

Kerrville Area Solar Partners Team Narrative

Program Background

The Kerrville Area Solar Partners Team (KASP), comprised of the Kerrville Public Utility Board (KPUB) and Schneider Engineering (SE), initially applied to and was accepted by the Solar in Your Community (SYCC) as a 0.999 MW_{AC} project focusing on Low to Moderate Income (LMI) customers. KASP worked diligently throughout the performance period of May 1, 2017 to October 31, 2018 to accomplish the ambitious goals it had set for itself; one of these included increasing the target capacity from 0.999 MW_{AC} to 3.75 MW_{AC}. With these ambitious goals, however, the 18-month performance period was not enough time to hold a bid process, contract negotiations, and complete construction. Recognizing this in the August 2018, KASP reached out to their SYCC Coach, Michael Borovik, the Department of Energy, and the International City/Council Management Association (ICMA) to explore the possibility of switching from the project to a program. After some discussion, the Department of Energy and ICMA allowed KASP to be classified as a program in the SYCC rather than a project. Moving forward, KASP will have 3.75 MW_{AC} committed to the program by June 2019, with 2.97 MW_{AC} achieving commercial operations on December 28 and 29, 2018.

KPUB, as the municipal utility serving the City of Kerrville, Texas and the surrounding communities, has a primary directive to be a “responsive and efficient locally owned provider of reliable, high-quality utility service at the lowest responsible price.”¹ With this in mind, KASP worked from the inception of its program through the end of the performance period and beyond to ensure that the solar program would be able to serve as many LMI customers on KPUB’s system as possible and establish long-term financial viability by providing exceptional value to stakeholders by adjusting the program scope, design, and goals. As a municipal utility serving a traditionally conservative region of Texas, any utility administered program must work towards long-term self-sufficiency without substantial cost impacts to the City. Working under these constructs and guidelines, KASP has created a long-term sustainable program to serve LMI and non-profit customers with solar in a way that does not impact the other customers on the system.

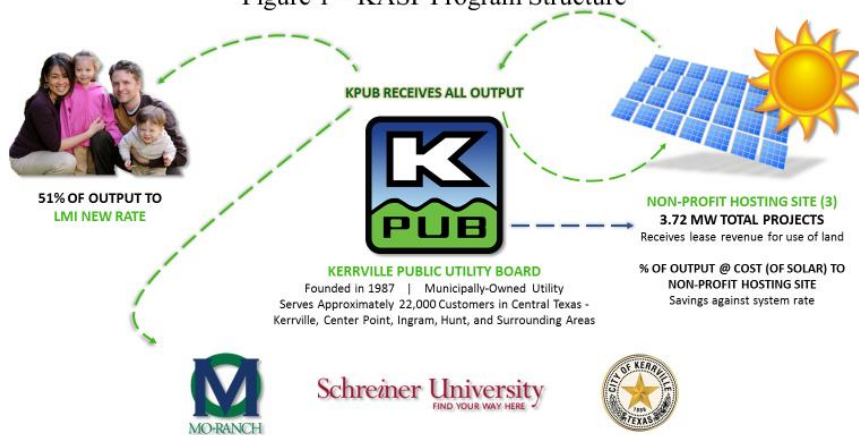
Program Description

From the inception of its program, KASP always envisioned the program as the culmination of a partnership between KPUB, some of its large, non-profit customers, and its LMI customers. This led to the implementation of the program design illustrated in Figure 1, which shows KPUB sitting at the center of a network of stakeholders, each of whom benefit from various aspects of the project.

Under this model, KPUB functions as the administrator and central settlement authority between each stakeholder in the network. Starting at the upper right-hand corner of Figure 1, KPUB has implemented a bilateral purchase power agreement (PPA) with a solar developer to build and feed into KPUB’s distribution system up to 5.25 MW_{AC} of nameplate, ground mounted

¹ “About Kerrville Public Utility Board,” Kerrville Public Utility Board, January 9, 2019, <http://www.kpub.com/QuickLinks/AboutKPUB.aspx>.

Figure 1 – KASP Program Structure



solar capacity on its system, of which 3.75 MW_{AC} will be available to LMI and non-profit customers under the KASP program. KPUB then receives the entirety of the solar production from the facility of which KPUB will allocate the solar output towards two groups, first and foremost – LMI

residences that have been accepted into the KASP program and utility accounts associated with the non-profits who are acting as site hosts for the solar development. It is important to note that these customers will be sold the solar energy rate at the cost of the solar rate and not the distribution system rate. Practically, this means that these customers are paying the PPA cost of solar plus line loss, the cost of some of the distribution system and system upgrades to accommodate the new solar, the cost of some of the land, some other ancillary costs, and adjusted to recognize some of the benefits of solar on the system² instead of the standard distribution rate.

The key to the long-term sustainability of the KASP program is in the rates being charged to the non-profits and LMI customers for the solar energy they are receiving through the program. By including all the aforementioned costs into the solar rate, LMI and non-profit customers are essentially purchasing the solar energy without subsidization from KPUB. With the assumed distribution costs relating to the solar energy already built into the solar rate, the need for LMI and non-profit customers to pay both the distribution rate and the solar rate is eliminated, allowing the beneficiaries of the solar rate to pay only the solar rate for the energy allocated from the system.³ While LMI and non-profit customers will be capped at the amount of solar energy that they receive,⁴ the tariff is written in such a way that the KASP program beneficiaries will always be served first with solar energy, then all remaining energy will be served at the system rate, provided that the total energy consumed is greater than the solar energy cap. Furthermore, KASP program beneficiaries will always receive their full allotment of solar energy, regardless of whether they use that many kWh in a given billing cycle or not. This will allow customers using fewer kWh than their allotment, in any given month, to still receive the full benefits of the program as if they had been billed for kWh consumption in excess of their solar allocation.

² This is inclusive of both market and system benefits to solar on the distribution system.

³ The core assumption is that the beneficiaries of the solar rate are on the same feeders as the solar system from which they are receiving their allocated energy. KASP was able to make this assumption due to the siting of the solar projects and the location of a large number of LMI multifamily housing developments within KPUB's service territory.

⁴ For a mean LMI customer, this is approximately the output of 10 panels, or about 500 kWh per month.

LMI and non-profit rates that are supported by solar are not unique among utilities, but the implementation of the KASP program is unique among these rates and tariffs. The first of these is that LMI customers do not have to sign up for the program or demonstrate their income qualifications; instead, KPUB has partnered with landlords and property managers to identify multifamily properties participating in a qualifying Land Use Restricted Agreement (LURA) with the Texas Department of Housing and Community Affairs (DHCA). These properties were then accepted into the KASP program, up to the available LMI capacity. At this time, once a property has been accepted into the program, there are no further obligations or an expiration to their participation. During the application process and throughout the performance period, the KASP team considered ways to encourage property managers and owners to encourage investment towards energy efficiency; KASP was unable to implement a satisfactory solution but is considering a reapplication process where this might be a consideration.⁵

In establishing the enrollment this way KPUB and KASP can address several issues with LMI customer rate structures, including concerns about enrollment, outreach, and customer participation. By enrolling the complex, unit, or household rather than by account, an LMI customer becomes automatically enrolled in the program as soon as it becomes implemented or upon establishment of a new account.⁶ As such, chronically underserved LMI customers gain immediate access to solar energy cheaper than the system rate without any significant barriers to entry in the program. For a customer group that moves more frequently than their homeownership counterparts, this factor is particularly important to maintain subscription rates and customer participation. For KPUB, by relying the rental unit's management to verify income in accordance with the DHCA, it relieves some of the administrative burden relating to the program, allowing its customer representatives and customer service department to focus on their core mission and not on added bureaucracy relating to verifying customer invoices.

The non-profit partners in the KASP program are not unique in receiving a non-profit rate; there are similar rates for schools, universities, cities, and other key accounts throughout public power utilities; there is a recognition that these customers provide key services for the community that mutually benefit the utility and its customer base. In this instance, including the hosting non-profits in the KASP program with the discounted solar rate provide not just the site for the solar development but will also help coordinate education programs relating to solar energy. The solar hosts, at this time, are still considering how they plan to implement their solar education programs, but the concepts that have been shared with the KASP team involve guided tours, interactive web interfaces, and a living history program.

By establishing a partnership between these non-profit entities, KPUB, and income qualified property managers and owners, KASP has managed to develop a sustainable LMI rate supported by solar energy without subsidization from the rest of the system that concurrently

⁵ KPUB is considering a process where the income qualified partnerships be renewed approximately every five years. KPUB offers assistance to qualify for grants and other funding for energy efficiency upgrades for all qualifying customers.

⁶ Enrolling rental units is the primary focus of the KASP program, but it does not prohibit other LMI customers who may own their home or rent units that are not income qualified from applying to and being accepted into the program.

provides solar to area non-profits. With a rate that has sufficient revenues to fund itself without help from the system, this rate was passed by both the KPUB Board of Directors and the Kerrville City Council with overwhelming support, ensuring the short-term implementation and operation of this tariff. KPUB's current General Manager and KASP Team Lead, Mike Wittler, envisions this program lasting the lifetime of the solar assets and to be renewed as the systems are replaced.

Performance Period

Following acceptance into the SYCC as a project and before the start of the performance period, KPUB began reaching out to non-profit partners to formalize relationships and begin identifying sites to be included for consideration in a request for proposal (RFP) from solar developers. The site for consideration and the RFP were finalized in early May 2017, which allowed KPUB to issue the RFP for solar May 16, 2017. During this interim period between acceptance into the SYCC and the start of the performance period, the KASP team recognized that there was more significant demand than initially envisioned for both LMI and non-profit solar and that significantly better PPA prices could be achieved if the RFP portfolio was for greater than 3 MW_{AC}. This led the KASP team to look to expand the RFP about 5 MW_{AC} solar at the identified partner sites throughout KPUB's system, with the understanding that KPUB may do a tiered rollout of LMI solar rates (beyond the initial estimated 150 households in the KASP SYCC application), as additional demand warranted, or experiment with different rate structures beyond the initial proposal, as discussed in the previous section. This also allowed KPUB to evaluate both greenfield and non-traditional solar installations, including future landfill site, rooftop, and carports.

The RFP was due on June 19, 2017, with a good response from the market. After selecting a shortlist, KPUB hosted site visits and interviews, allowing shortlist participants to view the sites in person and KPUB to become more familiar with the proposals and their backing companies. Following the site visits, KPUB requested and received feedback on the sites from the shortlist participants and conducted geotechnical studies from a subset of sites that were most favorable to solar development, as identified by the shortlisted developers. While this process added to the timeline, geotechnical studies, particularly given the difficult terrain in KPUB's service territory, were identified by KPUB's shortlisted parties as the primary method to mitigate site and price risks during the development process. After releasing the results of the geotechnical studies to the shortlist, updated bids were received in early November 2017.

KPUB selected RES Americas as its solar developer partner for the solar sites prior to Thanksgiving 2017. Starting in December 2017, KPUB's attorneys began reviewing the solar PPA and lease documents provided by RES. Concurrently, KPUB was also working with its non-profit partners to determine whether there was still interest in solar hosting and to determine lease prices. Ultimately, contract negotiations and securing the sites took through June 2018, which coincided with the submission towards the second round of seed funding. During this process, however, the solar developer conducted its due diligence studies while KPUB undertook the line extension/upgrade design process. Throughout this process, KPUB and RES were constantly communicating regarding timeline, especially with regards towards energization by late September/early October 2018, which was still deemed as likely.

By August 2018, the financing partner for RES had changed, though RES and the new financing partner both were committed to meeting the project deadline. However, by the middle of September 2018, some documents had still not been assigned to the new financing partner, which would allow construction to commence. Despite weekly conference calls assuring that the timetable would still be met, KASP began having doubts and started exploring other alternatives, including scaling the project size from 0.99 MW_{AC} to something smaller, but in the end, opted to explore transitioning from a project to a program under SYCC rules. After doing so, KASP reached out to the Department of Energy (DoE) and ICMA to consider transitioning from a project to a program. DoE, ICMA, and the KASP team (inclusive of their SYCC coach, Michael Borovik) held a conference call in late September to determine the circumstances surrounding the change and steps moving forward. On Friday, September 21, 2018, KASP received notice that its designation within the SYCC had been approved from a project to a program.

The change in designation immediately allowed several significant events to occur – KASP immediately expanded its initial rollout of its LMI and non-profit rates from 0.99 MW_{AC}, as included in its original application, to 3.75 MW_{AC}, KPUB was able to finalize documents allowing the KPUB Board and Kerrville City Council to approve the rate and tariff structure, and KPUB was able to begin outreach efforts relating to its new programs. Between the end of September and October 2018, KPUB had completed its objectives for the last two rounds of seed funding – the passage of rates and tariff structure allowed for the application towards the financing round, while the enrollment of over 300 LMI KPUB customers counted towards the LMI Bonus Round. With 300 LMI households enrolled, KPUB was able to exceed its initial customer estimate by 63% without fully subscribing the available capacity of the program.

Model Sustainability

After presenting the KASP project at three events – a Solar Austin Happy Hour, a Texas Energy Poverty Research Institute conference, and the Texas Public Power Association Annual Conference – KPUB, SE, and the KASP team have been asked by several other public power utilities as to how they might institute something similar within their own service territories. While nothing has come to fruition yet, to the best of the KASP team's knowledge, the sustained interest in the program offerings indicate that there is significant potential for growth beyond KPUB's initial commitment to 3.75 MW_{AC}, especially given that the program and its rates are designed to be self-sustaining over the expected 20-year lifecycle of the solar assets. KASP and its team members intend to continue to promote this model to other public power utilities, as they serve the same mission – to be a locally owned provider of reliable utility service at the lowest responsible price to all customers.