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Additional submitted attachment is included below.



November 9, 2015

Raquel Kravitz
Project Manager
California Energy Commission
Sacramento, CA 95814

Subject: Docket Number 15-IEPR-01

Dear Raquel Kravitz:

On behalf of Sierra Club and its more than 380,000 members and supporters in California, I submit the following comments on the Draft Integrated Energy Policy Report published on October 8, 2015.

The Energy Commission (CEC) is required to prepare an Integrated Energy Policy Report (IEPR) every two years that includes assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery, distribution, demand, and prices. With that information, the Energy Commission can develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy and protect public health and safety.

California has a goal to reduce greenhouse gas (GHG) emissions 40% below 1990 levels by 2030. To reach this overarching goal, the Governor laid out three avenues to make that possible in his inaugural speech this year. Those include: 1.) A doubling of energy efficiency in existing buildings, 2.) Requiring that 50% of the state's energy generation comes from renewable sources, and 3.) Reducing the state's petroleum consumption by 50% all by the year 2030. Goals 1 and 2 have been codified with the passage of the Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350, De Leon, 2015). However, the draft IEPR explores all three goals and the policies and programs that will make them possible.

Sierra Club California has submitted comments on specific aspect of the IEPR during the workshops between February and September. Below are comments reinforcing Sierra Clubs previous comments and recommendations on draft IEPR.

Energy Efficiency:

Since 1975, the CEC has developed efficiency regulations designed to reduce electricity and natural gas demands of both appliances and buildings throughout the state. These regulations have helped California become a world leader in energy efficiency, producing some of the lowest per capita energy usage rates in the nation. These regulations have also helped create jobs, save Californians money, and helped rein in GHG emissions in the face of climate disruption

California's energy efficiency efforts have set the bar higher still with the passage of the landmark Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350 (De Leon)). The language that would require that the state double the energy efficiency of its existing building stock by 2030 is specifically critical and

will accelerate efforts to reduce energy consumption through energy efficiency. Below are two programs already underway.

AB 758, Existing Buildings Energy Efficiency Action Plan:

The *Existing Buildings Energy Efficiency Action Plan (EBEE Action Plan)* will serve as one of the major avenues in which the state can hope to achieve the governor's energy efficiency goal. Assembly Bill 758 (Skinner, Chapter 470, Statutes of 2009) requires that the state's relevant agencies, through the *EBEE Action Plan*, provide a 10-year framework to double the energy and water efficiency in existing commercial, residential and public buildings. This is equivalent to a 20% reduction in statewide building energy use in 2030.¹

With about 50% of all building stock built before 1978 when the first *Building Efficiency Standards* went into effect, California has a tremendous opportunity for deep energy efficiency savings and GHG emissions reductions.²

1. One of the major hurdles in the implementation of the *EBEE Action Plan* is funding a retrofit of this scale. A meaningful capital investment in achieving a greater efficiency in existing buildings would require \$8 billion per year of private funds.¹

State spends about \$1.4 billion on energy efficiency each year.³ Even without an increase in funding, the state might be able to see improved results by reprioritizing how the funds are spent. In the *EBEE Action Plan*, the CEC 's recommends the state redirect funding to support policies that will be more responsive, robust and allow greater access to informational resources. The idea is that a performance-based, industry-driven and consumer-oriented approach can gain traction to allow us to achieve scale.

The state, in its policy, should continue to facilitate the development and expansion of a robust financial market for energy efficiency in California. Currently, statewide financing policy is being developed at agencies including the Alternative Energy and Advanced Transportation Financing Authority, the CEC and the California Public Utilities Commission, but there is more to be done in the way of engagement to provide clear and easy access to these opportunities. Engaging financial institutions and third-party providers is critical to transforming the market to one that realizes energy efficiency's true value. These agencies provide that opportunity.

2. In order to get Californians to realize the true value of energy efficiency, we need accessible, reliable, and accurate data to provide confidence in investor, consumers and policy makers. Improvements in benchmarking and disclosure of energy consumption in buildings helps owners, customers or investors quantify usage and realize true savings.

This year, the legislature responded to urgent need to move forward with energy efficiency efforts for the sake of the climate and for quantifiable real savings to justify further efforts. Assembly Bill 802 (Williams, 2015) would allow building owners access to the monthly energy usage information of their buildings so they can manage use in their properties, but also to pursue greater energy efficiency and renewable investments to their properties. The bill also allows the CEC to establish a new benchmarking program to replace the existing one. Sierra Club is was a supporter of the bill when it was in the legislature and looks forward to working with the CEC on their implementation strategy.

¹ Existing Buildings Energy Efficiency Action Plan, Executive Summary, page 1

² Existing Buildings Energy Efficiency Action Plan, Chapter 1, page 8

³ Existing Buildings Energy Efficiency Action Plan, Chapter 5, page 95

3. Despite California's leadership on energy efficiency, there is still more work to be done on the public outreach and education front. The state should increase the accountability of the investor owned utilities when implementing their programs. As mentioned earlier, a majority of the public funds (\$1.4 Billion) poured into energy efficiency efforts in the state comes from the ratepayers. The Sierra Club feels that there is room for improvement; we must ensure that they are effectively educating and motivating consumers to take action on energy efficiency by drawing clearer connections between upgrades and the associated benefits.

Codes and Standards:

Since the mid-70s, the California *Building Energy Efficiency Standards* and the *Appliance Efficiency Standards* have saved consumers roughly \$74 billion in reduced electricity costs and avoided the need to build six 500-megawatt power plants⁴

1. These standards have substantially contributed to California's per capita electricity levels remaining relative flat since the inception of the programs. However, the standards can really only be provide benefits to the state when they are effectively enforced. Compliance is a major barrier to achieving a full energy efficiency savings potential. That is the case for a number of reasons. The state should ensure that the energy code is clear and concise regarding compliance. This would reduce uncertainty and give explicit direction to avoid confusion. Penalties for violation of regulation should be stringent enough to provide incentive for compliance. On the other hand, the costs for compliance to consumers and local governments should not be prohibitive for those genuinely seeking out the legal pathway for energy efficiency upgrades.

Additionally, compliance is undoubtedly dependent on the experience and familiarity of the workforce with the energy efficiency standards. Educating the workforce on proper installation and adherence to energy efficiency standards is an effective use of utilities program funds, which are received annually to further our efforts to achieve greater energy efficiency in the state.

Sierra Club California thanks the CEC for recognizing our efforts in the development of the plan and understands that our engagement will be essential as the implementation of the action plan is refined and as it evolves.

Electric Generation:

California has the specific goal of achieving a 40% reduction of greenhouse gas (GHG) emission below 1990 levels by 2030. To reach that goal, an ambitious effort to increase the percentage of clean renewable energy generation is essential. The state understands the urgency and in the 2015 session, the Governor signed the Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350, De Leon, 2015). The bill, among other things, requires that the state to meet at least 50% of its energy needs from renewable energy generation by 2030.

1. The issue associated with bringing more renewables online lies in integration. For example, as renewable energy generation decrease and load does not, other generating sources must be used. Right now the strategy is to deploy natural gas power plants, which have the ability to start up and shut down relatively quickly to meet local reliability needs. We cannot reach our goals in a timely and meaningful manner if we continue to deploy natural gas. Investments made today will be used for decades to come, so the state should be very wary of the decision to invest in natural gas as a part of its long-term carbon reduction strategy.
2. Sierra Club thanks the CEC for its current research and development efforts to improve the operation of the grid. There is value in continued invest in alternative low-carbon technologies to

⁴ Existing Buildings Energy Efficiency Action Plan, Chapter 2, page 34

provide greater grid reliability services. This creates a foundation on which to bring more renewable energy online and there are a number of ways to accomplish that today. Those include the implementation of demand response technologies that shift electricity demand to align with peak renewable output. Diversifying our portfolio of renewable sources also reduces the need for the flexible nature of natural gas energy generation and lowers integration costs. The utilization of storage technology allows the grid to store electricity generated from renewables and deploy it instantly when it is needed. Additionally, technologies like batteries and pumped hydropower do not compete with renewables, which leads to curtailment.

The state must also seriously consider increase coordination between regional grid operators if we want to take full advantage of the potential flexibility of the grid. Pooling generation across large areas makes it easier to obtain flexible generation reserves. This makes it possible to lower costs and reduce renewable curtailment by allowing the state to export excess renewable generation to other regions in need of the electricity.

However, market integration provides a number of uncertainties for the state that may threaten California's legacy of environmental policy. When developing a transition from a state level market to a broader regional market, the state must be guaranteed assurances that there are protections in place for state policy on fuel resources, that we won't see an increase in coal imports, and there is a fully vetted governance structure with legislative approval and one that will keep California's best interests in mind. This is particularly critical as the California Systems Operator (CAISO) is a nonprofit organization, independent of the state. Though the California governor appoints members of the CAISO Board, the state's control of the organization is only truly minimal. This leave the Club uneasy about the freedom the CAISO has to act in this state.

Natural Gas:

Natural gas is comprised mostly of methane, a highly potent, short-lived climate pollutant (SLCP). This gas is only second to carbon dioxide when it comes to greenhouse gases present in the atmosphere.

Greenhouse Gas Emissions:

The state's natural gas system and its infrastructure are plagued by inefficiency and pipeline leakages. Studies have shown that the emissions of associated with these issues are enough to offset any benefit provided by the burning of natural gas.⁵ In order to understand the full impact of GHG emissions associated with natural gas, we need to determine the total lifecycle of methane emissions, which includes production, transmission, storage, and distribution.

1. The state must look at the impact of super emitters and other point source polluters. The California Air Resources Board (CARB) is currently working to target methane emissions at dairies and landfills, unfortunately the SLCP strategy only proposed voluntary methane controls for California dairy industry with possible regulations for new dairies by 2018. This is a crucial step in curbing methane emissions; however more needs to be done, as the dairy and landfills sectors are responsible for a majority of the methane emissions in this state.

Sierra Club understands that there are a number variables which make quantifying and identifying point source methane emissions difficult. Those include the fact that there are many sources both natural and anthropogenic, there is a time variable and there are different methodologies, data and devices used.

The state must move forward aggressively to reduce methane emissions and move rapidly in obtaining accurate data on this matter. Some of the great minds in the legislature are heeding that

⁵ Draft AB 1257 Natural Gas Act Report, Chapter 9, page 82

call. Assembly Bill 1496 (Thurmond, 2015) will help reinforce the efforts at CARB to improve ability to quantify emissions using the best available scientific and technical methods. It would also help determine who the biggest polluters are in the natural gas system. With this new legislation, Sierra Club California looks forward to working the CEC as well as CARB on curbing methane emissions in an effort to reach the states emissions reductions goals.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Edward Moreno".

Edward Moreno
Policy Advocate