honorable Edmund G. Brown, Jr.
Governor of California

The Honorable Kevin de León
President pro Tempore of the Senate
and members of the Senate

The Honorable Bob Huff
Senate Minority Leader

The Honorable Toni G. Atkins
Speaker of the Assembly
and members of the Assembly

The Honorable Connie Conway
Assembly Minority Leader

Dear Governor and Members of the Legislature:

For decades, California energy policies have led the nation and much of the world. In 2011, California lawmakers added to this tradition, adopting the highest Renewable Portfolio Standard in the country. An unprecedented one-third of all California retail electricity sales must come from renewable power by 2020. As a result, the state is undergoing a massive transformation in the way electricity is produced and distributed. This policy sparked the Little Hoover Commission review of energy governance in California and its 2012 report, *Rewiring California: Integrating Agendas for Energy Reform.*

The Commission's 2012 review focused on ensuring that California succeeds in transforming its electricity system while simultaneously implementing greenhouse gas emission reduction goals and water quality policies that affect electricity. In enacting its ambitious renewable energy goal, California lawmakers neglected to ask how much will it cost? An essential component of implementing the renewable portfolio standard is a firm commitment to fiscally responsible stewardship. Thus, in its 2012 report, the Commission requested that the administration examine how much, in the aggregate, will recent major policy changes related to energy affect electricity reliability and rates, and are these policies achieving California's stated energy goals?

We are deeply concerned that insufficient attention has been paid to this issue. Despite the Commission's request in 2012 and in subsequent inquiries, Californians still lack the measuring tools to evaluate the full costs of implementing the renewable portfolio standard simultaneously with other major energy policy goals. Given the positive record of California relating to affordable electricity through energy efficiency, we are disappointed that the cost side of the equation has received inadequate or incomplete attention.

Without more commitment to addressing this set of issues this veil of fiscal ignorance could undermine California's reputation for environmental stewardship and weaken efforts to implement similar policies nationwide and beyond. We all will be much better off if we have a steely-eyed review of the costs so that the benefits can be fully seen and understood.

The nation and the world look to California on energy policy. National policy currently is being modeled, in part, on California's progress. In June 2014, the U.S. Environmental Protection Agency unveiled draft regulations that require all states to reduce greenhouse gas emissions from power plants. These proposed rules, groundbreaking for the federal government, ring familiar in California. In 2006, California policymakers enacted AB 32, the Global Warming Solutions Act, which aims to reduce greenhouse gas emissions to 1990 levels by 2020. The cap-and-trade program created by the act is now being considered by other states.

The Renewable Portfolio Standard is just one piece of the greenhouse gas reduction puzzle. But if it is not managed carefully, it could lead to unnecessarily higher electricity rates. Or it could potentially increase greenhouse gas emissions from the energy sector if new natural-gas-fired peaker plants are needed to quickly replace renewable energy when the sun is not shining or the wind is not blowing. Recently, economists have raised new concerns that too much solar power in the middle of the day will lead to energy being wasted.

Because so much is at stake and the consequences of failure so high, the Commission in its 2012 report committed to continued oversight of progress in achieving California's energy and environmental goals. As result of this oversight commitment, the Commission held a public hearing on April 24, 2014.

In its 2012 review, the Commission raised concerns that electricity must remain reliable and affordable as the state achieves its environmental and economic goals. April hearing witnesses pointed out that Californians care most that the lights stay on and their utility bills remain affordable. Even though California has higher-than-average electricity rates the success of the state's energy efficiency policies has kept monthly electricity bills for most Californians low. In 2012, California residential electricity bills were nearly 20 percent lower than the average U.S. electricity bill.[1]

Our 2012 report urged the state to develop a comprehensive energy strategy to ensure that California would achieve its environmental goals while maintaining reliable and affordable electricity. There is growing agreement on the need for a plan and the Commission looks forward to progress. The Commission also recommended the state assess its energy governance structure to determine if a more modern approach might improve accountability and transparency. The Commission applauds the improvements in coordination, particularly the efforts memorialized in public documents. But it still sees a need to review whether governance structures designed decades ago are nimble enough to tackle a rapidly evolving, technology-driven electricity system.

In short, the Commission found that many of the questions and concerns raised in its 2012 report remain. Because of the high importance and the identified concerns, the Commission is committed to continued ongoing oversight and will revisit this topic in 2015. The Commission is available to meet with you to discuss further opportunities for improving California and stands ready to assist in ensuring the success of California's electricity transformation. Above all, in order to sustain confidence about the state's energy policy choices, the Commission urges transparency on the costs and benefits of the massive transformation of the electricity system in California.

Sincerely,

Pedro Nava
Chairman

Revisiting California's Energy Future: A Little Hoover Commission Letter Report to the Governor and the Legislature

Table of Contents

Introduction..... 1
Still Unknown: How Much Will it Cost, in the Aggregate?..... 3
California Still Lacks a Comprehensive Energy Plan..... 9
Coordination Improves, but Structural Flaws Remain..... 11
Conclusion and Recommendations..... 15
Appendices & Notes..... 19
Appendix A: Public Hearing Witnesses..... 21
Appendix B: Cover Photo Credits 23
Notes..... 25

Table of Sidebars

Costs and Consequences of a Higher Renewable Portfolio Standard..... 7

Introduction

In its December 2012 report, *Rewiring California: Integrating Agendas for Energy Reform,* the Commission committed to following up on the concerns it raised and as a result, held a public hearing in April 2014. The Commission invited a senior policy advisor in the Governor's Office and the leaders of the state's three energy organizations – the California Energy Commission, the California Public Utilities Commission and the California Independent System Operator – to provide an update on the progress in responding to the Commissioners concerns. In the 2012 report, the Commission asked a question that should have been raised by lawmakers when enacting the Renewable Portfolio Standard in 2011: how much is it going to cost? In its 2012 report, the Commission asked the administration to task the appropriate state organizations to assess how much in the aggregate recent major policy changes related to energy will affect electricity reliability and rates, and whether these policies are achieving California's stated energy goals. The Commission also asked the administration to identify barriers that needed to be overcome so that California consumers can better manage their energy use and take advantage of fiscal incentives to reduce and strategically time energy consumption.

In its 2012 report, the Commission also recommended the Governor, through a public process, establish a comprehensive plan to prioritize current and future energy goals. The Commission recommended that the plan identify what actions need to be taken and in what order to maximize progress toward the stated goals and include guidelines to ensure any new proposals are consistent with the goals of the plan.

Finally, the Commission recommended that policymakers develop a plan to modernize California's energy governance structure. The Commission has had concerns for decades with the state's energy organizational structure and the lack of a clear leader. In its 2012 report, the Commission found that ultimately, accountability for ensuring an affordable and reliable electricity supply lies with one individual – the Governor.

In addition to government officials, the Commission also invited experts and stakeholders from outside government to the April 2014 hearing. These witnesses included consultants from Navigant Consulting, Inc., and Energy + Environmental Economics, Inc., (E3), the president of the

California Business Roundtable, representatives from the Greenling Institute and Natural Resources Defense Council and a University of California, Berkeley, professor with decades of research experience in electricity markets. The witnesses are listed at the end of this document and their written testimony is available on the Little Hoover Commission website at www.lhc.ca.gov. The following pages summarize what the Commission learned at the oversight hearing and the Commission's response. Overall, many of the questions and concerns raised in the 2012 report remain.

Still Unknown: How Much Will it Cost, in the Aggregate?

Lawmakers enacted SBX1 2 (Simitian) in 2011, the 33-percent-by-2020 Renewable Portfolio Standard, without any real, serious consideration of the cost. An analysis of the bill indicated the state could expect tens of billions of dollars in one-time costs over the 2011-2020 time period to construct capital projects and a 7.1 percent increase in statewide electricity expenditures.[2] This estimate was based on a 2009 CPUC staff report. Although the CPUC did not have an updated model in 2011, it contended that the estimate for the bill analysis was "a useful reference."[3]

Lawmakers indicated a concern regarding costs by including a requirement in the legislation that the CPUC establish a cost limit for each investor-owned utility for the procurement of eligible renewable energy resources to meet the Renewable Portfolio Standard program requirements. More than three years later, it is not clear how this cost containment will work or when it will be implemented. CPUC staff filed an initial proposal for methodology to implement the procurement expenditure limitation in July 2013 and a revised proposal in February 2014. As of October 2014, no additional updates have been posted by the CPUC regarding the cost containment requirement.[4]

At the April 2014 hearing and in written materials provided to the Commission, an official from the California Public Utilities Commission (CPUC) indicated average annual electricity rate increases over the next five years would range from 2.35 percent to 4.2 percent. Ed Randolph, director of the CPUC Energy Division, testified that the estimate was based on various assumptions, including rate case authorizations and gas price forecasts. He told the Commission it was difficult to provide details on the assumptions for the forecasts as they included confidential data. According to Mr. Randolph, "Making this stuff public starts becoming difficult. If it's a useful tool, people have to understand the assumptions. The more assumptions you provide, the more you are getting into confidential data and the more difficult it gets."[5]

At the hearing, Mr. Randolph indicated the CPUC planned to release a five-year rate forecast report in May 2014. The Commission followed up at the end of May 2014 to request a copy of the forecast and learned that

only a one-year forecast was available as some of the data provided to the CPUC by one investor-owned utility was incomplete.[6]

The Commission acknowledges the difficulty in forecasting future electricity rates. According to the CPUC, approximately 56 percent of the costs driving rates can be forecast with reasonable accuracy. The remaining 44 percent – typically the cost for power and fuel – are pass-through costs involving no profit for the utilities.[7] These costs are harder to forecast. Worldwide events create fluctuations in natural gas pricing, for example, which currently is the backbone of California's electricity system. More than 75 percent of the natural gas required to power California's electricity system is imported.[8] The frigid winter of 2014 led to sharp increases in the cost of natural gas nationwide. The relatively mild summer of 2014 led to sharp decreases in cost.[9] As renewable energy increases as a percentage of total electricity generation it should become easier to forecast rates as renewable contracts generally exhibit more cost stability.[10]

In discussing how each of the various energy-related policy decisions affect rates, Mr. Randolph stated that it is not an easy task and added that as far as any future forecast involving cost, "the one thing I can guarantee you is it's going to be wrong."[11]

He did say that about 50 percent of what drives forecasted rate increases is new generation, although the CPUC is still analyzing how much of that is renewable energy versus other sources of generation. Other primary drivers for rate increases include grid modernization and infrastructure upgrades, gas pipeline and other safety-related investments, and replacement power for the retired San Onofre Nuclear Generating Station.

Currently the CPUC and the investor-owned utilities it oversees are the only organizations that can view the power purchase agreements that might shed light on future rates. These agreements must remain secret for three years. Shortening the timeframe for contract secrecy would allow outside organizations the opportunity to use the information in rate forecasts.

Lots of Studies, But Questions Remain

Since the Commission's 2012 report, numerous studies, some statutorily required, have been published that provide insight on future rates, but do not directly address the Commission's question regarding the aggregate costs of multiple policies and progress toward achieving environmental goals.

California Public Utilities Commission. Each April, the CPUC is statutorily required to report on the costs of programs mandated by statute and by the CPUC for the three largest investor-owned utilities.[12] Another required report summarizes increases associated with meeting the Renewable Portfolio Standard. Yet another report details the costs of all electricity procurement contracts for renewable energy resources.[13] The 2014 edition of that report indicates the costs for renewable energy will go up in the short term as the facilities related to the power-purchase agreements that the large investor-owned utilities entered into in 2008 and 2009 come online. In future years, renewable costs will decline as electricity from more recent, lower-cost agreements is added to the mix.[14]

California Energy Commission. The California Energy Commission produces a biennial Integrated Energy Policy Report that assesses major trends and issues facing the state's energy sectors.[15] The 2013 report included cost estimates for new electricity generation. In May 2014, the commission issued a draft report that looked specifically at costs for developers to build new power plants, but did not include the cost to utilities or consumers. The report projects that costs for certain solar photovoltaic and solar thermal technologies potentially will be reduced by as much as 45 percent to 51 percent over the next 10 years.[16]

Navigant Consulting, Inc. At the April 2014 hearing, Patrick Mealoy, managing director of Navigant Consulting, Inc., presented data on costs based on the firm's August 2013 report on regulatory cost drivers in California's energy markets prepared for a coalition of organizations concerned about the state's energy policies regarding electricity, natural gas and fuels. In that report, the authors assessed the effect of three major policies on energy prices, the Renewable Portfolio Standard and other renewable requirements, the cap-and-trade program and the low carbon fuel standard. Navigant found that historically, average rates for the five largest utilities in California increased at a rate below the Consumer Price Index (CPI). The 2013 report indicates that average rates are expected to increase at a pace in excess of the CPI through 2020.[17]

Energy + Environmental Economics, Inc., (E3). The Commission also reviewed an E3 report assessing the operational challenges and potential solutions, costs and greenhouse gas reductions associated with increasing the Renewable Portfolio Standard beyond the current 33 percent mandate. Nancy Ryan, director of policy and strategy at E3 and Severin Borenstein, director of the University of California Energy Institute and co-director of the Energy Institute at the Haas School of Business, University of California, Berkeley, and member of an

independent advisory panel that reviewed the E3 study, participated in the April 2014 hearing. The key concern raised by the E3 report if the state sets a higher Renewable Portfolio Standard, specifically a 50 percent renewable goal, was excess electricity, particularly in the afternoon when solar energy is at its peak. Excess renewable energy, without an affordable storage alternative or a more regional approach to the electricity market, will result in curtailment, meaning the excess energy would not be purchased or used. This raises costs and potentially would make it difficult for energy producers to obtain financing for new plants, making it much more costly to achieve a higher goal.[18]

Raising the Renewable Portfolio Standard – Are There Smarter Options?

In testimony to the Commission, Professor Borenstein described other options for addressing global warming, beyond expanding the Renewable Portfolio Standard. In his written testimony to the Commission, he advocated for additional investment in research and development of technologies that can be brought to scale that would address the warming climate on a global basis. He suggested the state establish a Climate Change Solutions Institute similar to the California Institute for Regenerative Medicine, to award money for developing innovative technologies to replace fossil fuels.[19] Other experts, including Harvard University Professor Robert Stavins, who in January 2014 co-authored a report examining post-2020 climate policy in California, also have called for the state to carefully consider next steps in battling global warming. According to the report, *Beyond AB 32: Post-2020 Climate Policy in California*:

> *"California has previously indicated the intent to demonstrate leadership and encourage broader participation in addressing the climate problem, while balancing the economic health of the State's economy. Given the realities, as it moves forward with more costly actions required to achieve emission reductions, developing policy to maintain the balance between these goals will become more challenging."*[20]

Another witness at the April 2014 hearing, Stephanie Chen, the energy and telecommunications policy director at the Greenlining Institute, suggested there also needs to be a focus on the benefits and cost savings resulting from California's energy-related mandates and the daily impacts in the lives of Californians. How many fewer asthma attacks

have California children suffered? How have missed work days been reduced?

Additionally, Ralph Cavanagh, co-director of the energy program at the Natural Resources Defense Council, in his testimony at the April 2014

Costs and Consequences of a Higher Renewable Portfolio Standard

As part of this update, the Commission reviewed a study by Energy and Environmental Economics, Inc., (E3) funded by the Los Angeles Department of Water and Power, Pacific Gas & Electric, the Sacramento Municipal Utility District, San Diego Gas & Electric Company and Southern California Edison Company. This study is described as the first comprehensive effort to assess the operational challenges and potential solutions, costs and greenhouse gas reductions associated with a Renewable Portfolio Standard (RPS) greater than the current mandate.

In addition to assessing operational issues, the E3 study reviewed costs of alternative RPS scenarios. The study estimates that the average retail electricity rate in California could increase from 14.4 cents per kilowatt hour in 2012 to 21.1 cents per kilowatt hour in 2030, a 47 percent increase, before higher levels of the Renewable Portfolio Standard beyond the current 33 percent requirement are considered. According to the study, this increase is largely driven by trends beyond the RPS, such as the need to replace aging infrastructure.

The report estimates that approximately 6 percent to 8 percent of the increase between 2012 and 2030 would be a result of the 33 percent RPS. Achieving a 40 percent RPS could lead to an additional increase of 0.7 cents per kilowatt hour, a 3.2 percent increase. An increase to 50 percent RPS would increase rates by 9 percent to 23 percent. The significant increase in costs between 40 percent and 50 percent is caused by excess capacity, potentially at a time of day when electricity demand is less. As a result, generation at facilities could be reduced to below what they are capable of producing, which drives up the costs.

In addition to assessing operational challenges and costs, the E3 report analyzed the effect of the RPS on the state's carbon reduction goals. The report states that "increasing the RPS 33 percent to 40 percent RPS will reduce greenhouse gas emissions by approximately 6 million metric tons in 2030, while a 50 percent RPS would reduce greenhouse gas emissions by up to 15 million metric tons relative to a 33 percent RPS in 2030." This translates into a reduction of roughly 10 percent to 25 percent of the total emissions from the electric power system. An independent advisory panel convened to review the work of the E3 researchers cautioned that the additional cost associated with the increased RPS scenarios range from $250 per ton to over $600 per ton of carbon dioxide. The cost per ton of carbon emission offsets in California's cap and trade market is roughly $10 to $15 per ton of carbon dioxide. Both the E3 report and the independent advisory panel report point out the need for additional research beyond the scope of the E3 study. The advisory panel suggested a number of larger questions in California energy policy need to be addressed, including:

- *What are the ultimate environmental, economic and technological goals of a higher RPS?*
- *Is raising the RPS the most effective way to meet those goals?*
- *What role should an increased RPS play in meeting those goals versus changes in some combination of other electricity policies (such as use of other low-carbon sources or reduced consumption), transportation fuels or policy, or R&D policy?*

Sources: Energy+Environmental Economics. January 2014. "Investigating a Higher Renewables Portfolio Standard in California." Pages 19, 29. Dan Arvisu, Ph.D., Severin Borenstein, Ph.D., Susan Tierney, Ph.D. and Stephen Wright. January 2014. "Report of the Independent Advisory Panel Regarding the Five California Utilities' Study of Integration of Renewable Energy into California's Electric System. Pages 4, 15, 16.

hearing, suggested that instead of focusing on rates and ratepayers, the focus should be on electricity bills and bill payers. Because of the state's energy efficiency policies, Californians spend significantly less on electricity despite higher rates. In written testimony to the Commission, Mr. Cavanagh cited a study showing that California's statewide electricity bill, as a share of its Gross Domestic Product (GDP), is significantly lower than comparable states. This study, updated in May 2014, indicates California's statewide electricity bill in 2012 equated to 1.78 percent of its GDP as compared to Texas, with a statewide electricity bill of 2.25 percent of GDP, and Florida, with a statewide electricity bill of 2.96 percent of GDP. If California had the same efficiency as Texas, Californians would have spent $9.5 billion more on electricity in 2012.[21]

Demand Management – Providing a Choice for Consumers

In its 2012 report, the Commission called for the state to continue to promote policies that empower Californians to control costs by first becoming more attuned to electricity pricing and second by having opportunities to shift electricity use in response to pricing through smart meters. According to written testimony submitted to the Commission for the April 2014 hearing, nearly all customers of the investor-owned utilities have meters capable of time-of-use pricing, but fewer than 3 percent of residential customers have chosen to voluntarily switch to time-of-use rates. Additionally, according to the testimony, the "lack of residential demand response participation is due to legislatively imposed limitations on time-based rates."[22] Legislation enacted in 2013, AB 327, gave the CPUC the ability to develop rates, with appropriate consumer safeguards, to implement default time-of-use rates in 2018. At the time of the Commission's hearing, the CPUC was considering how and whether to authorize or require the investor-owned utilities to offer time-of-use rates as default rates. The Commission supports efforts to educate consumers on how to strategically time electricity consumption and the development of price incentives that can help customers better manage their electricity use and reduce their costs.

Commission Findings

The state is slowly making progress in developing rules to transition ratepayers to time-of-use and dynamic pricing. The state still does not know what its recent energy-related policies will cost in the aggregate, how these policies might affect reliability and whether they are achieving California's environmental and economic goals.

California Still Lacks a Comprehensive Energy Plan

In its 2012 report, the Commission identified the need for a comprehensive plan to prioritize current and future energy goals to ensure proposed legislation is consistent with the state's goals. Until the state develops a strategic energy plan, the Commission recommended a moratorium on new energy-related mandates.

Several organizations have since acknowledged the need for such a plan. The Hoover Institution's Shultz-Stephenson Task Force on Energy Policy in two reports called for the "development of a 2030 Electricity Plan, linked to 2030 climate, water, air quality, and transportation goals."[23]

The California Energy Commission in its 2013 IEPR, wrote, "to help ensure progress toward its 2050 greenhouse gas reduction goals, California needs to determine what the electricity system should look like in 2030 as an interim target."[24]

The California Air Resources Board (ARB) in its 2014 climate change scoping plan wrote: "No single agency or entity has complete responsibility for the energy sector…A reworked and comprehensive State program will be required that addresses all affected energy entities and is specifically designed to ensure that the proposed emission reductions are achieved."[25] The updated scoping plan calls for the development of a comprehensive and enforceable greenhouse gas emission reduction program for the state's electric and energy utilities by 2016. According to the plan, "the CEC, CPUC, and ARB will all have a role in developing and implementing the most technologically appropriate and cost-effective suite of strategies to achieve the State's emission reduction goals."[26] The plan calls for mechanisms to ensure reasonable progress is being made in achieving emission reduction goals and broader energy policies, and to develop these goals and policies through a process that includes extensive stakeholder and public input.

In a July 2014 editorial in the Sacramento Bee, former Governors Deukmejian, Wilson and Davis called on the state to act on the recommendation of this Commission and others regarding a comprehensive plan.

> *"Such a plan is needed to provide the coordination, guidance and strategy to achieve our state's environmental and economic goals. A comprehensive plan will offer a pathway to accomplish these goals while capturing emerging energy opportunities, both conventional and renewable, for the benefit of California consumers. A good energy plan will also recognize that strong economic competition from other states and nations absolutely requires that California's energy costs remain competitive for business."*[27]

In response to the Commission's 2012 report, a coalition of organizations concerned about the state's energy policies regarding electricity, natural gas and fuels created an advocacy group called Californians for Affordable and Reliable Energy. The group includes a broad-based coalition of small businesses and business organizations, community groups, local officials, statewide associations and energy consumers. Speaking on behalf of the group at the Commission's April 2014 hearing, Robert Lapsley, president of the California Business Roundtable, told the Commission that its 2012 report motivated the group members to start a statewide dialogue on how the state's energy-related policies are impacting California's competitiveness and California's underserved and disadvantaged communities.

Assemblymember Henry T. Perea in February 2014 introduced AB 1763, which would require the California Energy Commission, in consultation with the California Independent System Operator and other relevant state and local agencies, and interested stakeholders, to develop and submit to the Governor and Legislature, a report containing a state energy plan for 2030 and 2050 that promotes economic growth, ensures reliable, sustainable and affordable energy resources and complements the state's environmental stewardship goals. The bill was approved by the Assembly in May 2014, but failed to pass in the Senate.

Not all witnesses agreed with the Commission's recommendation. The representatives from the administration testified that efforts are currently underway to determine an appropriate greenhouse gas reduction goal for 2030 and that it is advisable to wait until the results of that planning process before determining "what the best suite of climate and energy measures is going forward."[28] Mr. Cavanagh, testified that, "We don't need yet another overarching energy plan; we need instead to redouble our efforts to improve the quality and execution of the ones we have."[29]

Commission Findings

The Commission reiterates the need for a comprehensive energy plan. Until such a plan is in place, the Commission continues its call for a time out for new energy-related mandates.

Coordination Improves, but Structural Flaws Remain

Finally, in its 2012 report, the Commission recommended the state develop a plan to modernize energy governance to address the concern that the state lacks a permanent energy leader to ensure all the players with complementary, sometimes competing, missions work together toward state goals.

During its 2012 study process and again at the April 2014 hearing, the Commission was told repeatedly that coordination among the various energy-related government organizations has improved dramatically since Governor Arnold Schwarzenegger proposed a reorganization plan in 2005. That plan would have consolidated energy-related programs into a new Department of Energy led by a secretary reporting directly to the Governor. The Office of the Attorney General ruled that transferring certain functions of the CPUC that were established in the constitution exceeded the scope of the reorganization statute and as a result the Commission recommended the Legislature reject the plan. The threat of reorganization did result in significant improvement in cooperation and coordination.

Karen Edson, testifying on behalf of the California Independent System Operator (CAISO) at the April 2014 hearing, said, "In my 30-plus years in this business, I have never seen the kind of cooperation and collaboration we have today and I'm proud to be a part of that." Mr. Cavanagh, in his testimony wrote, "I believe that the agencies are better coordinated today than at any point during the 35 years of my work at NRDC, in no small part because of the sustained commitment of all the agencies' leadership and the convening power of the Governor's office."[30]

Memorializing Planning Alignment

Robert Oglesby, executive director of the California Energy Commission (CEC), in his oral testimony and the written testimony submitted by the administration included a list of joint efforts among key state, local and federal partners that exemplify the improved coordination and collaboration. A January 2014 letter from the chairs of the CEC and the

CPUC and the president of the CAISO to Senators Alex Padilla and Jean Fuller, the chair and vice chair of the California State Senate Committee on Energy, Utilities and Communications, also identified numerous improvements in alignment of planning processes and coordination among the state's organizations.

In late 2013 and early 2014, the CPUC and the CAISO formally agreed to align the former's Long-Term Procurement Planning Process and the latter's Transmission Planning Process. The CEC agreed to align its energy forecasting with the two planning processes. The three organizations memorialized the commitment to process alignment on procurement, transmission and forecasts. The CEC and the CAISO wrote letters to the CPUC describing the agreed alignment in December 2013 and these letters were shared with all parties to the CPUC's Long-Term Procurement Planning proceeding.[31] In February 2014, the CPUC issued a formal ruling to adopt the joint assumptions, scenarios and RPS portfolios.[32]

In its 2012 report, the Little Hoover Commission expressed concerns that the improved coordination was in part due to the personalities in place and that a change in key players or a change in the administration might result in a return to prior chaos in the planning processes and use of competing and sometimes conflicting assumptions. Memorializing the agreement through formerly adopted public documents provides an improved level of assurance that these agreements might survive changes in leadership. Ms. Edson, in testimony to the Commission, stated that "We are all committed to see it institutionalized so that it will live beyond our tenure and our roles."

Cooperating to Keep the Lights on in Southern California

The unexpected closure of the San Onofre nuclear power plant in 2012, which became permanent in 2013, and the need to shutter or retrofit numerous aging gas-powered plants as a result of regulations banning once-through cooling, provided another impetus for all of the key organizations to work together in order to keep the lights on in Southern California. The state's energy organizations along with the local air quality management districts and others worked together to avoid power outages after San Onofre initially shut down. After the permanent shutdown, the Governor directed the CEC, CPUC and CAISO to collaborate to develop a Southern California Reliability Plan that would provide guidance on options to ensure reliable electricity given the particular constraints of the region, including federal air quality requirements, land use constraints and, the large number of older

facilities that will either be shut down or refurbished to comply with the once-through cooling regulations.

A draft plan was published in August 2013. As of October 2014, a final reliability plan had not been adopted. The CEC, the CPUC and the CAISO have indicated they are moving forward on individual responsibilities identified in the preliminary plan.[33]

The Principals Group

Another indication that the state's energy-related organizations are working together is the formation of an informal principals group, which is led by the chair of the California Air Resources Board and includes the leaders from the CPUC, CEC, CAISO, State Water Resources Control Board and a senior member of the Governor's Office. Written testimony submitted by the administration at the April 2014 hearing noted that this group meets monthly "to ensure high-level coordination on key statutes and initiatives. These include AB 32, the Renewable Portfolio Standard, energy efficiency policies, clean car programs, grid reliability and operations, and rate impacts to consumers."[34]

At the hearing, Commissioners raised concerns about the lack of transparency in the principal's group meetings – they are private – but was told that the group is a coordinating body, not a policymaking body and all policies adopted are done through each entity's regular public process.

Commission Findings

As a result of the improved coordination, witnesses at the April 2014 hearing agreed that a government reorganization was not needed and could cause significant unnecessary disruption. The Commission applauds the efforts to synchronize planning processes and assumptions, particularly the efforts to memorialize these activities through public documents enacted by the entities involved. The Commission encourages additional formal cooperation. The Commission also notes the difficulty of reorganizing as the state undergoes this massive transformation in its electricity system. It is worth considering, however, whether the current structure can nimbly address and take advantage of technology-driven changes in the electricity industry. A regulatory body such as the CPUC, established more than 100 years ago, may no longer be ideal for a modern electricity system. The state could benefit from a modernized governance structure and the Commission reiterates its recommendation that the Governor and Legislature consider organizational reform.

Conclusion and Recommendations

The April 2014 hearing provided an opportunity for the Commission to get an update from the administration and key energy organizations, as well as stakeholders, on progress made responding to the concerns raised in the Commission's 2012 report. The Commission was disappointed to learn the state still does not know what its recent energy-related policies will cost in the aggregate, how these policies might affect reliability and whether they are achieving California's environmental and economic goals.

The Commission understands this is not an easy question to answer. The consultants hired by private industry and local governments who testified at the Commission's 2014 hearing showed that it is possible to assess costs and benefits of various energy-related policy choices. The answers are less elusive than the political will to get it done. California residents and businesses deserve to know what their future electricity bills are going to look like with some amount of certainty.

California residents also deserve the opportunity to control their energy use and hence their bills through time-of-use pricing. The CPUC has begun a proceeding with a goal of possibly implementing mandatory time-of-use pricing in 2018. The administration, in its testimony to the Commission, laid some of the blame for slow progress on the Legislature. California is home to the greatest technology companies in the world, some which are installing innovative products for electricity demand management – in other states and countries. In California, the state needs to get out of the way and give consumers more options.

Many are now in agreement with the Commission's 2012 call for a comprehensive energy plan. This plan would prioritize current and future energy goals and identify what actions need to be taken and in what order to maximize progress. The Commission continues its call for a comprehensive energy plan.

Finally, the Commission applauds the improved coordination between the CEC, CPUC, CAISO, the California Air Resources Board and the State Water Resources Control Board. Recent efforts to align processes and assumptions and memorialize these efforts in publicly adopted documents is another major step in the right direction. The Commission remains concerned that clear leadership is essential, particularly going

forward as the challenges and choices that will have to be made to achieve the state's greenhouse gas emission goals get harder.

In response to the information reviewed and testimony provided at the 2014 hearing, the Commission reiterates its recommendations from 2012 and will revisit the topic again in 2015.

Still Relevant: The Commission's 2012 Recommendations

Recommendation 1: The Governor, through executive order, should direct the California Energy Commission, the California Public Utilities Commission, the California Air Resources Board, the State Water Resources Control Board and other appropriate executive branch organizations to address the following concerns raised by the Little Hoover Commission in a timely manner, as indicated:

- How much in the aggregate will recent major policies related to energy affect electricity reliability and rates, and are these policies achieving California's stated environmental and economic goals? The assessment should identify and quantify trade-offs involved when aspects of one goal conflict with another. The major policies, and their implementing regulations, that should be assessed in the aggregate include:
  - ✓ California Renewable Energy Resources Act of 2011
    - Renewable energy plant development costs
    - Transmission costs
    - Back-up generation costs
  - ✓ Global Warming Solutions Act of 2006
  - ✓ State Water Resources Control Board Once-Through Cooling Regulations
  - ✓ Governor's goal to build 12,000 megawatts of localized electricity generation
  - ✓ The Commission requests that this assessment be completed in six months and updated annually.
  - ✓ Additional major policies, as they are implemented, such as the State Water Resources Control Board's flow criteria required for the Delta ecosystem sustainability, should be added to the annual assessment.
- What portion of consumers' electricity bills can and will be attributed to major repairs, upgrades and new construction of all electricity generating plants and electricity transmission in California?

- ✓ The California Energy Commission should develop guidelines for all the publicly-owned utilities and the California Public Utilities Commission should require all of the utilities it regulates to provide and include an easy-to-understand chart with their customers' bills and posted on their websites that shows the breakdown of all the costs reflected in the retail price of electricity.
- ✓ The Commission requests that these charts be completed in six months and updated annually.

- ❑ As the California Public Utilities Commission develops rules to transition ratepayers to time-of-use and dynamic pricing, the state should identify additional barriers that need to be overcome so that California consumers can better manage their energy use and take advantage of fiscal incentives to reduce and strategically time energy consumption. This assessment should include a roadmap and deadlines for implementation.
  - ✓ The Commission requests that this assessment be completed in six months.

Recommendation 2: The Governor, through a public process, should establish a comprehensive plan to prioritize current and future energy goals. The plan should identify what actions need to be taken and in what order to maximize progress toward the stated goals.

- ❑ The plan should include guidelines to ensure that proposed legislation is consistent with the goals of the plan.
- ❑ Until the state develops a strategic energy plan, the Governor, through use of veto power, or the Legislature, through its policy committees, should enforce a moratorium on new energy-related mandates.
  - ✓ The Commission requests that this strategy be completed in 18 months.

Recommendation 3: The Governor and the Legislature should develop a plan to modernize energy governance. Organizational reform ultimately is essential if the state is to realize its manifold energy and environmental goals and reduce the risk of another profoundly expensive policy failure.

- ❑ The plan should identify what steps are necessary to restructure the state's energy governance, including options that can occur with and without a Constitutional amendment.
- ❑ The process should give careful consideration to the establishment of a Secretary of Energy, reporting to the Governor, and the consolidation of all energy policy under one agency or commission,

with the Secretary of Energy serving as agency secretary or commission chair.

- ✓ The Commission requests that this strategy be completed in 24 months.

Appendices & Notes

- ✓ ***Public Hearing Witnesses***
- ✓ ***Cover Photo Credits***
- ✓ ***Notes***

Appendix A

Public Hearing Witnesses

Public Hearing Revisiting Energy Governance
April 24, 2014

Severin Borenstein, Director of the University of California Energy Institute and Co-Director of the Energy Institute at the Haas School of Business, University of California, Berkeley

Ralph Cavanagh, Co-Director, Energy Program, Natural Resources Defense Council

Stephanie Chen, Energy & Telecommunications Policy Director, The Greenlining Institute

Karen Edson, Vice President, Policy and Client Services, California Independent System Operator

Robert Lapsley, President, California Business Roundtable

Patrick Mealoy, Managing Director, Navigant Consulting Inc.

Robert Oglesby, Executive Director, California Energy Commission

Edward Randolph, Director, Energy Division, California Public Utilities Commission

Nancy E. Ryan, Director of Policy and Strategy, Energy + Environmental Economics Inc.

Appendix B

Cover Photo Credits

Photos: Courtesy of the California Department of Water Resources.
http://pixel.water.ca.gov/albums.php. Accessed on October 15, 2014.

Notes

1. The Governor's Office, California Energy Commission, California Independent System Operator, and California Public Utilities Commission. April 11, 2014. Written testimony to the Commission. Also, U.S. Energy Information Administration. November 8, 2013. "2012 Average Monthly Bill." www.eia.gov/electricity/sales_revenue_price/xls/table5_a.xls Web site accessed June 8, 2014.
2. SBX1 2 (Simitian). March 14, 2011. Bill Analysis. Assembly Committee on Appropriations.
3. SBX1 2 (Simitian). See endnote 2.
4. Anne E. Simon, Administrative Law Judge, California Public Utilities Commission. February 20, 2014. "Administrative Law Judge's Ruling Requesting Comments on Revised Staff Proposal and Updated Alternative Proposals for a Methodology to Implement Procurement Expenditure Limitations for the Renewables Portfolio Standard Program."
5. Ed Randolph, Director, Energy Division, California Public Utilities Commission. April 24, 2014. Testimony to the Commission.
6. Ed Randolph, Director, Energy Division, California Public Utilities Commission. May 31, 2014. Written Communication.
7. California Public Utilities Commission. April 2014. "Electric and Gas Utility Cost Report – Public Utilities Code Section 747 Report to the Governor and Legislature." Page 10.
8. California Energy Commission. April 2014. "California Electrical Energy Generation – Total Production by Resource Type. http://energyalmanac.ca.gov/electricity/electricity_generation.html
9. Timothy Puko. July 17, 2014. "Natural Gas Prices Fall to Seven Month Low." Wall Street Journal.
10. California Public Utilities Commission. Page 24. See endnote 7.
11. Ed Randolph, Director, Energy Division, California Public Utilities Commission. See endnote 5.
12. Public Utilities Code Section 747 (b). Also, AB 67 (Levine) October 2005.
13. California Public Utilities Commission. February 2014. "Report to the Legislature in Compliance with Public Utilities Code Section 910. California Public Utilities Commission. February 2014. "The Padilla Report to the Legislature – Reporting 2013 Renewable Procurement Costs in Compliance with Senate Bill 836 (Padilla, 2011)."
14. California Public Utilities Commission. February 2014. "The Padilla Report to the Legislature – Reporting 2013 Renewable Procurement Costs in Compliance with Senate Bill 836 (Padilla, 2011)."
15. SB 1389 (Bowen, Chapter 568, Statutes of 2002).
16. California Energy Commission. May 2014. "Estimated Cost of New Renewable and Fossil Generation in California – Draft Staff Report."

17. Navigant Consulting, Inc. August 16, 2013. "Preliminary Assessment of Regulatory Cost Drivers in California's Energy Market."

18. Energy+Environmental Economics, Inc. January 2014. "Investigating a Higher Renewables Portfolio Standard in California."

19. Severin Borenstein. Director of the Energy Institute and Co-Director of the Energy Institute at the Haas School of Business, University of California, Berkeley. April 7, 2014. "It's Time to Refocus California's Climate Strategy." http://energyathaas.wordpress.com/2014/04/07/its-time-to-refocus-californias-climate-strategy/

20. Todd Schatzi and Robert N. Stavins. Analysis Group, Inc. January 7, 2014. "Beyond AB 32: Post-2020 Climate Policy in California."

21. Next 10. May 2014. "2014 California Green Innovation Index." Page 14.

22. The Governor's Office, California Energy Commission, California Independent System Operator, and California Public Utilities Commission. April 11, 2014. Joint written testimony to the Little Hoover Commission."

23. Dian Grueneich and Jeremy Carl. Shultz-Stephenson Task Force on Energy Policy, Hoover Institution Stanford University. July 2014. "California's Electricity Policy Future: Beyond 2020." Pages 8 & 17. November 2012. "Renewable and Distributed Power in California: Simplifying the Regulatory Maze – Making the Path for the Future." Pages 23-24.

24. California Energy Commission. February 2014. Integrated Energy Policy Report 2013. Page 3.

25. California Air Resources Board. May 2014. "First Update to the Climate Change Scoping Plan: Building on the Framework." Page 43.

26. California Air Resources Board. Pages ES6 and 44. See endnote 25.

27. Governor George Deukmejian, Governor Pete Wilson, Governor Gray Davis. July 13, 2014. "Viewpoints: Comprehensive Energy Plan Must Balance Environment and Economy." The Sacramento Bee.

28. The Governor's Office, California Energy Commission, California Independent System Operator, and California Public Utilities Commission. See endnote 22.

29. Ralph Cavanagh, Energy Program Co-Director, Natural Resources Defense Council. April 24, 2014. Written testimony to the Commission.

30. Ralph Cavanagh, Energy Program Co-Director, Natural Resources Defense Council. See endnote 29.

31. Letter to Senators Alex Padilla and Jean Fuller, Chair and Vice Chair of the California State Senate Committee on Energy, Utilities and Communication from Robert Weisenmiller, Chair, California Energy Commission, Michael Peevey, Chair, California Public Utilities Commission, and Steve Berberich, President, California Independent System Operator. January 31, 2014.

32. Michael Picker, Assigned Commissioner, California Public Utilities Commission. February 27, 2014. "Assigned Commission's Ruling on Assumptions, Scenarios and Renewable Portfolio Standard Portfolios For Use in 2014 Long Term Procurement Plan and 2014-2015 California Independent System Operator Transmission Planning Process".

33. Mike Jaske, Senior Policy Analyst, California Energy Commission. August 20, 2014. Presentation at the Integrated Energy Policy Report Lead Commissioner Workshop on Southern California Electricity Reliability. Also, The Governor's

Office, California Energy Commission, California Independent System Operator, and California Public Utilities Commission. April 11, 2014. Written testimony to the Commission.

34. The Governor's Office, California Energy Commission, California Independent System Operator, and California Public Utilities Commission. See endnote 22.

Little Hoover Commission Members

Chairman Pedro Nava *(D-Santa Barbara)* Appointed to the Commission by Speaker of the Assembly John Pérez in April 2013. Advisor to telecommunications industry on environmental and regulatory issues and to nonprofit organizations. Former state Assemblymember. Former civil litigator, deputy district attorney and member of the state Coastal Commission. Elected chair of the Commission in March 2014.

Vice Chairman Loren Kaye *(R-Sacramento)* Appointed to the Commission by Governor Arnold Schwarzenegger in March 2006 and reappointed by Governor Schwarzenegger in December 2010. President of the California Foundation for Commerce and Education. Former partner at KP Public Affairs. Served in senior policy positions for Governors Pete Wilson and George Deukmejian, including cabinet secretary to the Governor and undersecretary for the California Trade and Commerce Agency.

Assemblymember Katcho Achadjian *(R-San Luis Obispo)* Appointed to the Commission by Speaker of the Assembly John Pérez in July 2011. Elected in November 2010 to the 33rd Assembly District and re-elected to the 35th District in November 2012. Represents Arroyo Grande, Atascadero, Grover Beach, Guadalupe, Lompoc, Morrow Bay, Paso Robles, Pismo Beach, San Luis Obispo, Santa Maria and surrounding areas.

David Beier *(D-San Francisco)* Appointed to the Commission by Governor Edmund G. Brown, Jr. in June 2014. Managing director of Bay City Capital. Former senior officer of Genetech and Amgen. Former counsel to the U.S. House of Representatives Committee on the Judiciary. Serves on the board of directors for the Constitution Project.

Senator Anthony Cannella *(R-Ceres)* Appointed to the Commission by the Senate Rules Committee in January 2014. Elected in November 2010 to the 12th Senate District. Represents Stanislaus, Merced, Madera and San Benito counties and a portion of Monterey County.

Jack Flanigan *(R-Granite Bay)* Appointed to the Commission by Governor Edmund G. Brown, Jr. in April 2012. A member of the Flanigan Law Firm. Co-founded California Strategies, a public affairs consulting firm, in 1997.

Don Perata *(D-Orinda)* Appointed to the Commission by Senate Rules Committee in February 2014. Political consultant. Former president pro tempore of the state Senate, from 2004 to 2008. Former Assemblymember, Alameda County supervisor and high school teacher.

Assemblymember Anthony Rendon *(D-Lynwood)* Appointed to the Commission by Speaker of the Assembly John Pérez in February 2013. Elected in November 2012 to represent the 63rd Assembly District. Represents Bell, Cudahy, Hawaiian Gardens, Lakewood, Lynwood, Maywood, Paramount and South Gate and the North Long Beach community.

Senator Richard Roth *(D-Riverside)* Appointed to the Commission by the Senate Rules Committee in February 2013. Elected in November 2012 to the 31st Senate District, representing Corona, Coronita, Eastvale, El Cerrito, Highgrove, Home Gardens, Jurupa Valley, March Air Reserve Base, Mead Valley, Moreno Valley, Norco, Perris and Riverside.

David A. Schwarz *(R-Beverly Hills)* Appointed to the Commission by Governor Arnold Schwarzenegger in October 2007 and reappointed by Governor Schwarzenegger in December 2010. Partner in the Los Angeles office of Irell & Manella LLP and a member of the firm's litigation workgroup. Former U.S. delegate to the United Nations Human Rights Commission.

Jonathan Shapiro *(D-Beverly Hills)* Appointed to the Commission by the Senate Rules Committee in April 2010 and reappointed by the Senate Rules Committee in January 2014. Writer and producer for FX, HBO and Warner Brothers. Of counsel to Kirkland & Ellis. Former chief of staff to Lt. Governor Cruz Bustamante, counsel for the law firm of O'Melveny & Myers, federal prosecutor for the U.S. Department of Justice Criminal Division in Washington, D.C., and the Central District of California.

Sumi Sousa *(D-San Francisco)* Appointed to the Commission by Speaker of the Assembly John Pérez in April 2013. Officer of policy development for San Francisco Health Plan. Former advisor to Speaker Pérez. Former executive director of the California Health Facilities Financing Authority.

Full biographies available on the Commission's website at www.lhc.ca.gov.

"Democracy itself is a process of change, and satisfaction and complacency are enemies of good government."

Governor Edmund G. "Pat" Brown,
addressing the inaugural meeting of the Little Hoover Commission,
April 24, 1962, Sacramento, California