



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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Order Instituting Rulemaking to Revisit
Net Energy Metering Tariffs Pursuant to
Decision 16-01-044, and to Address
Other Issues Related to Net Energy
Metering.

Rulemaking 20-08-020
(Filed August 27, 2020)

IVY ENERGY PROPOSAL FOR VIRTUAL NET METERING SUCCESSOR TARIFF

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Date: March 15, 2021

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I. Introduction

Pursuant to Section 14.3 of the California Public Utilities Commission (“Commission”) Rules of Practice and Procedure (“Rules”), Ivy Energy respectfully submits its proposal for a Virtual Net Metering Successor Tariff. Ivy Energy was granted party status on February 17, 2021.¹ Allie Detrio will present the proposal on behalf of Ivy Energy at the workshop on March 23, 2021.

Ivy Energy is a California-based startup that develops software that optimizes the customer billing experience for multifamily building owners and managers that have a shared distributed energy resource, such as solar and energy storage. Ivy’s Virtual Grid software eliminates the complexity of distributing billing across multiple units while providing guaranteed, equitable savings for tenants. Ivy Energy was a grant recipient of the California Sustainable Energy Entrepreneur Development Initiative (CalSEED) and was awarded the California Energy Commission’s Visionary of the Year Award in 2020.

II. Proposal Summary

Ivy Energy’s proposal is narrowly focused on the Virtual Net Metering (VNEM) tariff for multifamily dwellings. Ivy notes that both the NEM 2.0 Lookback Study and the NEM 3.0 Successor Tariff White Paper do not include any substantive considerations for the multifamily market segment or VNEM.² There is a tremendous opportunity to improve equity in the solar market by increasing access to onsite clean

¹ Email Ruling from Administrative Law Judge Granting Party Status to Ivy Energy, AARP, and Aurora Solar; February 17, 2021

² Verdant NEM 2.0 Lookback Study Final Report filed January 21, 2021; E3 Report Alternative Ratemaking Mechanisms for Distributed Energy Resources in California filed January 28, 2021.

energy for renters in California. Furthermore, this can be done without dramatic changes to existing tariff structures and programs. Between VNEM, and the MASH and SOMAH programs, the incentives and market signals are all in place to enable greater low-income and non-homeowner solar adoption in California. By making several adjustments to the VNEM tariff and its back-end administration, the Commission can achieve greater equity in energy policy while continuing to leverage the investment and innovation of the private sector for maximum ratepayer benefit.

In summary, Ivy Energy makes the following recommendations in its proposal:

- Maintain the existing VNEM tariff structure and export compensation for multifamily customers until reservation capacity in the program reaches 10,000 MW then transition VNEM to the successor tariff
- Make administrative process improvements and provide support to multifamily VNEM customers
- Enable low-income customers in multifamily buildings that are on CARE to retain their discount when the building owner installs a shared distributed energy resource like solar + storage

Ivy's proposal meets the statutory criteria by ensuring sustainable growth of the solar industry in a segment of the market that has traditionally struggled and has only recently taken root. Importantly, it strives to correct inequities in the NEM program by providing greater access and benefits of clean energy to renters, who are often low-income customers, and have largely been left out of the solar market to-date. This proposal is meant to provide a simple and straightforward way of increasing non-homeowner access to onsite clean energy by leaving the elements of the NEM tariff intact that are enabling multifamily properties to install solar + storage, while suggesting reasonable and practical actions that can be taken by the utilities and the Commission to meaningfully reduce the administrative burden on multifamily building owners to accelerate solar adoption for renters and low-income residents. None of the proposed changes that Ivy recommends were outlined in the NEM 3.0 Successor Tariff proposal by E3. The report did not contemplate the unique elements of multifamily solar operations or the nuances in this particular market segment that Ivy addresses herein.

III. Ivy Energy Technology

Ivy Energy has developed proprietary software that optimizes the billing experience for multifamily buildings that have a shared DER asset such as solar and energy storage. The Ivy platform, Virtual Grid, provides intelligence that enables a turnkey service to provide equitable solar access to residents and predictable returns to owners. The Virtual Grid software includes proprietary load algorithms and community solar cost averaging logic to make onsite shared solar a win-win-win for tenants, multifamily property owners, and grid operators.

Ivy Energy leverages VNEM to install a larger DER and create an energy savings ledger by aggregating the individual NEM benefits into one account. The smart ledger functionality allows for the DER asset and associated benefits to be shared and distributed amongst the members of the community based on their actual energy usage in a clear, transparent, easy-to-understand manner. It allows multifamily property owners to purchase a DER asset and enter into consumer-friendly agreements with the tenants for clean energy production, thereby monetizing their investment and getting a return without having to raise rents at a fixed cost to cover the cost of the DER asset, where solar is now mandated for multifamily buildings under California’s Title 24 Building Code.³

The Ivy platform layers behind the main service delivery point of a multifamily property and processes data from smart meters, current transformers in granular interval sets, and energy production data sets from monitoring equipment servers. The platform has a profile organization interface to associate data sources to the proper users with ongoing automation of data association. This patent pending algorithm logic creates and ensures fair access to a community savings ledger for all the residents. It then runs a “Virtual Grid” inside of that environment that remodels electron usage and analyzes how much of the live solar goes to each user according to load differences and other factors on a real time interval basis. This information is then price resolved by looking at the true avoided cost per meter and comparing that against the average community avoided kWh cost in various time intervals. The result is an intelligent index factor that can be used in calculating the savings allocation to individual users versus providing each user an arbitrary fixed cost reduction that is unrelated to time of use, quantity, real-time pricing, and actual grid conditions.

This technology enables equitable sharing of energy savings while incentivizing customer behavior that aligns with real time grid needs. If a customer uses more energy during solar producing hours, they receive a larger percentage of the community ledger savings. Ivy continues to iterate on its platform and has plans for new service offerings to generate additional value from shared energy resources, including optimizing batteries for demand response, virtual power plant operations, and community resiliency.

Before its inception, Ivy Energy conducted resident experience research that concluded residents want to benefit from clean energy, have peace of mind knowing they are not getting ‘ripped off’, and are saving money. After implementation of Virtual Grid and receipt of the new energy bill with data on their solar usage, residents provided positive feedback that this billing experience was preferable to the traditional utility bill that can be difficult to read and understand. Virtual Grid was designed to provide a

³ California Energy Commission Building Energy Efficiency Code (2019) Title 24 Part 6 <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency> Solar Mandate FAQ https://www.energy.ca.gov/sites/default/files/2020-06/Title24_2019_Standards_detailed_faq_ada.pdf

transparent, consumer-friendly billing experience for tenants so they can easily understand their bill and exactly how they receive savings from solar at the property.

IV. Unique Elements of the Multifamily Sector

Ivy Energy has deep experience with the multifamily solar market having worked with many notable real estate developers and multifamily property owners across the state, as well as direct engagement with residents of these properties to better understand the tenant/consumer relationship with solar energy in order to maximize the user experience and functionality of Virtual Grid. As noted in Ivy's comments on the NEM 2.0 Lookback Study, the omission of VNEM from the program analysis is a significant oversight that does not paint a full picture of the costs to serve multifamily buildings or the corresponding benefits that accrue to tenants, who are very often low- or moderate-income residents.⁴ There are several unique elements of the multifamily sector that the Commission should note as it undergoes the process of designing NEM successor tariffs so that greater equity can be achieved in solar adoption while ensuring sustainable growth of this customer segment and the market as a whole.

One unique characteristic of the multifamily solar market is the design and operation of the facilities themselves. Most of the renewable generation from VNEM systems is used onsite as opposed to being exported to the grid. Multifamily buildings with shared DER assets have high rates of onsite consumption or "live offset". Land, roof space, and other physical constraints often limit the size of a generating facility at a multifamily building relative to its total load. A single point of interconnection for a renewable generating facility at a multifamily building might have as many as 200+ customers behind that point with load that could be served by the VNEM system. There are many more avenues to achieve live onsite consumption from generation on a multi-tenant building via multiple customers with varying patterns of energy usage, compared with most traditional NEM systems serving a single customer and load profile in a 1-1 customer-generator relationship. As a result, multifamily customers are usually not exporting to the grid in the same frequency or with the same impact on the grid as a single customer facility.

Ivy conducted an analysis of all the multifamily buildings with shared solar in the San Diego region with more than 100 units. An example of one multifamily building can be found in the Appendix and is indicative of the larger trend. Multifamily buildings with shared solar had live offset averages of greater than 50% of the load for the building and less than 15% of the average total generation output of the facility exported to the grid. If coupled with storage, the siting of onsite DER at a multifamily building further reduces the net impact of exports on the grid. Co-located production and consumption of clean energy is a highly efficient and cost-effective way to meet customer energy demand, especially if one generating

⁴ R. 20-08-020 Ivy Energy Comments on NEM 2.0 Lookback Study pg. 4

facility can serve the needs of many individual customers and leverage economies of scale. Multifamily buildings with onsite DERs can be tremendous assets to reducing residential demand and the Commission should keep the unique aspect of the multifamily market in mind when considering greater trends in residential electrification and contemplating changes to NEM tariffs.

Another important element for the Commission to consider is the addressable market for DERs on multifamily buildings. VNEM is the mechanism for serving both the existing retrofit and new multifamily construction markets. This tariff has become even more important with the implementation of California's Title 24 building codes requiring solar capacity to cover 50-70% of the total building load on all new homes.⁵ With California in a statewide housing crisis, enabling legislation is likely to encourage the development of higher density multifamily housing in the years to come. Ivy estimates that there could be as many as 55,000 new apartments that come online annually over the next decade with approximately two-thirds of those having viable space for solar.⁶ Without VNEM, Title 24 regulations would simply increase housing costs without net savings benefits for future residents of these buildings.

The most crucial element of the multifamily market that must be considered is the demographics of residents in multifamily dwellings that may be served by onsite DERs. More than 45% of Californians rent their homes, representing more than 16 million people, 60% of renters are of non-white ethnicity, and renters are more likely to have below average incomes, even if they are not officially deemed "low-income" according to homeowner census and rental population data.⁷ In California, low-income residents are more likely to rent than own their homes.⁸

There are 400,000 deed-restricted low-income apartment units in California, the chief qualification for SOMAH eligibility.⁹ Of that number, approximately 18,000 have been helped through the MASH program and Ivy estimates that as many as 120,000 more may install solar through the SOMAH program

⁵ California Energy Commission Building Energy Efficiency Code (2019) Title 24 Part 6 <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>

Solar Mandate FAQ https://www.energy.ca.gov/sites/default/files/2020-06/Title24_2019_Standards_detailed_faq_ada.pdf

⁶ See Appendix C for internal analysis conducted in September 2020

⁷ See Appendix B for further breakdown of demographics

World Population Review: 2020 California Population Statistics <https://worldpopulationreview.com/states/california-population>

Department of Numbers, 2020 California Rental Statistics

<https://www.deptofnumbers.com/rent/california/#:~:text=Renter%20Fraction%20in%20California&text=This%20measure%20looks%20at%20the,according%20to%20Census%20ACS%20data>

Tenants Together, 2019 California Tenant Demographics

https://www.tenants-together.org/sites/tenants-together.org/files/CA%20tenant%20demographics%20one%20pager%20for%202019_0.pdf

⁸ "According to a 2020 study by the Census Bureau, homeownership rates for households above area median incomes ranged from 78% to 80%, and homeownership rates for households below area median incomes ranged from 48% to 55% over the past 5 years" <https://www.census.gov/housing/hvs/files/currenthvspress.pdf>

⁹ Solar on Multifamily Affordable Homes (SOMAH) <https://www.californiadgstats.ca.gov/charts/somah>

over the next decade.¹⁰ Even if every single multifamily building that qualified for SOMAH actually had a suitable property for solar and the state allocated enough budget to fund solar on every qualified building, both of which are unrealistic assumptions, relying only on SOMAH to serve the multifamily market would still leave millions of renters without any access to onsite clean energy.

VNEM is a pinnacle of the multifamily solar market and ensures there is some level of equitable access to clean energy for all ratepayers regardless of homeownership status and income. From a cost-effectiveness standpoint, the Commission cannot only rely on serving the multifamily sector with state-funded programs like SOMAH. VNEM provides a pathway for the private sector to share in the cost of building DERs on multifamily buildings so that ratepayers and taxpayers are not shouldering the full cost. Tariffs like VNEM promote cost sharing between the public and private sectors in the quest to achieve important state public policy goals like equity and decarbonization.

V. Proposal Elements

Maintain the existing VNEM tariff structure and export compensation for multifamily customers until reservation capacity in the program reaches 10,000 MW

Ivy Energy is proposing that the Commission maintain the existing VNEM structure and export compensation for all multifamily customers under the current NEM 2.0 program until reservation capacity in the program reaches 10,000 MW. Once VNEM 2.0 has achieved a comparable adoption rate to NEM 2.0, then new multifamily customers should transition to a VNEM 3.0 successor tariff just as building owner customers will transition to a NEM 3.0 successor tariff. Given the unique operating elements of multifamily solar facilities, the unaddressed market for multifamily solar that has yet to be served, the demographics of customers in multifamily buildings that could benefit from onsite DERs, and the fact that no cost-benefit analysis has been conducted by the Commission on this important market segment despite its concern for low-income customers, it would be inappropriate and inequitable to make drastic structural changes to the VNEM tariff or reduce export compensation for the multifamily sector at this time.

Make administrative process improvements and provide support to multifamily VNEM customers

There are several process improvements that could be made to the VNEM program that would ease the administrative burden on multifamily building owners when they install onsite DERs. One of the key changes to the backend administration of VNEM that would be helpful to multifamily building owners is improving the management of Benefitting Account Lists (BAL). Currently, there is no timeline the utilities

¹⁰ Internal estimates based on 54 MW of MASH installations, SOMAH capacity 232 MW (77%) remaining as of 2021 and program target is to have 300 MW installed by 2030. <https://www.californiadgstats.ca.gov/charts/li>

have to meet when a BAL update is requested and no way of knowing when the utilities have completed BAL updates unless a customer calls the utility directly and goes through the arduous and time-consuming process to reach a customer care representative that actually understands VNEM. There are also fees associated with updating BALs outside one annual update per year.

Ivy proposes that the Commission establish a firm timeline of 30 days for the utilities to update Benefitting Account Lists (BAL) when requested by the customer and a notification process that tells the customer when the update has been completed. Ivy understands that making one-off updates to BALs on request throughout the year may be burdensome to the utilities, so Ivy is proposing that BAL update requests be permitted without fees each quarter instead of once per year.

The improved process for VNEM could be incorporated into the utilities' tariff books so that all parties understand and adhere to this process. At the beginning of each quarter, multifamily building owners should be able to submit BAL change requests to their utility in a standard form. The utilities would have 30 days to make the requested changes and then send a notification to the VNEM customer when completed. Instead of customers randomly contacting the utilities and requesting changes, they would all submit their requests at the same time, allowing the utilities to better plan and prepare for BAL updates internally.

Currently when a multifamily tenant moves out and a new tenant moves in, the credits start going to a backup account. The default should be that the new tenant receives the same VNEM credits that accrued from the previous tenant. Coupled with the new process of quarterly BAL updates in place, this should give property owner more opportunities to make tenant changes so that backup accounts are no longer necessary in most instances. Over time the backend administration of VNEM would become less onerous for both the utilities and property owners, resulting in a more positive operational experience for all parties involved.

Enable low-income customers in multifamily buildings that are on CARE to retain their discount when the building owner installs a shared distributed energy resource like solar + storage

In the past, customers losing their CARE discount was the number one reason for low-income homeowners forgoing the installation of solar. The solar developer was unable to show savings to a customer on CARE rates, so they were unable to sell a solar system and the customer did not go solar. For VNEM, it is more complicated than that. Ivy would propose that CARE should be allowed on an aggregated basis for VNEM in the same manner as mobile home parks or master metered arrangements. The submetering account reflects CARE savings and the approvals are already routed through the landlord in those situations.

It is common for multifamily property owners to take over the management of tenant customer accounts when a VNEM system is installed. This results in the customers on CARE losing their status in the program or opting out of participating in the VNEM program entirely to maintain their CARE discount. Landlords are financially penalized because they lose CARE discounts for individual meters when becoming the responsible party on the utility account. In order to recoup the cost of their DER investment in this scenario, the landlord keeps the utility cost the same, but raises the rent at a fixed cost to cover their losses, which is the exact opposite result the state would want for the renter. Making a fixed rent increase for CARE and non-CARE customers negates the benefits of solar proportionate to their needs and income qualifications. Allowing CARE customers to retain their discount without penalizing the landlord would greatly increase solar adoption at existing apartments and reduce the likelihood of increased rent for tenants. This proposal will have a positive impact on the housing market, something the state should embrace in light of housing production goals and reducing housing cost burdens on low-income residents.

Enabling CARE customers to keep their discount when an apartment owner installs solar would greatly benefit low-income customers, expand the market of qualified customers, and promote greater equity in the solar market. As long as the resident qualifies for CARE, the utility account should be under CARE rates whether the account is under the name of the building owner or the resident. The multifamily property owner can provide proof of CARE eligibility for the tenants that qualify as part of the Benefitting Account List improvement process described above.

This is the single greatest action the Commission could take to promote equity within NEM and increase low-income access to solar. This issue must be addressed now that new multifamily housing is being built with solar under Title 24 mandates. Many existing landlords have opted not to pursue onsite DERs due to the embedded financial penalty of losing individual CARE customer discounts and perceived administrative burden. It is likely that many would reconsider multifamily solar if this inequity were corrected. If the Commission wanted to take this proposal a step further to truly achieve an equitable outcome in this proceeding, it could offer additional incentives or direct the utilities conduct a targeted marketing education campaign to existing multifamily properties to encourage the installation of new VNEM systems once this change has been made in the program.

VI. Proposal and the Guiding Principles

Ivy Energy's proposal adheres to the principles articulated in the Decision Adopting Guiding Principles and discusses them further below.¹¹ The proposal is meant to achieve the goals outlined in the

¹¹ D.21-02-007 Decision Adopting Guiding Principles for the Development of a Successor to the Current Net Energy Metering Tariff in R.20-08-020. February 11, 2021.

principles and provide a straightforward way of increasing non-homeowner access to onsite clean energy by leaving the elements of the VNEM tariff intact that are enabling multifamily properties to install solar + storage, while suggesting reasonable and practical actions that can be taken by the utilities and the Commission to meaningfully enhance the program so that it can deliver greater benefits to renters and low-income residents.

(a) A successor to the net energy metering tariff should comply with the statutory requirements of Public Utilities Code Section 2827.1

(b) A successor to the net energy metering tariff should ensure equity among customers

Guiding Principles (a) and (b) are focused on equity. Public Utilities Code § 2827.1 requires the Commission to “include specific alternatives designed for growth among residential customers in disadvantaged communities”.¹² Protect Our Communities Foundation identified that 99% of the NEM program has only provided benefits to building owners such as homeowners and business owners. We agree with Protect Our Communities Foundation that in order “to provide for equal compensation, the successor tariff must establish that VNEM will only transition onto the successor tariff when it has reached the same BTM megawatt installation capacity that building owners have accessed”.¹³

To ensure equity between building owners and renters, the Commission must implement intentional policies that correct the inequities while recognizing the nuances of different customer segments and sub-tariffs like multifamily VNEM. In Ivy’s experience, multifamily building owners are now seeing the benefits of installing onsite clean energy and gaining familiarity with the administration of VNEM in the wake of Title 24 going into effect. Declining installed costs, building owner education and acceptance of solar over the past several years, and new technologies that make ongoing management of clean energy operations in these buildings simpler have enabled multifamily solar adoption to finally take root. As discussed in detail above and pointed out by GRID Alternatives in the NEM 2.0 Lookback Study, low-income households are more likely to rent than own their housing, and similarly likely in disadvantaged communities.¹⁴ Limiting VNEM benefits at this stage of the adoption curve would cement a significant equity gap in onsite clean energy benefits for low- and mid-income households and disadvantaged communities where there is a high percentage of renting households.

¹² Public Utilities Code § 2827.1(b)(1)

¹³ R.20-08-020 Protect our Communities Foundation NEM 2.0 Lookback Study Reply Comments pg. 3

¹⁴ NEM 2.0 Lookback Study Report Comment Matrix with Evaluator Responses, GRID Alternatives Comment #29 pg. 117-118

With current market adoption trends, it is highly likely that by the time the Commission adopts a successor tariff, NEM 2.0 will have surpassed 10,000 MW of installed capacity.¹⁵ Therefore, Ivy's proposal to establish a trigger mechanism at 10,000 MW of installed capacity for VNEM 2.0 to transition to VNEM 3.0 would adhere to the guiding principles of ensuring equity between customers and promote growth of onsite clean energy in disadvantaged communities.

(c) A successor to the net energy metering tariff should enhance consumer protection measures for customer-generators providing net energy metering services

As outlined in the discussion of Ivy Energy's technology above, leveraging the Virtual Grid platform ensures fairness, transparency, and provides an enhanced customer billing experience for tenants of multifamily buildings. Ivy's proposal aligns with this principle of enhanced consumer protection.

(d) A successor to the net energy metering tariff should fairly consider all technologies that meet the definition of a renewable electrical generation facility in Public Utilities Code Section 2827.1

Ivy's proposal aligns with this principle of technology neutrality. While most of Ivy's projects have been solar to-date, Virtual Grid is designed to optimize the billing experience for any shared DER asset.

(e) A successor to the net energy metering tariff should be coordinated with the Commission and California's energy policies, including but not limited to, Senate Bill 100 (2018, DeLeon), the Integrated Resource Planning process, Title 24 Building Energy Efficiency Standards, and California Executive Order B-55-18

Ivy's proposal is compatible with California clean energy policies and is particularly coordinated with California's Title 24 Building Code as discussed in detail above.

(f) A successor to the net energy metering tariff should be transparent and understandable to all customers and should be uniform, to the extent possible, across all utilities

Ivy's proposal is designed to be transparent, easy-to-understand, and straightforward to implement so that the Commission can achieve its equity goals without jeopardizing the mandate for sustainable growth of the solar market. Ivy requests that the Commission make the VNEM changes proposed herein uniform across all utilities so as to provide market continuity and adhere to this guiding principle.

(g) A successor to the net energy metering tariff should maximize the value of customer-sited renewable generation to all customers and to the electrical system

¹⁵ Installed NEM capacity is currently at 9,106 MW with over 1,086 MW installed in 2020.
<https://www.californiadgstats.ca.gov/charts/nem>

Ivy's proposal seeks to maximize the value of shared DER assets and ensure good stewardship of the grid by customers. VNEM is the pathway for multifamily buildings to install onsite DERs to maximize co-located production and consumption of clean energy to the benefit of customers and the grid operator.

(h) A successor to the net energy metering tariff should consider competitive neutrality amongst Load Serving Entities

Ivy's proposal is compatible with all LSEs and adheres to this principle of competitive neutrality.

VII. Proposal Implementation Plan

Ivy Energy believes that its proposal is relatively straightforward for the utilities to implement and can be authorized via Advice Letter. Since it is expected that the utilities will need to make some changes to billing and other internal systems in order to launch the general market NEM 3.0 successor tariff when approved, it is reasonable to include the changes to VNEM 2.0 outlined above in the larger system modifications for implementation. Ivy Energy would participate in an informal working group if it were deemed prudent and helpful to provide more detailed guidance on how the utilities could enhance and optimize VNEM administration. It is not Ivy's intention to propose overly burdensome requirements on the utilities that would interfere with normal customer billing operations and Ivy would support the utilities receiving authorization from the Commission to hire dedicated staff to manage multifamily customer operations and improve administration of the VNEM program.

VIII. Proposal Relevance to NEM 3.0 White Paper

Ivy Energy has provided the information herein to illustrate the unique characteristics of the multifamily sector and key differences compared to other market segments. Neither the NEM 2.0 lookback study nor the NEM 3.0 white paper address VNEM or the multifamily solar market. As Ivy stated previously, correcting the imbalance between ratepayers with and without NEM is important, but a blanket approach to all sub-tariffs may have unintended consequences that adversely impact a class of ratepayers that are equitably benefitting from NEM 2.0 in line with state environmental and social justice policy goals. Given the Commission's stated focus and commitment to equity in this proceeding, the Commission should take great care to avoid the unintended consequences of making drastic changes to NEM sub-tariffs that could harm the very customers it claims to be helping by adopting a NEM 3.0 successor tariff.¹⁶

¹⁶ Ivy Energy Comments on NEM 2.0 Lookback Study pg. 4-5

IX. Conclusion

It is abundantly clear that California's net metering program for homeowners has been a tremendous success and the Commission should applaud the solar industry and customers for their investments in California's clean energy economy and substantial contributions to the state's aggressive decarbonization goals. As the Commission evaluates successor tariffs that align compensation with the current state of solar market transformation, it should ensure that a nuanced approach is taken and the differences between customer segments are carefully considered when enacting changes to NEM. A one-size-fits all approach is not equitable or prudent.

Ivy Energy appreciates the opportunity to submit this proposal for consideration and looks forward to continued collaboration with the Commission to achieve greater equity in clean energy access while ensuring sustainable growth of the onsite clean energy market in California.

Respectfully submitted,

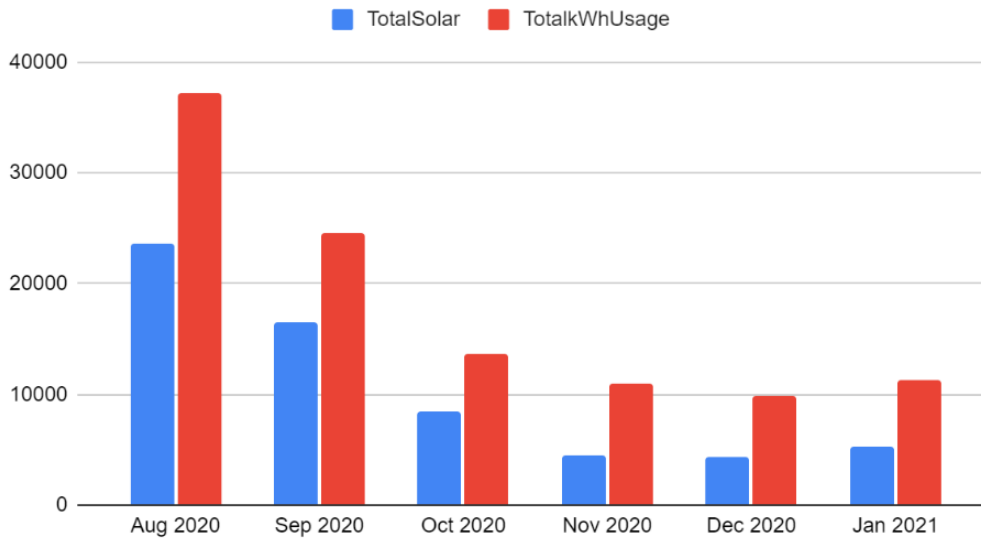
/s/ Allie Detrio

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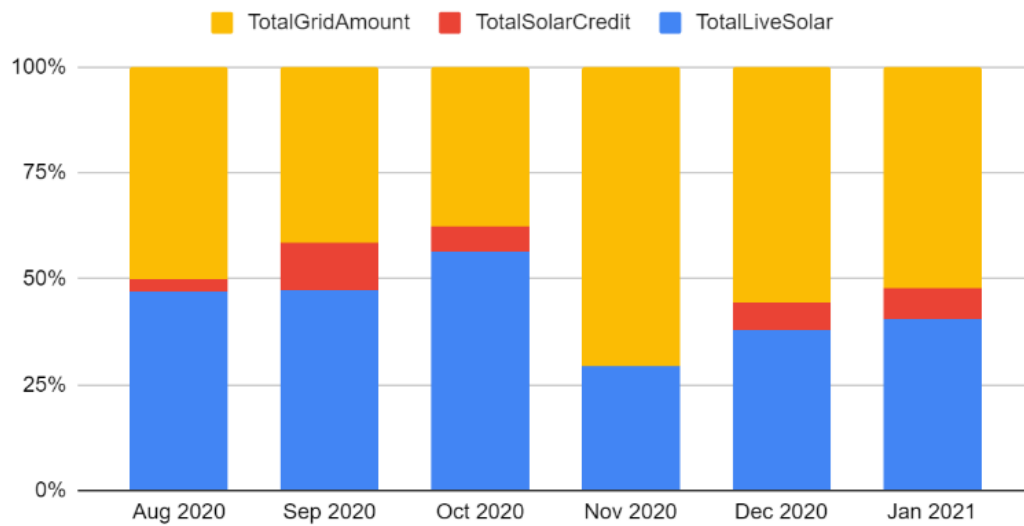
Dated: March 15, 2021

Appendix A: Analysis of energy usage and solar generation for a multifamily property in San Diego

TotalSolar and TotalkWhUsage

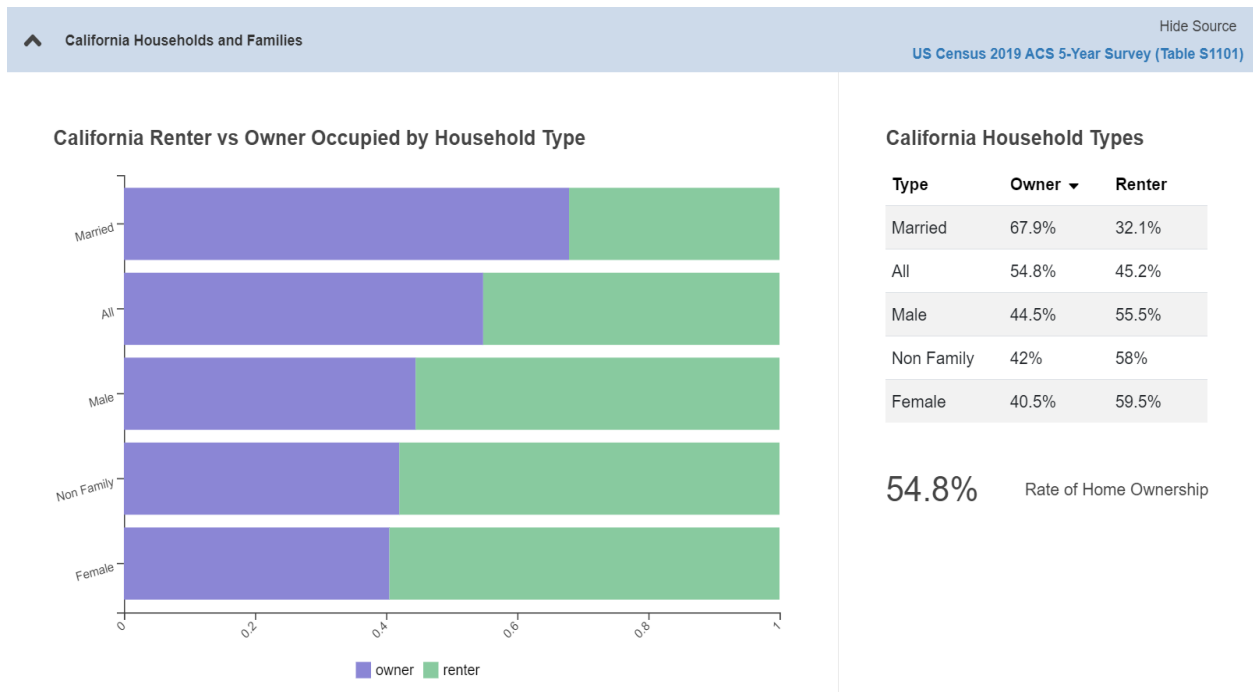


TotalLiveSolar, TotalSolarCredit, TotalGridAmount and TotalkWhUsage



Date Start	Date Stop	Total Live Solar	Total Solar Credit	Total Grid Amount	Total Solar	Total kWh Usage	Total Solar / Load Offset	% of Solar Export
Aug 2020	Sep 2020	22092.19387	1472.71101	23458.73013	23564.90488	37170.11701	63.40%	6.67%
Sep 2020	Oct 2020	13341.19732	3170.380322	11729.61221	16511.57765	24578.016	67.18%	23.76%
Oct 2020	Nov 2020	7650.32886	805.6500444	5133.241104	8455.978905	13597.945	62.19%	10.53%
Nov 2020	Dec 2020	4573.049998	0	10937.75993	4573.049998	10937.67	41.81%	0.00%
Dec 2020	Jan 2021	3752.988	651.6909991	5496.940996	4404.678999	9901.515	44.48%	17.36%
Jan 2021	Feb 2021	4558.211	800.0640002	5854.374971	5358.275	11212.57	47.79%	17.55%
						Avg.	54.47%	12.65%

Appendix B: California Renter Statistics & Demographics



SNAPSHOT OF TENANTS IN CALIFORNIA 2019



16,906,728 Californians are tenants. That's **45%** of us!

High school graduate or higher: **81%**

Median age: **44**

Household with Children: **37%**

65 and older: **17%**

\$42,000

median household income of CA renters

\$84,000 median household income
of CA homeowners

\$1255 median rent in California

3-4 years median length of tenancy

Race/Ethnicity of Householders

40.5% White American

38.9% of White Americans
are tenants

36% Hispanic and Latino

57% of Hispanics and Latinos
are tenants

12.3% Asian American

43.7% of Asian Americans
are tenants

9.6% African American

64.4% of African Americans
are tenants

1.4% American Indian

63.8% of American Indians
are tenants

0.8% Native Hawaiian or
other Pacific Islander

55.1% of Native Hawaiian or
other Pacific Islanders are tenants

Educational Attainment

29.2% Bachelor's degree
or higher

24.7% High school diploma

21.4% Some college,
vocational training

Family Status

76% female-headed house-
holds with children are tenants

44% of all married house-
holds with children
are tenants.

35% of all married house-
holds are tenants.

Household Size

56% one-person households
are tenants

50% of all 6 and more
person households
are tenants

46% of all 4 to 5 person
households are tenants

43% of all 2 to 3 person
households are tenants

Rental cost

53% of households pay
a **\$1000 to \$1999** rent

26% of households pay
a **\$500 to \$999** rent

12.5% of households
pay a **\$2000**
to **\$2999** rent

Income and Rent

48% of households spend
35% or more of their
income on rent

23% of households spend
15% to 24.9% of their
income on rent

21% of households spend
25% to 34.9% of their
income on rent



TENANTS TOGETHER
California's Statewide Organization
for Renters' Rights
www.tenants-together.org

Updated and revised by Isaac Cohen

Sources: American Housing
Survey 2015, U.S. Bureau of Census

American community Survey,
2015, U.S. Bureau of Census

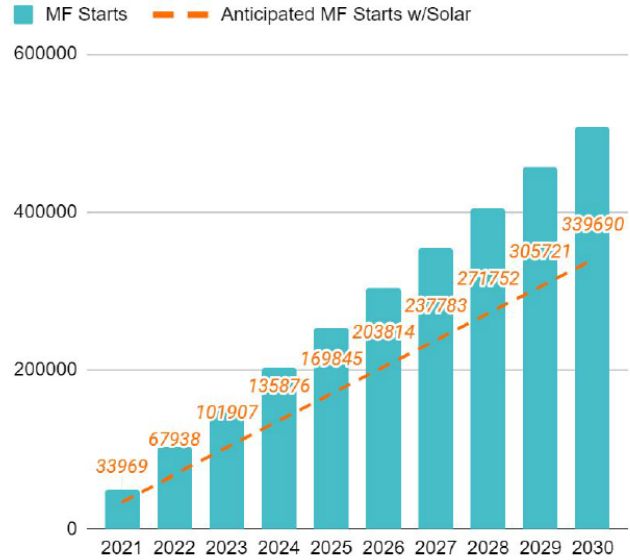
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Appendix C: Multifamily Construction Addressable Market

New Construction Market (California)

The state of California recently passed a new title-24 mandate requiring solar capacity to cover approx. 50-70% of the total building load. These developers are without a solution other than increasing rent. ⁷Many experts predict due to legislation push that The next peak year for multi-family housing starts is likely to occur around 2022-2023, with the crest of the next housing boom. However when looking at historical data and being conservative for future growth our model predicts approx. 55k new apartments to come online annually over the next 10 years.

We conducted a survey of properties exported out of ⁸CoStar in the San Diego region including every property larger than 100 units and 67% of them had viable rooftop or carport solar space. This means that there is a mandatory solar for apartment market of approx. 330,000 apartment units over the next 10 years.



⁷ "The slowing trend in California construction starts | first" 10 Jun. 2020, <https://journal.firsttuesday.us/the-rising-trend-in-california-construction-starts/17939/>. Accessed 5 Sep. 2020.

⁸ "About CoStar | Commercial Real Estate Data, Information and" <http://www.costar.com/about>. Accessed 5 Sep. 2020.