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Sonnen Comments for California Energy Commission September 1, 2017

Blake Richetta, SVP, sonnen, Inc. – Statement 1:

We support the direction of the code and appreciate the work the CPUC is putting into the Title 24 Building Energy Efficiency Standards. At sonnen, we believe in enabling a true clean energy future through Grid Harmonization. Beyond simply supporting this idea, sonnen actually lives and breathes this reality through our sonnenCommunity in Germany. We have proven that a distributed network of energy storage systems, coupled with rooftop PV, can be deployed for the purpose of supporting the grid and offsetting many of the challenges associated with the intermittency and unpredictability of renewables. We believe this can also come true in California. Title 24 is a great step to help enable mass adoption of clean and reliable energy and help solve some of the problems associated with renewable adoption by encouraging a mass deployment of smart energy storage systems to "kill the Duck".

A distributed network of energy storage systems can also add net new value to the overall grid infrastructure. Offsetting Peak Periods with demand response programs and reducing the occurrence of peak periods through energy efficiency measures, is a great step to reducing the utilization of gas peaker plants. The ultimate goal is a mass deployment of energy storage in form of a VPP, that not only reduces the run time, but even reduces the need to build new peaker plants. In conjunction with enabling a smarter grid, and providing other grid services like frequency regulation and voltage support, decentralized energy storage will create significant investment deferral opportunities, as it is cheaper, cleaner and more efficient.

That said, utility support is the key to the overall affordability of energy storage. That is how the math works in Germany, and energy storage has been described as thoroughly utilizing the value stack by adding in ratepayer incentives to use storage to provide grid services. Without these incentives, the deployment of storage and the benefits provided by storage will be delayed as costs of adding an ESS to PV can simply be too high at this moment.

By proactively investing in distributed ESS Systems coupled with PV arrays as a standard for housing developments, utilities will meet their own needs along with those of energy efficient home builders, bringing real value to the overall electricity grid by enabling affordable homes and a low electricity bills through a "shared cost" model.

It is great to support zero net energy new construction. There should be an option – true "Energy Independence" or "Energy Self-Sufficiency and Security – while assisting the overall stability of the electricity grid." In Germany, sonnen customers can opt-in to join the sonnenCommunity but it is not required simply because they own an ESS. Building the right programs and incentives that compensate

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ratepayers for allowing utilities to manage ESSs, instead of a forced mandate, can increase utility customer satisfaction and adoption.

Blake Richetta, SVP, sonnen, Inc. – Statement 2:

Sonnen would like to see the Title 24 proposition thrive in the most effective manner. In some areas, the locational value of distributed clean energy storage resources may be higher than in others. We encourage the utilities to continually think about an active procurement of needed resources, by way of adding an energy storage VPP into a new home builder's development. Where is DR, frequency regulation, voltage support, reactive power most needed? Where can storage systems help defer T&D costs and investments into generation sources? If utilities are able to share this information, it will help maximize the positive impact of distributed storage systems.

Olaf Lohr, Director of Business Development, sonnen, Inc. – Statement 1:

Sonnen is in full support of the proposed direction of the Title 24 California Building Energy Efficiency Standards. Our mission is to provide products and services that support a more energy efficient future and provide clean, reliable and affordable energy for all. We fully support the proposal to make energy storage its own category, as it can provide numerous services, including TOU shifting, demand response, load shifting, and backup power, both in combination with solar energy or even as a stand-alone device.

The CPUC should strive to implement utility rates that truly reflect and correct the problems facing the current grid, providing an economic incentive to ratepayers with installed storage systems in form of "energy storage rates". Distributed storage is capable not only of bolstering the existing utility grid by providing grid services, but also provides ratepayers with better visibility into their energy usage, which can lead to behavior changes in power use. California's current TOU plans in the three state IOU aim to change customer energy usage, but do not offer a sufficient value proposition or incentive for homeowners to add energy storage to a PV system. Even though a change in utility rate design is not currently part of the Energy Efficiency Standards Discussion, it needs to be considered internally at the CPUC. If there is no economic incentive to properly utilize the energy storage systems, smart storage systems will be underutilized and sit idle after installation, primarily functioning as backup power devices.

We recommend the removal of the mandate that grid responsiveness be controlled by the utility. Instead, we suggest that the CEC implement an option and an economic incentive program to compensate ratepayers who install energy storage and agree to participate in grid stabilization services. The successful rollout of the smart thermostat program could serve as a good blue print for how to increase customer adoption of energy storage.