

# Virtual Net Metering Market Development Pilot Study Summary

## Intro

The Solar Market Pathways *NEM-V Market Development* Project seeks to increase solar access to multifamily / multi-tenant, market-rate building sector throughout California and beyond, specifically through the NEM-V tariff. Utility data shows that this tariff has not witnessed large levels of adoption, regardless of being available since 2011. This three-year project (Q1-Q12) seeks to address that slow adoption, develop best practices to bolster the NEM-V market, and share lessons learned to solar markets across the US. In order to strengthen the tariff adoption levels, the existing barriers must be identified and addressed. The Project Team seeks to address these barriers through a variety of tactics, which will include marketing/outreach efforts, technical assistance, and, ultimately, the creation of a *NEM-V Market Development Plan*. As a precursor to this plan, the project team will implement a Pilot Study (“Pilot”) which will focus tariff outreach, technical, and administrative assistance efforts in a targeted region. Tactics and associated goals will be defined, in order to gain discernable results as to “what works” and “what doesn’t work”, as it relates to strengthening NEM-V adoption levels. The Pilot will take place from September 2015 through December 2016, and will engage both apartment buildings and condominiums in the multifamily sector. Lessons learned from the Pilot will be applied to a “replicable” market development model state and nationwide, and will, ideally, bolster existing NEM-V markets and encourage non-NEM-V markets to consider offering a similar program.

## Pilot Territory

The Pilot will take place in the City of Santa Monica.

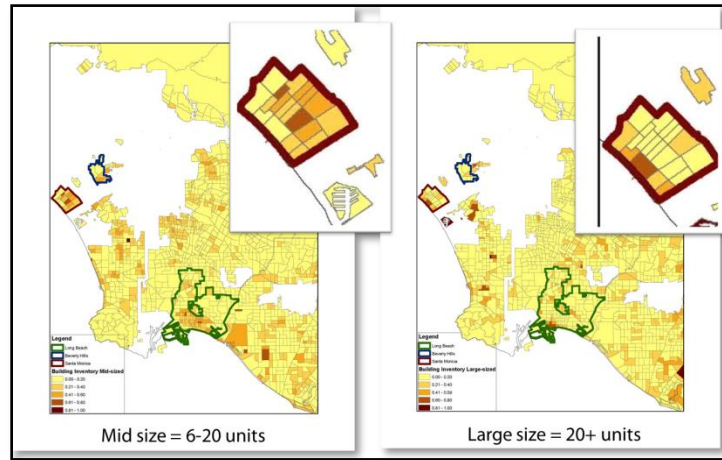
A variety of locations were assessed<sup>1</sup>, and Santa Monica was chosen based on the following metrics:

1. *Existing Building Stock*: CSE analysts conducted a desktop analysis of the building stock throughout the state of California. The goal was to locate an area with a dense *market-rate, multifamily* building stock, representing the *mid* (6-20 units)<sup>2</sup> to *large* (20+ units) size building market. Using



<sup>1</sup> San Diego was eliminated from being a potential pilot region due to forecasts of the SDG&E service territory reaching the NEM cap prior to 2017. Long Beach was a consideration, but the region has a slightly lower multifamily building stock than Santa Monica and many high rise towers downtown that may not be suitable for NEM-V solar. The Berkeley/Oakland region was assessed and deemed a 2<sup>nd</sup> place candidate to Santa Monica, due to a dense multi-tenant building stock, clear utility boundaries, a bountiful contractor base, as well as some existing relationships that project team has within that area. Project Team may choose to phase this territory in as a secondary Pilot effort, if funding allows.

Census data, Google scraping and qualitative research, the team determined that the City of Santa Monica has a large market of mid and large size multi-tenant buildings that offers ample potential for the Pilot.



Project team also found that the physical area of the City, 15.9 square miles, is an appropriate size to easily witness and track the effects of our efforts<sup>3</sup>.

2. *Established Contractor Base:* An existing solar contractor workforce is an important factor in seeking to address the low uptake of the NEM-V tariff. Project team was able to access the *California Solar Initiative* (CSI) contractor database and the *Solar Santa Monica* preferred contractor list to determine the volume of solar contractors working in the Santa Monica area. The CSI data shows 75 contractors who have installed within the City of Santa Monica since the inception of CSI, and the Solar Santa Monica preferred contractor list includes 27 contractors. There were 14 overlaps between the two lists. As a key project partner, CALSEIA will also lend access to a wide contractor base to engage in Pilot marketing and education opportunities. While not all contractors have NEM-V knowledge, or have worked with these projects in the past, a large part of this SMP project is to arm contractors with the tools they need to help the cause of building the NEM-V market.
3. *Existing Relationships within the area:* Project Team has established a relationship with, and gained interest from, the City of Santa Monica which offers free guidance and technical assistance to residents and businesses through *Solar Santa Monica*. The motives

<sup>2</sup> The initial feedback from “NEM-V experienced” contractors has exposed that the midsize building stock may be the most appropriate, and find the most value, in the NEM-V tariff. Project team seeks to confirm this theory, and will not eliminate the large size building stock from outreach or assistance efforts.

<sup>3</sup> San Diego is 372.4 square miles; Long Beach is 51.44 square miles; Beverley Hills is 5.71 square miles; Berkeley and Oakland, combined, is 95.7 square miles.

and goals of *Solar Santa Monica* and the SMP project are parallel in seeking to promote solar adoption in the region.



CSE will leverage the relationships the City of Santa Monica has with the region's property owners, which will

be valuable in engaging a sector that is most challenging to reach. The City has also agreed to promote the Pilot study through a variety of avenues, including Press Releases, online promotions, and cold calls to property owners and contractors. EcoMotion, the administrator for *Solar Santa Monica*, will serve as a key stakeholder in the Pilot and working groups to help CSE uncover and address barriers to adoption as well as disseminate research findings to the region. EcoMotion has already been in touch with a multifamily community who is interested in going solar, and being a part of our Pilot study.

4. *Clearly defined Utility Provider:* All buildings within the City of Santa Monica are served by Southern California Edison (SCE) Utility. This clear designation of SCE service territory was important to the project team, as to not confuse the market of available tariffs since not all surrounding utility providers offer the NEM-V arrangement to their customers (e.g.: Los Angeles Department of Water and Power (LADWP)). The tariff outreach will, undoubtedly, reach customers outside of the Santa Monica city limits; however, the resource material will clearly indicate that this tariff is available to SCE customers<sup>4</sup>. If the tariff outreach messaging does, indeed, percolate into another service territory, and causes the interested customer to inquire with, and encourage, their own utility provider as to if/when a similar NEM-V arrangement may be available, the project team views this as a success, as well.

## **Pilot Goals**

In order to track the effect of our outreach and assistance efforts during the Pilot study, goals must be defined, and progress tracked. Goals of the Pilot will include Marketing and Outreach goals, as well as Technical goals. In working towards these established goals, the project team will gain lessons learned as to the difficulties or ease involved in reaching those goals. Team will also hope to find the correlation between the Marketing and Outreach efforts and their effect on reaching the technical goals. The lessons and experiences witnessed in reaching our goals will help serve the *NEM-V Market Development Plan* effort, in future months.

The Pilot goals have been established as follows:

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<sup>4</sup> NEM-V is also available to SDG&E and PG&E customers. The Pilot outreach material will be specific to the SCE market, however.

## Marketing and Outreach Goals

Marketing and Outreach is a crucial for raising awareness of the NEM-V tariff, as well as for broadening the knowledge base, of contractors and property owners, needed to make an informed decision and to design an effective solar electric system. The ‘Marketing’ component will focus on our project website, whose goals will be named ‘Website Resource Goals’. The ‘Outreach’ component will relate to events in-person forums that the project team can leverage for tariff and project promotion, and also for stakeholders to attend and learn about topics critical to successful implementation of multifamily solar projects. These goals will be named “Event Attendance Goals”.

Website Resource Goals: The SMP project website is intended to be a robust ‘resource-hub’ for all things NEM-V. It will house resources for interested parties within the three (3) IOU service territories, but also provides resources to other utility service providers within California who do not currently offer NEM-V or something similar, as well as other national stakeholders. The Pilot-specific *Website Resource Goals*, detailed below, are not representative of the total scope of the SMP webpage, but rather simply the resources that would apply to the Pilot study region of Santa Monica, and the SCE service territory. These resources will be created and gathered throughout the duration of the Pilot study; however, the project team strives to publish the basic NEM-V resources by the end of 2015. As more information is collected and lessons are learned, project team will enhance, edit, and update the webpage as needed.

The following are three sub-pages within the total SMP website, which will be specific to the Pilot study, and will serve as our *Website Resource Goals*:

1. **Pilot Study homepage:** This page will include the high-level explanation of the Pilot study, including information about the target market of the study, rational for the chosen region, Pilot study goals, and a dashboard to track progress towards our goals (M&O and Technical).
2. **Contractor Toolkit:** This page will provide a variety of resources beneficial to a contractor to boost his/her knowledge of the NEM-V tariff (tariff structure; eligibility; value proposition; interconnection process); as well as arm them best practices for selling these projects. Resources may include:
  - NEM-V Factsheet<sup>5</sup>
  - NEM-V Curriculum (Working Group slides)<sup>6</sup>

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<sup>5</sup> Project Team envisions the NEM-V Factsheet to be a one-page resource which explains the basic structure of the NEM-V tariff and the value it can lend to a multifamily/multi-tenant property.

<sup>6</sup> The Working Group (WG) meetings, slated for the Pilot during 2015, will be a series of discussions and NEM-V lessons. The presentations used for these NEM-V WG series will serve as our ‘NEM-V curriculum’ for the website.

- Santa Monica building stock / density maps
  - Links to SCE Utility NEM/ NEM-V webpages
  - Downloadable versions of SCE NEM-V Interconnection documentation
3. **Property Owner Toolkit:** This page will house resources specific to multi-family property owners interested in going solar under the NEM-V tariff. Resources may include:
- NEM-V Factsheet
  - Unit Allocation guidelines<sup>7</sup>
  - Case Study(s) (ideally one Apartment and one Condominium)
  - Tenant Solar Factsheet<sup>8</sup>

*Event Attendance Goals:* In order to fully publicize the project, the team has researched applicable events that could be attended in order to represent this Pilot study. We also plan to hold our own Working Group meetings and potentially other events, for which we will establish attendance goals.

1. **Events to Attend** – The project team pledges **to attend 3 local events** to promote the Pilot study and SMP efforts. These events may include local community events (e.g.: City of Santa Monica); multi-family industry events (e.g.: AAGLA, AOA); or solar industry events (e.g.: CALSEIA)
2. **Working Group Attendance Levels** - The project team will establish a schedule for, a minimum of, four Working Group meetings to be conducted within 2015. These Working Group meetings will be made up of contractors and property owners, separately, and will provide an in-person forum for the project team to deliver NEM-V curriculum, as well as for stakeholders to discuss real-time project findings, barriers, and/or successes. Our attendance goals for each of the four WG events are, at least, **8 attendees per meeting**.

### Technical Goals

The Technical goals associated with the Pilot study will be the indicators as to the effect that our marketing and outreach efforts play on the NEM-V market adoption levels. While increasing the number of projects installed under this NEM-V tariff is the ultimate goal, the reality is that not

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<sup>7</sup> This resource will provide insight and guidance for property owners to confidently move through the unit allocation process. The resource will include variables to consider when deciding on allocation breakdown; such as actual tenant load, turnover rate, default account, and more.

<sup>8</sup> The Tenant Factsheet will be an information sheet for a building owner to provide to prospective tenants explaining the NEM-V arrangement and the impacts on their electric bill.

all projects will move forward in a timeframe that can be tracked within the duration of the Pilot. An engaged property owner, who did not have the insight into this offering, prior to our Pilot study, would be a sign of success as well. For this reason, the indicators of success stem back to customer engagement and movement within the knowledge base. The following are Technical Goals that the project team strives to reach by the end of 2016. Goal 1 and 2 will indicate that the multi-family property owner market has been engaged, and movement is being witnessed as it relates to this building sector gaining access to solar. Goals 3 and 4 more directly relate to projects specific to the NEM-V tariff, and will clearly indicate if this tariff has made its mark on the property owner population.

1. **Bids delivered** – This number will give the project insight into the mark our M&O efforts have played on the property owner market. We hope to see the number of inquiries increase, and ultimately bids given. During the duration of the Pilot, project team hopes to record, minimum, **30 bids as being delivered by contractors to multi-family property owners.**
2. **Contracts signed-** Project team hopes to record **4 multi-family/multi-tenant contracts signed** during the duration of the Pilot study.
3. **Project installations:** Project team will determine the baseline for this metric, within Santa Monica, through utility provided information. By the end of the Pilot study, Project team hopes to have on record **2 project installations under the NEM-V tariff**, within the city of Santa Monica.
4. **KW installation:** This KW goal will be dependent on Goal #3, and was determined based on the existing system size seen in existing NEM-V projects. Project team hopes to have **100 KW of NEM-V projects installed** within the Pilot region. It is important to note that, while the Pilot only lasts from Q3-Q8, with an end date of Dec. 31, 2016, a typical multi-tenant project, from initial development to final interconnection can take, an average, of 18 months. With that understanding, this metric will be assessed in comparison with Goal #2, as well as tracked beyond the pilot duration, in order to capture installations which were not completed within the pilot duration, but were, however, potentially inspired by the Pilot efforts.

### **Data Collection Methodology**

Data collection is the gateway to tracking progress towards goals. The methodology in which we acquire and track this data will be dependent on the correlating goal, and the project team will rely on different sources and entities to secure this data.

The M&O metrics will be recorded and tracked by the project team. *Website Resource Goals* will be assembled and created by project team. Progress towards final publication of these resources will be explained in Quarterly Reports to the DOE, and will also be published on the public facing website once complete. *Event Attendance Goals* will also be tracked internally by the project team. Ongoing research will be done to find local opportunities and events for our team to attend and represent the SMP project. Project team strives to exceed the goal of attending 4 events during the Pilot study. Working Group attendance levels will be documented during each meeting, and will be accompanied by a sign-in sheet with attendee name and contact information.

The metrics that make up our *Technical Goals* are a bit more complex in terms of acquiring the data and tracking the progress. Project Team will need to rely on contractors and utility information for these metrics. For Technical Goals #1 (bids given) and 2 (contracts signed), the project team will rely on participating contractors to report this data. Participating contractors will be named “Friends of NEM-V”, and are discussed in further detail below. For Technical goals #3 (project installations) and 4 (KW installed), project team will rely on utility data.

The current adoption of NEM-V projects in Santa Monica was assessed through a data request submitted to SCE in June. The data request provided CSE with the baseline of the NEM-V market within Santa Monica, prior to our Pilot efforts. As of June 2015, there are no NEM-V projects developed in the area<sup>9</sup>. At the end of the Pilot in December 2016, and potentially periodically throughout the Pilot, CSE will submit a similar request to determine the number of projects interconnected.

After the Pilot, CSE and NEM-V stakeholders may track tariff adoption through a public report housed on the California Solar Statistics<sup>10</sup> webpage. Managed by the CPUC, the report will include a variety of solar project metrics from the Pacific Gas & Electric (PG&E), SCE and San Diego Gas & Electric (SDG&E) interconnection databases that will be available to the public. Metrics tracked include installing contractor; applicable tariff; project city; and system size. The data will be updated monthly, and will be accessed by the project team sporadically to track change in the NEM-V market.

The Pilot Overview webpage will house the public facing dashboard that shows, in real time, the progress towards our established goals. This dashboard will be updated monthly to reflect any movement.

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<sup>9</sup> SCE data request for NEM-V projects interconnected in zip code areas: 90401; 90402; 90403; 90404; 90405. The request was sent by CSE to the SCE interconnection team and response was provided on 6/26/2015.

<sup>10</sup> <https://www.californiasolarstatistics.ca.gov/>

## **“Friends of NEM-V”**

During the beginning phases of the Pilot, project team will recruit a sample group of active solar contractors to serve as our “Friends of NEM-V”. This group of contractors will apply, and will be inducted into the “Friends of NEM-V” group by agreeing to abide by a certain number of requirements. These requirements will include engaging with the Pilot study by ways of: attending all four Working Group meetings; remain engaged with the NEM-V tariff and upcoming policy changes; agree to have their name be referred to multi-family property owners by project team; and, finally, to report to the project team the number of bids given to multi-tenant properties and the number of contracts signed as it relates to multitenant contracts as well as specifically, NEM-V contracts.

## **Next Steps**

The Pilot findings will be used to craft a NEM-V Market Development Plan for the remainder of California and beyond. The content and recommendations found in this guide will be based on the assessments made from our Pilot study, and take into account the different variables witnessed through California and beyond, in regards to each areas feasibility. The ultimate goal is to provide a framework/guidebook for regions to learn from, and in turn, witness an increased level of adoption of the NEM-V tariff, or the inception of a similar program in non-VNEM markets.