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The Energy Commission should disapprove SMUDâ€™s newest SolarShares proposal

Additional submitted attachment is included below.

February 7, 2020

California Energy Commission
1516 9th Street
Sacramento, CA 95814

Docket number: 19-BSTD-08

Subject: The Energy Commission should disapprove SMUD's newest SolarShares proposal as it does not address Commissioners' concerns with the original proposal

Dear Commissioners,

The California Solar & Storage Association (CALSSA) submits these comments on Sacramento Municipal Utility District's (SMUD) proposal docketed on January 17, 2020, for their SolarShares program to meet the requirements of the new home solar mandate. We request the Commission disapprove the application.

In this letter, we review the degree to which SMUD's current proposal addresses concerns about SolarShares the Commissioners expressed at the business meeting on November 13, 2019. We find that SMUD did not make changes to the proposal to resolve many and the most significant of the concerns. For the changes SMUD did make to the proposal, we find that the modifications only partially resolve the underlying issues. Consequently, SolarShares still jeopardizes the new home solar mandate and will result in poorer homeowner benefits, reduced resiliency, a less dynamic grid, and fewer environmental benefits than if new homes were to install rooftop solar. It also will block homeowners from installing rooftop solar for 20 years and attaining the corresponding benefits.

In section 2.1 of the proposal, SMUD makes the environmental case for SolarShares. The section reveals that SMUD fundamentally misunderstands and has misconceptions of solar customer behavior and the market. Consequently section 2.1 is filled with falsehoods, misinformation, and omissions. One of the most significant environmental benefits of rooftop solar that does not materialize with SolarShares is that rooftop solar is increasingly paired with energy storage, which reduces peak demand and can help keep peaker plants off.

In the proposal, SMUD claims that SolarShares meets the requirements for a community solar program to be approved by the Commission. In actuality, SMUD has failed to meet three of the criteria in section 10-115 of the Building Energy Efficiency Standards. We ask the Commissioners review the public comments submitted by Keyes & Fox LLP on behalf of

CALSSA that lays out the case that SolarShares does not meet the "Energy Performance" criterion, "Dedicated Building Energy Savings Benefits" criterion, and "Durability" criterion.

We also ask the Commissioners to review the two addenda at the end of this document, which address SolarShares in regard to housing affordability and SMUD's track record on on-site solar and 100 percent clean energy.

At the Energy Commission's business meeting on November 13, 2019, the Commissioners did not approve SMUD's original SolarShares program due to several concerns including:

1. **Prevent grid flexibility and resiliency:** Partially because participation in SolarShares would make a building ineligible for Title 24 incentives for energy storage (i.e. batteries combined with on-site solar can earn building envelope compliance credit), the program could lower battery storage adoption, thereby decreasing demand response communication, load flexibility, resiliency, and reliability.[i]
2. **Undermines the new home solar mandate:** SolarShares could undermine the vision and intent of the new home solar mandate as a component of the building standards, which is to make homes "perform better than ever,… operate very efficiently while generating their own clean energy,… cost less to operate, have healthy indoor air and provide a platform for 'smart' technologies that will propel the state even further down the road to a low emissions future."[ii] Rooftop solar is critical to achieving this vision, but SolarShares could result in low rates of rooftop solar adoption for new homes. At the November 13, 2019 business meeting, Vice Chair Scott commented that the proposal could cause "potentially every house that's in SMUD territory… [to] use the SolarShares program, and not have solar or storage on it."[iii]
3. **Lacks virtual net energy metering (VNEM):** Because SMUD does not allow VNEM, SolarShares will likely become the default option for many multi-family homes. This will deprive the benefits of on-site solar from some of SMUD's customers that need it the most.[iv]
4. **Offers low financial benefit:** SolarShares provides a low financial benefit to enrolled customers,[v] which can decrease the affordability of homes[vi] and create a less equitable path to carbon neutrality.[vii]
5. **Out of line with tenets of community solar:** Characteristics of SolarShares might not align with community guidelines, such as the location of the solar farms.[viii]
6. **Prevents new homeowner choice:** The builder, not the future homeowner, could make the decision on whether the home would be enrolled in SolarShares or would be built with rooftop solar.[ix]
7. **Creates administrative burden:** SolarShares could be an administrative burden to SMUD.[x]

SMUD's revised SolarShares proposal does not make changes that address many of these concerns. SMUD claims that resolving some of the concerns "are beyond SMUD's control," though in actuality, SMUD has the authority to make many changes that they did not. Regarding the concerns SMUD claims to have addressed, SMUD has taken steps in the right direction, though those parts of their proposal are still problematic. The following numbered sections, which correspond to the concerns enumerated above, are our analysis on whether and how SMUD changed the proposal to resolve the concerns.

1. **Issue: SolarShares prevents grid flexibility and resiliency**
   Did SMUD resolve the issue: No
   Explanation: SMUD's new proposal lacks changes to increase demand response communication, load flexibility, resiliency, and reliability. SMUD could have addressed this concern by (A) adding a community storage component to SolarShares, and/or (B) allowing developers to build SolarShares solar farms in the communities that will enroll homes in SolarShares. While we support SMUD adopting these improvements to SolarShares, the program would still reduce grid flexibility and resiliency because homes enrolled in SolarShares are not eligible for envelope compliance credit for energy storage. We urge the Energy Commission to initiate an emergency rulemaking process to address this.

2. **Issue: SolarShares undermines the new home solar mandate**
   Did SMUD resolve the issue No.
   Explanation: SMUD's new proposal lacks changes to protect the vision and intent of the new home solar mandate. SMUD could have protected the vision and intent by placing a cap on the percent of new homes (or percent of solar capacity of new homes) in SMUD service territory that could enroll in SolarShares.

3. **Issue: SMUD does not allow VNEM**
   Did SMUD resolve the issue: No
   Explanation: SMUD could have allowed for VNEM, but did not. With or without SolarShares, SMUD could quickly adopt VNEM making solar viable for affordable, multifamily housing.

4. **Issue: SolarShares offers low financial benefit**
   Did SMUD resolve the issue: No
   Explanation: SMUD's new proposal does not improve the financial benefits of SolarShares to make the benefits comparable to those of on-site solar. While SMUD increased the benefit of SolarShares to enrolled homes from $5/kW/year to $10/kW/year, the financial benefits of SolarShares (approximately $30-$40 annually) still pale in comparison to the financial benefits of rooftop solar (approximately $35 per month).[xi] SMUD justifies the lower financial benefits on grounds that the program has no

upfront cost. However, financing agreements for rooftop solar that also have no upfront cost offer a benefit that is more than four times larger than the benefit offered by SolarShares – $183/year on average compared to SolarShare's $40/year for a typical 4kW system.[xii] One way SMUD could have increased the financial benefit was by adding an entry fee to their program, which would be invested in developing solar resources, and then SolarShares participants could receive a return on that investment. However, SMUD's new proposal does not add an entry fee.

5. **Issue: SolarShares is out of line with tenets of community solar**
   Did SMUD resolve the issue: Partially.
   Explanation: SMUD's new proposal brings SolarShares more in line with the tenets of community solar, but SolarShares still falls far short of a true community solar program for the following reasons.
    a. Scale: According to the Energy Commission, "community-scale PV systems can range from a few kW to a few MW."[xiii] The revised SolarShares program will prioritize solar farms up to 20 MW, such as the 13 MW Wildflower solar farm. Additionally, SMUD will rely on the 160 MW Rancho Seco II solar farm when capacity from smaller solar farms is not available.
    b. Location: SMUD has removed the Great Valley 2 solar farm outside Fresno from the SolarShares portfolio. However, this change only slightly improves the chances that a home enrolled in SolarShares will be in the same community as the solar farm. The primary SolarShares farm is Wildflower Solar in Rio Linda, which is a good location to use when enrolling homes in Rio Linda or parts of North Natomas. However, using Wildflower to enroll homes in many of the communities experiencing housing booms – such as Elk Grove, Folsom, and Rancho Cordova, which are on the opposite side of the service territory – will negate the locational benefits of solar in the home's community.
    c. Additionality: SMUD's revised SolarShares proposal prioritizes new solar farms when assigning SolarShares. However, SMUD will rely on solar farms that are 5-10 years old when capacity from new farms is not available. For example, SMUD will rely on the old solar farms until the Wildflower Solar farm comes online in November 2020.
    d. Competition: Community solar programs should enable developers and third-party providers to offer community solar subscriptions alongside or instead of utility providers. Customers have benefited from competition by non-utility providers in the rooftop solar market, and the community solar market should include the same competition. Competition also would help build a strong community solar industry. Under the SolarShares proposal, SMUD exercises its monopoly power to prevent competition, and would be the only community solar provider.

6. **Issue: SolarShares prevents new customer choice**
   Did SMUD resolve the issue: Partially
   Explanation: SMUD's new proposal commits the utility to working with builders to offer "a point of purchase choice option for prospective homebuyers" between rooftop solar and SolarShares.[xiv] We are concerned that homebuilders could present the options in a way that discourage rooftop solar, and we urge the Energy Commission to evaluate how SMUD plans to ensure that builders convey the benefits of rooftop solar to prospective homeowners. For homes that are built before the builder identifies a buyer, SMUD should require the home to be built with on-site solar because installing solar during home construction lowers costs of permitting, installation, and supply chain management. Additionally, if prospective homeowners must choose once the home is built without on-site solar, buyers who prefer on-site solar might choose SolarShares because installing solar could delay move-in.

7. **Issue: SolarShares creates an administrative burden**
   Did SMUD resolve issue: No
   Explanation: SMUD could have disclosed the cost of administrating SolarShares, and proposed changes to lower costs, but SMUD's current proposal does neither.

An additional concern articulated by stakeholders at the November 13 business meeting and that SMUD discusses in their new proposal is that SolarShares prevents the buyer and future owners of the home from installing solar, and thus realizing the benefits, for 20 years. SMUD's proposal claims that they "cannot address the issue… absent modification to the Building Code." This is not accurate. First, as the Solar Energy Industries Association's comments explain, the Energy Commission has abundant authority to implement Title 24, and the language SMUD cites does not prevent the Energy Commission from allowing a SolarShares participant to meet the Title 24 requirements with on-site solar at a later date.

Furthermore, SMUD itself may change their SolarShares CC&Rs and interconnection requirements to allow homes enrolled in SolarShares to also install rooftop solar. SMUD would need to change the CC&R language to: "Behind-the-meter generation shall be credited to energy bills by SMUD as primary and SolarShares generation shall be credited to energy bills by SMUD as secondary." (See item #7 on page 50 of SMUD's new proposal.)[xv] The interconnection requirements language would need to change to allow a home's total solar energy production (from rooftop and SolarShares) to exceed the energy needs of the home.

As previously stated, we request the Commissioners disapprove SMUD's SolarShares application. We urge the Commissioners to review their concerns with the original SolarShares proposal and decide if SMUD's new proposal resolves their concerns. As outlined, we believe these concerns are largely unmet. As a result, SolarShares still jeopardizes the new home solar mandate and will result in poorer homeowner benefits, reduced resiliency, a less dynamic grid, and fewer environmental benefits than if new homes were to install rooftop solar.

Thank you for your consideration of our comments.

Sincerely,

Benjamin Davis
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About the California Solar & Storage Association (CALSSA): Since 1977, the California Solar and Storage Association has advanced the common interests of the solar industry, helping make California's solar market the most robust in the United States. Comprised of 500 contractors, manufacturers, distributors, developers, engineers, consultants and educational organizations, CALSSA represents a diverse membership committed to growing the California solar industry, including storage and solar thermal technologies. CALSSA engages with local and state decision makers to ensure California remains a solar energy leader through good public policy and regulations that provide clarity, transparency, and certainty.

Addendum A: SMUD's track record regarding customer-sited solar and 100 percent clean energy

The California Solar & Storage Association requests the Commissioners review the following background information on SMUD's recent track record regarding customer-sited solar and 100 percent clean energy.

SMUD makes the case for SolarShares on grounds that they are increasing customer choice and housing affordability. In actuality, SolarShares is in line with SMUD's prior attempts to gut the rooftop solar market and turn away from the vision of 100 percent clean energy. As the Commission begins to implement SB 100, the Commissioners should take into account SMUD's track record of oppressing customer-sited solar and preventing 100 percent clean energy when determining whether to approve or deny the SolarShares proposal:

- SMUD's Board President believes that there should not be a rooftop solar market. He also believes that the solar mandate does not make sense and the Energy Commission is only continuing it because they are stuck and have to.
- In March 2019, SMUD proposed a $8/kW/month, increasing to $11/kW/month, fee on residential solar, and $5/kW/month, increasing to $8/kW/month, fee on commercial solar. These fees would have ended the cost-effectiveness of solar in SMUD territory. After public outcry, SMUD rescinded the proposal.
- SMUD's 2040 Integrated Resource Plan keeps all five of SMUD's fossil fuel power plants open. Despite the power plants, SMUD claims they will be 100 percent carbon-free because they will use "accountant tricks," according to SMUD's Board President.
- Unlike PG&E and other utilities in California, SMUD does not provide a VNEM program to enable multi-family homes to go solar.
- SMUD creates challenges for homeowners who plan to purchase an electric vehicle to install adequately-sized solar systems.
- For new owners of homes that want to go solar, SMUD allows them to install only small solar systems.
- SMUD has started a stakeholder process to determine NEM 2.0. However, SMUD's Board President recently sidestepped the public process and determined that the economic benefits to solar customers will be lowered.[xvi]

Additionally, since we learned in the summer of 2019 that SMUD was planning to submit a community solar proposal to the Energy Commission, we and other stakeholders repeatedly have asked SMUD to allow community members to weigh in on the proposal via a public hearing. However, SMUD has refused to place SolarShares on a board meeting agenda before the Energy Commission vote.

CALIFORNIA SOLAR + STORAGE ASSOCIATION
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Addendum B: SMUD's claims regarding SolarShares and housing affordability

The California Solar & Storage Association requests the Commissioners review the following information on housing affordability as it relates to SolarShares and on-site solar.

SMUD's application repeatedly claims SolarShares will improve housing affordability.[xvii] In reality, SolarShares will make housing less affordable compared with on-site solar. The Energy Commission's analysis of the new home solar mandate has found that the policy will not make homes less affordable. The Commission's *Frequently Asked Questions* on the new home solar mandate states:

> ***Question 1:*** *On the average, the new PV requirements will add about $8,400 to the cost of a single-family home. Wouldn't that make homeownership less affordable at a time where California's home prices are already out of reach?*
> ***Answer:*** *No. A home with solar costs less to own than one without...*[xviii]

On-site solar that is part of new home construction increases housing affordability for the following reasons:

- Housing affordability is more than the cost of buying a home. Housing affordability, especially for renters, is also the cost of living there, which includes paying utility bills. The SolarShares program will save customers roughly $30 annually via energy bill reductions.[xix] On the other hand, on-site solar on new homes statewide will save customers roughly $35 monthly (net benefit from decreasing energy bills and increasing mortgage payments).[xx] SolarShares locks customers out of the comparatively larger benefits of on-site solar for at least 20 years and thus also locks them out from the increasingly important benefits of solar+storage.
- A highly cost-effective way to finance solar is through a home mortgage. SolarShares would prevent customers from access to this low-cost financing.
- The most cost-effective time to install solar is during home construction because of economies of scale and the streamlining of design, supply, and permitting. SolarShares would prevent customers from reaping the financial benefits of lower installation costs.
- For customers who cannot afford the increase in the initial down payment associated with on-site solar, the PV system can be leased from a third party for no upfront cost that still offers benefits that exceed those from SolarShares.
- Since SMUD requires that customer owned solar not exceed annual load and that SolarShares would be accounted for first, solar could only be added on site for whatever load remains after SolarShares is accounted for, effectively denying the customer the opportunity to "go solar" or add solar+storage.

Furthermore, since SMUD does not allow virtual net-energy metering (VNEM), which creates an easy pathway for multifamily homes to go solar, developers for many multifamily homes will enroll the buildings in SolarShares. This will deprive the residents of multifamily homes, who often have comparatively low incomes, the financial benefits of on-site solar.

Endnotes

[i] Commissioner McAllister stated, "load flexibility and demand responsiveness is key to getting decarbonization done. And one of the intents of the Building Code update absolutely has been to promote those technologies, smart, grid resilience technologies like storage, like demand responsiveness. So, I would be very concerned if we thought that batteries and, you know, behind-the-meter flexibility would be negatively impacted by adoption of this." Commissioner McAllister also stated, "I think it's really important to get right the signals to the marketplace that we need to have the buildings that can respond to our reliability needs, our grid reliability needs, and certainly a nod to resilience. You know, given the fire seasons we've had over the last few years, even though that hasn't been front and center in the development of the Code itself." California Energy Commission, *Transcript of 11-13-2019 Business Meeting*, Docketed date: 11/15/2019, pages 162-163 and 170-171.

[ii] California Energy Commission, Press Release, May 9, 2018, available at https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first.

[iii] California Energy Commission, *Transcript of 11-13-2019 Business Meeting*, Docketed date: 11/15/2019, page 173.

[iv] Commissioner Monahan stated, "it's worrisome to me to hear that it's the multi-family dwellings that are probably going to capitalize on this." Commissioner Monahan also stated, "is this a place we should be engaging the Disadvantaged Communities Advisory Group? Should we be really mining this around how can we make sure that our regulations support benefits accruing to everyone, and especially folks living in apartment buildings that are often low income." Commissioner McAllister stated, "I think where I would say that's a valid conversation is in the presentation from SMUD, of whoever's applying for the community solar option in the future, talking about how to apply virtual net metering, how to have options that in this non-rooftop option, or whatever the options the utility's going to offer, how they can make sure the benefits accrue to different populations in a way that looks like a program that stakeholders would support, and that we would approve." California Energy Commission, *Transcript of 11-13-2019 Business Meeting*, Docketed date: 11/15/2019, pages 178, 186, and 187.

[v] Commissioner Monahan stated, "the fact that the energy – the savings, the definition was so narrow that a $20 per year benefit, that's not equivalent to the $300 per year benefit that we estimated at the Commission is troubling to me that the language isn't more specific." Chair Hochschild stated, "My concern with this proposal, honestly, had to do with the value the customer's getting. I do feel that is low." California Energy Commission, *Transcript of 11-13-2019 Business Meeting*, Docketed date: 11/15/2019, pages 177 and 182.

[vi] Vice Chair Scott stated, "it comes back to kind of like the affordable housing question, reliable energy question, the emissions reductions that we're looking for, and the energy savings in order to get to carbon neutral." California Energy Commission, *Transcript of 11-13-2019 Business Meeting*, Docketed date: 11/15/2019, page 174.

[vii] "Vice Chair Scott stated, "I do think that we are missing some of the options that we would want to have in place as we make this transition to a carbon neutral energy system. And, again, kind of making sure that it's equitable, that we're including everybody, that we can bring everyone along is really important. And so, I worry that we might, because it's so broad, be tilting too far to the SolarShares direction versus kind of where do we want homes that do have solar and storage vrsus communities that have SolarShares program." California Energy Commission, *Transcript of 11-13-2019 Business Meeting*, Docketed date: 11/15/2019, page 174.

[viii] Commissioner McAllister stated, "this definition of community, I think we need to consider, perhaps, putting in place some limits on what the actually means and where these attributable sites are going to be." California Energy Commission, *Transcript of 11-13-2019 Business Meeting*, Docketed date: 11/15/2019, page 189.

[ix] Commission McAllister stated, "The immediate concern that I have right now is really ask, trying to understand the customer's experience. Will that – who is committing? Say in a production build environment,

who is committing to one option or the other." California Energy Commission, *Transcript of 11-13-2019 Business Meeting*, Docketed date: 11/15/2019, page 154.

[x] Vice Chair Scott stated, "I think, it's going to be an immense administrative burden to have hundreds or thousands of homes where we need clear accountability, where we're trying to show monthly savings and get that information back to those homeowners, and over multiple decades." California Energy Commission, *Transcript of 11-13-2019 Business Meeting*, Docketed date: 11/15/2019, page 174.

[xi] Note: $35/month is the statewide figure. The figure is likely lower for SMUD. CALSSA has asked Energy Commission staff if they have the figure from SMUD and are awaiting a response. California Energy Commission, *Frequently Asked Questions: 2019 Building Energy Efficiency Standards*, page 2, accessible at https://ww2.energy.ca.gov/title24/2019standards/documents/Title24_2019_Standards_detailed_faq.pdf.

[xii] $183/year is largely derived from figures provided on page 11 of SMUD's application. The $183/year levelized value is based on a 20-year analysis of a 4 kW system with a 17% capacity factor and an annual .7% degradation factor. The year 1 utility savings is estimated to be 11.8 cents per kWh, escalated at 2% per year. The solar cost analyzed was an 11 cent PPA rate with no annual escalator.

[xiii] California Energy Commission, *Frequently Asked Questions: 2019 Building Energy Efficiency Standards*, page 4, accessible at https://ww2.energy.ca.gov/title24/2019standards/documents/Title24_2019_Standards_detailed_faq.pdf.

[xiv] Sacramento Municipal Utility District, *Community Shared Solar Electric Generation System Application: Neighborhood SolarShares Program,* December 2019, page 5.

[xv] Sacramento Municipal Utility District, *Community Shared Solar Electric Generation System Application: Neighborhood SolarShares Program,* December 2019, page 50.

[xvi] As Rob Kerth writes, "it is time to dial back the subsidy on new installations." Rob Kerth, "Essay: a powerful agenda," *Sacramento News and Review,* January 15, 2020, https://sacblog.newsreview.com/2020/01/15/essay-a-powerful-agenda.

[xvii] For example: "Neighborhood SolarShares… makes purchasing a home in the Sacramento region more affordable." Also for example: "SMUD's Neighborhood SolarShares option facilitates the construction of affordable housing, which is a critical community need." Also for example: "The State of California and the Sacramento region are facing an affordable housing crisis, and our SolarShares program provides homebuilders and developers the opportunity to utilize the alternate compliance option thoughtfully included in the 2019 Building Standards in a manner that ensures the development of carbon free resources in the Sacramento region at a lower cost." SMUD, *Community Shared Solar Electric Generation System Application: Neighborhood SolarShares Program,* December 2019, pages 3, 14, and 15.

[xviii] California Energy Commission, *Frequently Asked Questions: 2019 Building Energy Efficiency Standards,* accessible at https://ww2.energy.ca.gov/title24/2019standards/documents/Title24_2019_Standards_detailed_faq.pdf.

[xix] SolarShares gives customers a net benefit of $10/kW/year. $30 annually assume a 3kW system.

[xx] California Energy Commission, *Frequently Asked Questions: 2019 Building Energy Efficiency Standards,* accessible at https://ww2.energy.ca.gov/title24/2019standards/documents/Title24_2019_Standards_detailed_faq.pdf.