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Additional submitted attachment is included below.

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2015 Integrated Energy Policy Report (IEPR) Draft
Docket Number 15-IEPR-01
November 10, 2015
Submitted by: Kala Viswanathan, Lara Ettenson, Sierra Martinez, Carl Zichella, Pierre Delforge and David Goldstein

I. Introduction

The Natural Resources Defense Council (NRDC) appreciates the opportunity to offer these comments on the 2015 IEPR Draft. 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 to prepare a thorough and detailed 2015 Draft IEPR Report. We respectfully submit the following comments.

NRDC advocates that the Commission establish a quantitative estimate of an economy-wide goal of doubling of energy efficiency and begin setting targets for the doubling goal as soon as possible.

NRDC strongly supports moving forward with implementation of the California *Existing Buildings Energy Efficiency Action Plan* (Action Plan) and congratulates the Energy Commission on its adoption. However, while we understand the Action Plan focuses solely on buildings, publishing the graphic in the IEPR (p.21, Figure 5) is inconsistent with the requirement of Senate Bill 350 to double energy efficiency more broadly across the economy. With the passage of SB 350, the goal of doubling existing expected savings by 2030 should result in *twice as many* savings in 2030 as is currently expected from both the investor-owned utilities (IOU) and publicly owned utilities (POU).[1] Yet the language and associated graphic contained in the Action Plan and in the IEPR continues to illustrate efficiency only from residential and commercial buildings programs as well as codes and standards (from all utilities), which does not represent a truly economy-wide goal.

[1] Naturally occurring savings are also anticipated to double, but those savings should not be included in calculating the doubling of policy driven savings from the IOUs or POUs.

In addition, it is critical to establish numeric targets for this goal. Per the requirements of SB 350, doubling of savings from the 2014 approved California Energy Commission's demand forecast for additional achievable energy efficiency (which includes anticipated codes and standards as well as IOUs' program savings) and the POU targets reported in the March 2015 status report, will set the state goal at nearly 89,000 GWh in cumulative savings and 1,377 million therms by 2030. SB 350 then provides for this Commission to create an aggregate goal for the state, so as to allow for cleaner heating fuels to participate as energy savings. This aggregating methodology may involve backing out Btus (or another common energy metric) from energy savings in order to combine goals, as was done in the Action Plan. We recommend that in this IEPR, the commission establish the electricity and therm goals in individual quantities. In the next IEPR, we recommend that the commission begin the public process to adopt an aggregating methodology.

As previously noted, achieving these savings in 2030 will require the state energy and climate agencies, as well as stakeholders, to evaluate the current policy structure and update rules and/or approaches to estimating savings to ensure all available cost-effective efficiency is being pursued. The Energy Commission is in a good position to help advance the dialogue and collaboration to achieve the improvements needed to meet this goal, utilizing the proposed collaborative effort to implement the Action Plan, which could be expanded to cover additional statewide efficiency efforts, such as evaluation and establishing energy saving estimates for program planning.

We therefore recommend that, as soon as possible, the Energy Commission publish a truly economy-wide goal (i.e., absolute energy numbers) and begin working with key constituents to establish utility specific goals as well as codes and standards goals to achieve the full doubling of efficiency by 2030. Defining a consistent and clear goal for individual end uses will support the Commission in developing the most effective workplans and strategies of the Action Plan, ensure all entities are driving toward the same target, and put the state on a path to meet the long-term greenhouse gas reduction goals at the lowest cost possible.

NRDC appreciates the Commission's strong efforts on regional transmission planning and on the Renewable Energy Transmission Initiative RETI 2.0 process that will establish new renewable energy zones in the San Joaquin Valley.

NRDC supports the IEPR report's emphasis on regional markets and coordination, and meeting system needs in renewable resource procurement. NRDC also strongly supports the continued emphasis on the role of local governments in transmission planning and the need to adjust transmission planning goals to include right-sizing of lines, which we believe complements and expands upon the Garamendi Principles. NRDC recommends right sizing as a component of master planning transmission and generation development to meet present and future electrical system needs efficiently, affordably, with fewer land and wildlife impacts, in a timely manner.

NRDC is excited about the launch of the RETI 2.0 process and plans to actively participate. We are extremely supportive of establishing new renewable energy zones in the San Joaquin Valley and recommend using RETI 2.0 as a platform for realigning transmission planning processes in California. This process is well suited to testing ways to improve transmission planning and better coordinating the efforts of the energy principals around system needs and long-term climate goals.

NRDC recommends that the IEPR include a greater focus on reducing plug loads and expand their definition of plug load equipment.

The 2015 IEPR Draft reports that plug-loads consume 23 percent of the electricity in California office buildings; however, this definition of plug loads does not include server room equipment, such as servers, data storage array and networking equipment, which account for a large percentage of office building electricity consumption.[3] Moreover, the report states on page 31 that 23 percent of residential plug load is caused by "always-on" loads. According to our recent analysis, we recommend this instead read "23 percent of <u>all residential electricity use.</u>"[4]

NRDC strongly supports power-scaling standards for plug-load efficiency and urges the commission to extend this strategy to all electric devices.

NRDC strongly supports implementing standards that ensure that devices only draw as much power as the task at hand requires. This will reduce the idle loads of "always-on devices"

[3] Delforge, "Is There a Ghost in Your Closet? Savings Energy In Server Rooms and Closets", www.nrdc.org, November 2011
[4] Delforge, "Home Idle Load, Devices Wasting Huge Amounts of Electricity When Not in Active Use", www.nrdc.org, May 2015

which draw power even when not actively used (p. 58). Such standards should also ensure devices auto-power down to sleep modes when not actively used. We urge the Commission to broaden the scope of this strategy from electronic equipment to all electric equipment, such as door bells, garage door openers, recirculation pumps, heated bathroom floors and towel racks, because these devices also have idle loads and opportunities to save energy by better scaling power depending on the task at hand.

NRDC urges the Commission to correct or remove the statement that greenhouse gas (GHG) emission reductions of electrification are not clear and further ensure that the state's policies do not create unwarranted barriers to electrification.

The 2015 IEPR Draft states that GHG emission reduction benefits from switching appliance from natural gas to electricity are not clear because a significant amount of electricity in the grid comes from natural gas combustion. However, with heat pump appliances and other energy-efficient electric appliances powered by low-carbon electricity, the GHG emission reduction benefits are clear. With half of the electricity in the California grid coming from zero-carbon resources such as renewables, hydro and nuclear, and with modern heat pump appliances capable of delivering more than three units of heat for ever unit of electricity consumed, electric appliances have the potential for significantly lower GHG emissions than natural gas appliances from a system perspective in California.[5]

NRDC recommends that the zero-net energy (ZNE) equivalency methodology also value construction, water and transportation.

When evaluating ZNE, the Commission should take a holistic approach that considers not only utility use, but also construction, process, and transportation energy. For example, the energy to construct a building is typically assumed to be 10%, or at most 20%, of the energy consumed in annual operation. Consider wood: the energy used to produce, cut, and ship framing lumber will depend on the forestry practices of the supplier, how far the lumber is shipped and by what means. Another case is water, where there is both the energy needed to supply water for interior uses and landscaping and the energy needed to process wastewater, which will become more significant as energy use within the building itself drops. These kinds of Life Cycle

[5] "A Tectonic Shift in America's Energy Landscape," nrdc.org, October 2015

Assessment (LCA) approaches are an important aspect of the net-zero question and should be pursued and developed further to allow for building-specific estimates and to reduce uncertainties.

NRDC supports the Commission's decision to encourage broader market for building performance assessments.

NRDC supports efforts by the Commission to update the whole-house Home Energy Rating System (HERS) Regulations and also encourages the Commission to consider parallel methods to estimate energy such as the Residential Energy Services Network (RESNET).

III. Conclusion

Thank you for the opportunity to comment on the 2015 Draft IEPR. NRDC recommends that the Commission incorporate the aforementioned recommendations in to the final 2015 IEPR and we look forward to working with the Commission and stakeholders to continue to advance clean energy in California.