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## **NRDC Comments on the Demand Forecast**

*Additional submitted attachment is included below.*

# **Natural Resources Defense Council (NRDC) Comments on the California Energy Demand Revised Electricity Forecast**

December 31, 2015

**Submitted by:**  
Kala Viswanathan 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 Revised Electricity Demand Forecast. NRDC is a non-profit organization with nearly 70,000 California members who have an interest in receiving affordable energy services that reduce the environmental impact of California's energy consumption. We want to thank staff and the Commission for their hard work throughout the year to produce the 2015 Revised Demand Forecast, including the managed forecast that includes Additional Achievable Energy Efficiency (AAEE). We respectfully offer the following comments on 2015 IEPR Revised Demand Forecast.

## **II. Discussion**

### **A. NRDC strongly commends the Commission for including more localized granular data in the 2015 Revised Demand Forecast.**

NRDC commends the Commissions' efforts to create a more granular forecast by allocating results across twenty geographic forecasting zones, in addition to the eight larger planning areas included in previous forecasts. This increased granularity is a step forward toward improving assessments of resource needs at more local levels. Moreover, we are encouraged by the Commission's comment during the December 17<sup>th</sup> Workshop to explore the possibility of including PacifiCorp territory in future forecasts, which will help strengthen coordination across state lines. Moving forward, we recommend that the Commission work with the California Public Utilities Commission (CPUC) to improve the granularity of managed forecast as well. Producing a forecast of Additional Achievable Energy Efficiency (AAEE) with more localized results will require coordination among the CEC and CPUC (where the data is generated

initially). Increasing granularity of the managed forecast will help to assess local resource needs in long term planning efforts.

**B. NRDC applauds the Commission’s inclusion of the 2016 water efficiency standards into the baseline forecast.**

We applaud the Commission’s swift inclusion of 2016 water appliance standards into the baseline forecast. These included water efficiency standards for toilets, urinals, showerheads, and faucets. Given the embedded energy in water, these standards reduce electricity and natural gas in the baseline forecast. Therefore, the Commission’s prompt inclusion will improve the accuracy of the baseline and managed forecast.

**C. NRDC urges the Commission to not reduce the energy savings from 2016 appliance standards by an arbitrary 50%.**

While we support the Commission’s swift inclusion of energy savings from water efficiency standards in the baseline forecast, we are concerned that the Commission is applying an arbitrary 50% reduction to the energy savings from codes and standards. This reduction, called an “uncertainty factor” was not supported by the record of this proceeding or that of the PUC’s potential study process. Unlike the future appliance standards savings in AAEE scenarios, the 2016 appliance standards have *already* been adopted. Furthermore, this creates an inconsistency between previous codes and standards in the managed forecast (for example 2005 and 2008 Title 24 standards) which did not have an uncertainty factor applied versus the baseline forecast. Because it is arbitrary and not supported in the record, we encourage the Commission to include all the savings from 2016 standards from Title 20 and Title 24. The Commission could include these savings in the baseline forecast, as it did for the water efficiency savings, or in the AAEE scenarios – but in both cases without the 50% uncertainty factor applied.

**D. We recommend that the Commission and joint agencies continue to rely on the Mid-Mid AAEE Scenario, despite the fact that it still underestimates actual energy savings.**

The Commission, along with the CPUC, and Cal ISO have demonstrated leadership in relying on energy efficiency as a resource in the state, since the joint commitment of the agencies in 2013

and results in 2014.<sup>1</sup> We urge this Commission, and its sister agencies, to continue that progress by relying on a managed forecast that accounts for all reasonably expected to occur energy efficiency. The Mid-Mid AAEE Scenario is the closest approximation to the amount of energy efficiency reasonably expected to occur – though it still underestimates actual energy savings. The last forecast with published AAEE amounts, the 2013 California Energy Demand demonstrates that the managed forecast (which includes Mid-Mid AAEE) was more accurate than the baseline forecast. (And both actually *overestimated* actual electricity sales.) The 2013 California Energy Demand estimated 267,682 GWh of sales statewide in 2014 in the baseline forecast and 266,753 GWh in the managed forecast. Actual statewide sales in 2014 were 263,020 GWh, clearly showing that the managed forecast was more accurate, though still overestimated actual energy use.

Because the Mid-Mid AAEE Scenario is the closest estimate, though still undercounts energy efficiency, we recommend relying on it in statewide resource planning efforts. Relying on energy efficiency as a resource is not only the most accurate way to conduct resource planning efforts, but relying on energy efficiency also saves customers from duplicative and expensive procurement in supply-side resources: the 2015 Demand Forecast's total Mid-Mid amount of future energy efficiency will save the equivalent of eleven 500 MW power plants by 2025. For all these reasons, NRDC urges the Commission to rely on the amount of efficiency in the Mid-Mid AAEE Scenario.

**E. NRDC requests that the 2015 Updated Managed Forecast include all mid-sized POU's and that future managed forecasts including savings from all POU's.**

The 2015 Revised Demand Forecast with AAEE excludes almost a third of the energy efficiency savings from POU's. We recommend that the CEC include energy savings from all mid-sized POU's energy efficiency programs in this 2015 Revised Demand Forecast as listed below in Table 1. These mid-sized utilities account for approximately 30% of POU energy efficiency

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<sup>1</sup> Letter to Senators Alex Padilla and Jean Fuller from the California Energy Commission, California Public Utilities Commission and California Independent System Operator, January 31, 2014. Available at [http://www.cpuc.ca.gov/NR/rdonlyres/2D097AAD-5078-47E9-A635-1995668F34B7/0/Padilla\\_Fullerletter\\_13114.pdf](http://www.cpuc.ca.gov/NR/rdonlyres/2D097AAD-5078-47E9-A635-1995668F34B7/0/Padilla_Fullerletter_13114.pdf)

savings, over 163 GWh last year out of 569 GWh total.<sup>2</sup> And since the Commission has data from these mid-sized POU's extending ten years into the future from the last submittal, such an adjustment could be accomplished quickly. For minor year extensions to align with the dates of this forecast, we recommend a simple linear extension of energy savings into the future based on average annual incremental savings. Accounting for the mid-sized POU's will greatly improve the accuracy of the managed forecast that includes AAEE savings.

Table 1: Mid-Sized POU's in California

| <b>Mid-Sized POU's</b>       |
|------------------------------|
| Anaheim                      |
| Burbank                      |
| Glendale                     |
| Imperial Irrigation District |
| Modesto                      |
| Palo Alto                    |
| Pasadena                     |
| Redding                      |
| Riverside                    |
| Roseville                    |
| San Francisco                |
| Silicon Valley Power         |
| Turlock Irrigation District  |
| Vernon                       |

**F. NRDC recommends varying the incentive levels across AAEE scenarios: presently, there is no differentiation across every scenario.**

NRDC recommends that the Commission alter the low and high AAEE savings scenarios to provide some variation in incentive levels. All five scenarios currently assume that incentive levels will be 50% of the incremental cost of a measure. This is not reflective of reality, nor helpful for creating variation in forecasts. Additionally, the potential model is particularly sensitive to this variable, so using higher and lower incentive levels in different scenarios will provide better differentiation among scenarios. We recommend increasing the incentive level to

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<sup>2</sup> Letter to David Modisette, California Municipal Utilities Association: Energy Efficiency in California's Public Power Sector: A 2015 Status Report. Available at <http://switchboard.nrdc.org/blogs/cheavey/NRDC%20Annual%20Letter%20on%20POU%20EE%20Progress%209-9-15.pdf> and summary blog at [http://switchboard.nrdc.org/blogs/cheavey/public\\_utilities\\_scale\\_up\\_effi.html](http://switchboard.nrdc.org/blogs/cheavey/public_utilities_scale_up_effi.html)

100% of incremental cost in the high scenarios – this corresponds to effectively the amount of incentive level allowed under a PAC cost test. And we recommend setting the Mid-Mid scenario to 75% of the incremental cost; and setting it to 50% in the low scenarios.

#### **G. NRDC encourages the Commission to consider energy storage in future Self-Generation Forecasts**

NRDC supports Commissions' efforts in the 2015 IEPR Self-Generation Forecast to do a preliminary evaluation of storage integration technologies. This is pressing as there have been recent drops in the price of some forms of energy storage<sup>3</sup> and the CPUC has a storage procurement framework that calls for 200 MW of a total mandate of 1.3 GW of storage by 2020 to be procured on the customer side of the meter.<sup>4</sup> Given these trends and developments, it is important for future Self-Generation Forecasts to project the adoption of distributed storage and evaluate the effects of storage on peak demand.

### **III. Conclusion**

NRDC thanks the CEC for the opportunity to comment on the 2015 California Energy Demand Revised Electricity Forecast. We look forward to working with the Commission next cycle to implement SB 350's goal of doubling AAEE savings statewide by 2030. We thank you for considering our recommendations.

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<sup>3</sup> AECOM Energy Storage Study: Funding Knowledge and Sharing Priorities, *available at* <http://arena.gov.au/files/2015/07/AECOM-Energy-Storage-Study.pdf>. See also: EPRI, *Finding Cost-Effective Opportunities for Energy Storage on the Electric Grid*, January 2014. *Available at* [http://eetd.lbl.gov/sites/all/files/lbl-eetd\\_1-17-2014\\_final.pdf](http://eetd.lbl.gov/sites/all/files/lbl-eetd_1-17-2014_final.pdf)

<sup>4</sup> California Public Utilities Commission (CPUC) Order Instituting Rulemaking Pursuant to Assembly Bill 2514 to Consider the Adoption of Procurement Targets for Viable and Cost-Effective Energy Storage Systems, September 3, 2013, *available at* <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M078/K912/78912194.PDF>