

## DOCKETED

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*Comment Received From: Christa Heavey*

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**NRDC Comments on the Preliminary Electricity Forecast**

*Additional submitted attachment is included below.*

**Comments of the Natural Resources Defense Council (NRDC) on the  
2015 Integrated Energy Policy Report (IEPR)  
California Energy Demand 2016-2026  
Preliminary Electricity Forecast  
Docket Number 15-IEPR-03  
July 21, 2015  
Submitted by: Christa Heavey and Sierra Martinez**

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**I. Introduction**

The Natural Resources Defense Council (NRDC) appreciates the opportunity to offer these comments on the California Energy Demand 2016-2026, Preliminary Electricity Forecast. NRDC is a non-profit membership organization with nearly 70,000 California members who have an interest in receiving affordable energy services while reducing the environmental impact of California's energy consumption.

**II. Discussion**

NRDC appreciates the effort of the Commission staff during the 2015 IEPR to create the California Energy Demand 2016-2026 forecast. We respectfully offer the following comments on the Preliminary Electricity Forecast:

**A. NRDC supports the work to devise a more detailed locational structure for the forecast, analyze climate change impacts, and update distributed generation assumptions.**

We applaud the Commission for increasing the locational granularity of the forecast by dividing the transmission access charge (TAC) areas into smaller zones for the forecast. The new forecast zones are more closely aligned with balancing authority areas and will be more helpful to the California Independent System Operator (CAISO) for future planning. Furthermore, the new level of detail will be a key step toward further identifying locational impacts of energy efficiency, demand response, and distributed generation.

NRDC also appreciates that the Commission staff included climate change impacts in the degree days used in the forecast. As climate change warms the average temperature in California, the reduced energy demand from electric heating effectively offsets the increased energy demand from cooling;<sup>1</sup> however, peak demand impacts are not insignificant at a 650 MW increase in 2030 in the mid case. We appreciate that the Commission considered these changing weather impacts in the forecast and recommend continuing to do so.

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<sup>1</sup> The 60 GWh net increase in energy consumption amounts to less than 0.2% of consumption in 2030 in the mid case.

Finally, NRDC appreciates the updated distributed generation assumptions that were used in this year's forecast.

**B. NRDC urges the Commission staff to avoid publishing graphs of energy efficiency savings that do not contain projections of energy efficiency activities (Additional Achievable Energy Efficiency (AAEE)).**

Additional Achievable Energy Efficiency (AAEE) savings – the projections of electricity savings from utility efficiency programs – were not included in the Commission's figure depicting future energy savings, which is therefore a misleading picture of energy savings.<sup>2</sup> This graph shows historic efficiency savings increasing from 2010-2014, and then shows forecast savings steadily declining from 2015 through 2026. While NRDC understands that the projected AAEE savings are not yet available, we urge the Commission to avoid publishing such a graph until the AAEE savings are included.

By graphing actual savings through 2014 without a projected equivalent for 2015-2026, the graph implies that efficiency savings will dramatically decline over the next ten years. The graph assumes that all POU energy efficiency programs stop completely after 2104 – which did not happen. The graph also assumes that all IOU energy efficiency programs stop completely after 2015 – which also will not happen, given ten-year rolling portfolio cycles and the state's mandatory Loading Order. It also assumes that this Commission never adopts another appliance or building energy standard. In reality, savings will continue to be added from all of these sources. There is utility in knowing both a forecast with and without future energy savings (AAEE). But simply presenting one graph without AAEE—under the guise of depicting future energy savings—produces a distorted version of the future. We look forward to seeing the final results in the Revised Forecast which will include AAEE, and we ask the Commission to avoid using this misleading graph in the future.

**C. NRDC recommends that the Revised Forecast note that relying on future energy efficiency savings (AAEE) led to a forecast that more accurately predicted actual consumption than the forecast that did not include future energy savings.**

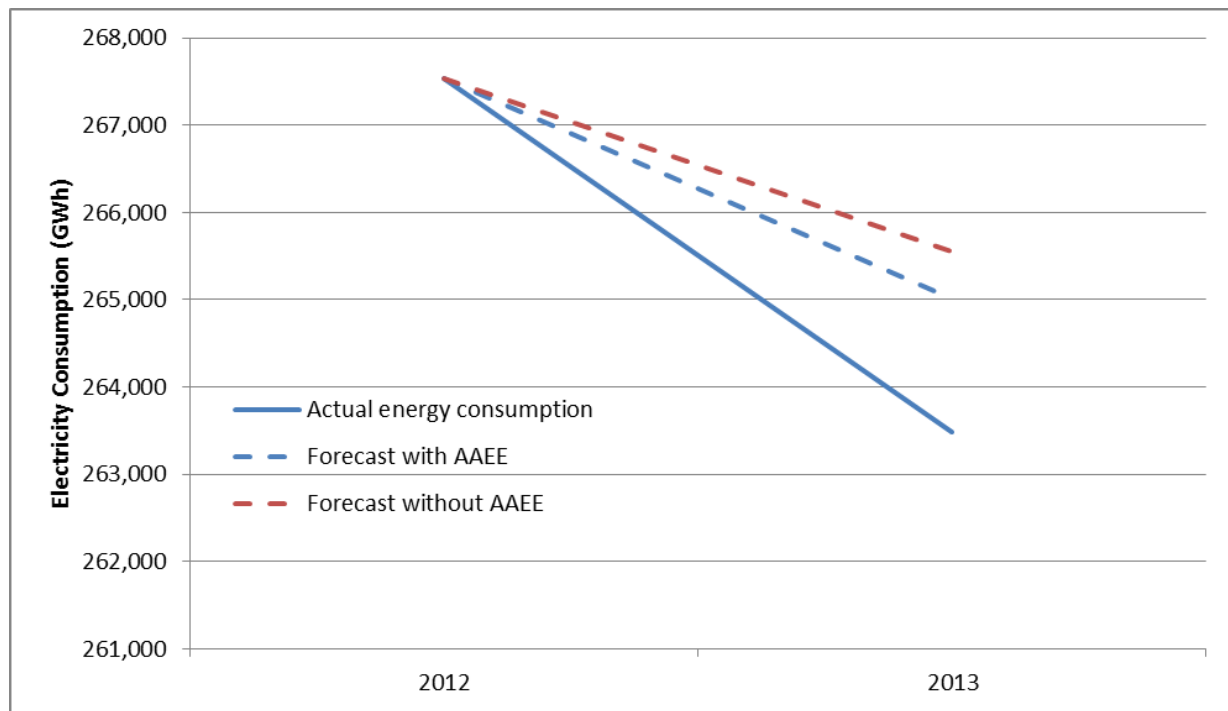
AAEE is an important part of the forecast and led to a more accurate forecast in 2013 when it was first included. Figure 1 compares the actual energy consumption with both the 2013 forecast that included AAEE and the forecast that excluded AAEE. The forecast that included

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<sup>2</sup> CEC, *California Energy Demand 2016-2026, Preliminary Electricity Forecast*, Staff Report, Figure 12: Adjusted IOU Efficiency Program Savings, 2010-2026, p. 34 (2015).

energy savings was the better predictor of actual consumption. In fact, even after accounting for any uncertainty over the exact quantity of energy savings coming from efficiency programs, the forecast that included future energy savings *still* over-estimated actual consumption.

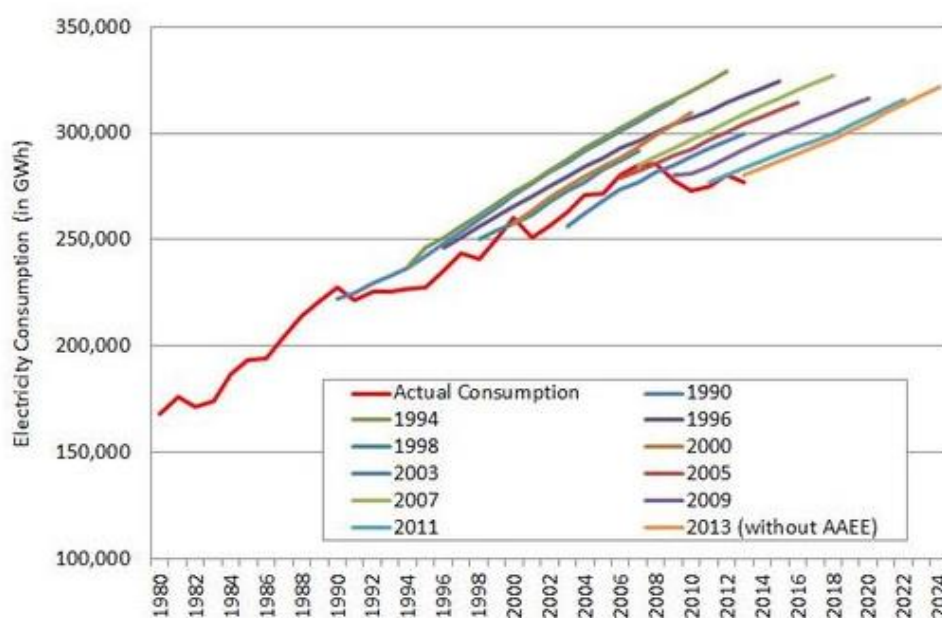
Figure 1. CEC 2013 Statewide Electricity Forecast Compared to Actual Consumption.<sup>3</sup>



Looking back at historical forecasts that did not include AAEE, every forecast since 1990 has overshoot actual consumption in the long run, as shown in Figure 2. Furthermore, not only did the ten year endpoints over-predict actual consumption, approximately 90 percent of yearly consumption data points also over predicted actual data.

<sup>3</sup> These are retail sales and other deliveries measured at the customer level – they do not include self-generation. CEC, *California Energy Demand 2014-2024*, LSE and Balancing Authority Tables Mid Demand Baseline, Form 1.1c, No AAEE and Mid AAEE, [http://www.energy.ca.gov/2013\\_energypolicy/documents/demand-forecast\\_CMF/LSE\\_and\\_Balancing\\_Authority\\_Forecasts/](http://www.energy.ca.gov/2013_energypolicy/documents/demand-forecast_CMF/LSE_and_Balancing_Authority_Forecasts/).

Figure 2. History of CEC Statewide Electricity Forecasts Compared to Actual Consumption.



Source: California Energy Commission

In order to better predict actual consumption, it is important to include AAEE savings. We are pleased that the Commission has included these energy savings in the forecast since 2013, and we look forward to the inclusion of AAEE in the Revised Forecast and graphs. We recommend that the Commission note in the Revised Forecast that the previous forecasts that included future energy savings were better forecasts of actual consumption.

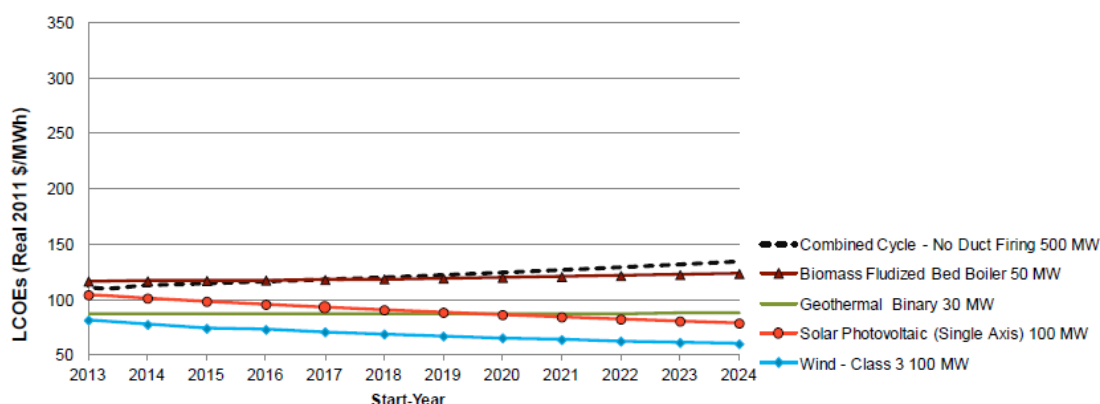
**D. NRDC asks the Commission staff to publish the driving factors behind the increase in rates over the next ten years, which appear to be electric system costs independent of (and probably higher than) progress in renewable procurement.**

We thank the Commission for conducting an electricity rates analysis in the Preliminary Forecast. We ask the Commission staff to identify the driving factors causing these increases in the revised and final forecast reports. Given that previous analysis has shown much of the electric system costs to increase regardless of renewable procurement levels, and from the CEC's report so far, it appears that most of what drives the increase in rates (and electric system costs) are not the growth in renewable energy procurement. For example, the Preliminary Forecast

notes that natural gas prices will increase by an average of 3.7 percent real per year,<sup>4</sup> while overall electric system average rates are only increasing at about 1.5 percent to 2 percent real per year<sup>5</sup> (and given that sales volumes have grown by roughly 0 percent over the last decade, and are expected to [with energy efficiency] continue at 0 percent, rates and costs are comparable), and renewable procurement has fuel costs of zero.

Additionally, the CEC's Cost of Generation report shows that the lifecycle cost of procurement from conventional generation exceeds that of solar and wind generation.

Figure 3. Selected Levelized Costs for the Present Integrated Energy Policy Report<sup>6</sup>



Furthermore, as noted in the Preliminary Forecast, ordinary distribution costs (like maintenance and operation of distribution infrastructure) are also increasing at a *higher* rate than the overall electric system costs, increasing at about 3 percent to 4 percent real per year.<sup>7</sup>

Therefore, it appears that much of the drivers contributing to increased electric rates are independent of –and possibly higher than–the costs of renewable procurement. We recommend the Commission specify what the main drivers are behind the rate increases.

<sup>4</sup> “In the mid rate case, natural gas prices are projected to increase on average 3.7 percent per year, . . .” CEC, Preliminary Demand Forecast, p. 29 (June 2015).

<sup>5</sup> CEC, *Retail Electric Rate Projections: Preliminary Cases*, Workshop Presentation, Slide 10 (July 7, 2015).

<sup>6</sup> CEC, *Estimated Cost Of New Renewable And Fossil Generation In California*, Final Staff Report, p. 11 (June 2015).

<sup>7</sup> “Total distribution revenue requirements, including depreciation, operation and maintenance, and other costs, are projected to increase by around 3 to 4 percent annually, in real dollars.” CEC, Preliminary Demand Forecast, p. 29 (June 2015).

**E. NRDC asks the Commission staff to publish average residential electric bills in the forecast, instead of only publishing rates.**

NRDC asks the Commission to also publish average residential electric bills in the forecast, instead of only publishing rates. Despite having electricity rates that are higher than the national average, California's residential electricity bills – consumers' bottom-line total costs – are the seventh-lowest in the country.<sup>8</sup> In fact, Californians' average monthly residential electric bills are approximately \$20, or 18 percent, lower than the national average. It is important to recognize bills, the actual costs to consumers, in the forecast and include projections of these, instead of only forecasting the price per kilowatt-hour consumed.

**III. Conclusion**

Thank you for the opportunity to comment on the Preliminary Electricity Forecast. We look forward to working with the Commission and stakeholders on the 2015 IEPR.

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<sup>8</sup> EIA, *2013 Average Monthly Bill – Residential*,  
[http://www.eia.gov/electricity/sales\\_revenue\\_price/pdf/table5\\_a.pdf](http://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf)