

DOCKETED

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Comments re multi-family solar storage

Additional submitted attachment is included below.

July 1, 2021

Mr. J. Andrew McAllister, Ph.D.
Commissioner
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Docket Unit, MS-4
Submitted electronically to Docket 21-BSTD-01:

RE: Docket No. 21-BSTD-01 - Comments on 45-Day Language, 2022 California Energy Code

Dear Commissioner McCallister:

The following comments are submitted by Powertree Services on behalf of itself and its multi-family property owner customers and network of reselling installers servicing California in all major markets. Together, we currently have buildings containing over 21,000 apartments worth of deployed, in-construction or committed properties installing solar PV & energy storage. These are almost entirely retrofits rather than new construction.

Powertree appreciates the opportunity to comment regarding concerns expressed by other comment filers regarding the 2022 Building Energy Efficiency Standards and specifically the expansion of the mandates for solar PV and energy storage (ESS) to commercial and multi-family property construction.

First, we want to applaud the Commission for bringing and extending these requirements to multi-family properties which house over 42% of California's population and vehicles and are responsible for a commensurate amount of energy consumption. Setting a minimum standard will not only improve the health and living conditions of residents and neighbors but also provide a lower cost of living AND build wealth for the property owner while also encouraging existing properties to upgrade as well to remain competitive. For example, in Napa and Santa Rosa, California, one owner of over 200 apartments is currently installing, solar, storage and EV charging to cut tenant's energy bills, enable them to have access to at home EV charging and enable resiliency by supplying backup power. The services are opt-in to the tenants and will save the tenants at least 10% compared to other energy supplies AND save approximately 50% compared to the cost of gasoline while concurrently generating additional rental income for the property owner and seeing a net positive equity impact (equity increase minus cost of system and labor) in year 2, cash flow positive position in the same year and full cash payback by year 7.

Second, concern has been expressed by other commenters that because there's a low percent penetration of these technologies that we should wait before acting to increase the penetration. This is a strange proposition as one might reasonably be concerned about efficacy or performance

prior to any market offering but even a comparatively low % in a market as large as California is completely adequate to evaluate the performance and efficacy of technology such as energy efficiency, solar PV and energy storage.

Third, we do agree that the CEC needs to invest in and encourage more work to expand the use of direct, local renewable power in the multi-family sector, which has been held back by market factors now being addressed in industry and lack of supporting regulation. The proposed expansion is one much needed step in the right direction of equity for ALL Californians in the fight against climate change and sustainable economic growth.

Fourth, concerns have been expressed that market supply may not be adequate to meet the demand requirement from CEC action. We do not agree with this as while there is some lead time to systems, we have not experienced a lack of adequate supply. One key point on these “concerns” is basic economics in that not establishing a demand is not the way to get the market to enable supply.

Fifth, concern has been expressed about the fact the supply needs to be sourced from overseas locations. This is a factor in EVERY aspect of the California economy and no more so for energy storage and PV than other electronics. Further, having domestic demand will drive demand for more domestic manufacturing as domestic logistics cost and support are much more cost effective than international. The CEC enabling additional demand will only improve the domestic demand and bring ecological and economic benefits to local communities. For example, Powertree’s equipment is designed and manufactured in California with local component suppliers and installers throughout the State.

Sixth, other commenters have expressed concerns that economics work only in “off-grid” buildings which is typically the least cost-effective scenario as it typically requires 2 to 3 days’ worth of battery and backup fueled generation. This idea that only off-grid should have PV + Storage is just not true as 100% of our projects have some form of grid tie. Further, assuming a limited set of battery use profiles as the other commenters have presented, is an inaccurate presentation of viable offerings possible and we wish to highlight that several uses of multi-family PV and storage have not been discussed including; Reducing service upgrade requirements for EV, reducing new construction service costs by enabling more efficient use of shared EVSE at higher power levels, in-building resiliency for tenants, reducing energy use through self-consumption by tenants on-site AND for EV charging. Off peak charging of grid battery for peak use mentioned by some commentors is just one scenario amongst many viable uses. We are happy to participate in more detailed discussion of the sizing requirements if desired.

Seventh, comments have been made that “only costly 3rd Party VNEM solutions will be available when the code updates go into effect”. In addition to our own non-NEM solutions we are aware of multiple companies offering multi-family solutions today, some with VNEM and some with hardware enhancements to NEM. As we mentioned above, we see 10,000s of apartments being enabled in projects being deployed today and any learning curve is relatively short for installers and developers when they involve the suppliers of these systems. The economics on these systems, especially in multi-family where the equity valuation of a property is a multiple of rental incomes,

are quite attractive in that the systems are often net equity positive in just a couple of years. New builders will, we think, find that providing solar PV, EVSE and ESS will be profitable for them and necessary.

Finally, we have observed in negotiations on new build projects that the current mandates can impose perverse incentives on builders. An example that needs correction is in the current Title 24 (Section 6) mandate wherein the idea of a make-ready requirements based on the CARB new ZEV sales %. The issue here is that at 30 (or 50 amps) per parking stall this can create a very large requirement for grid capacity that can make a project un-attractive. As a result of the make-ready exemption these projects may enable the capacity but not actually place wire or active EVSE in the project. Without the EVSE being present there is little to no confidence by tenants that they can charge their vehicle and the property may wind up just re-using or re-allocating that grid capacity for non-EV purposes. This is especially true in larger projects. We suggest modifying this requirement to require (a) that EVSE be shared use at the current industry average charge rate of 50 amps AC with at least 6 vehicles be supported per shared use stall (as current vehicles have ranges enabling a weeks' worth of driving and so need a charge only once or week or slightly more) and (b) that the shared use EVSE be installed and operational. For example, a 480 parking stall project with a 25% CARB level would need to support 120 VEHICLES (not stalls) and at 6 vehicles per shared stall this is 20 stalls needing to be equipped. So rather than needing 30 amps x 120 stalls = 3600 Amps of capacity (864KW) under the current rules the Builder would need only 20 x 50 Amps = 1000 Amps (240KW). A savings of 2600 Amps (624KW) for the same or greater electric vehicle miles deliverable. This will increase the utilization of the grid infrastructure, lower cost for the Builders AND provide the necessary assurance to Tenants that they can charge their vehicles. An additional benefit of this approach is that the current perverse incentive to bypass the intent of the regulation is eliminated.

On behalf of Powertree, Powertree's customers and installers please feel free to contact me at 415-235-5094 or ceo@electrictrees.com with any questions on our comments.

Sincerely,

Stacey Reineccius

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