



Ka Lae Solar Farm M2

93-5570 Kai Makani Place, Na'alehu, HI 96772 (19.057391, -155.670042)

Project Website: <https://go.pivotenergy.net/ka-lae-shared-solar>

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1. What is the project?

Pivot Energy is developing a 500 kiloWatt (kW) solar photovoltaic (PV) plant located at [93-5570 Kai Makani Place, Na'alehu, HI 96772](#). The solar facility will provide affordable, clean energy to residences, local organizations, and businesses. This Phase 2 Community Based Renewable Energy Project (CBRE), also known as Shared Solar, is located next to a Phase 1 750 kW CBRE project that is currently under construction. In contrast to fossil fuel powered plants which pollute the air, solar is a safe alternative. This project will help the State of Hawai'i meet its renewable energy goal of 100% clean energy by 2045 in order to increase island resiliency, stabilize energy costs, and preserve the land for future generations.

2. How will this project benefit my community?



Subscriber Savings

Hawaiian Electric customers will be eligible to subscribe to the Ka Lae Solar Farm project to save money on their electricity bills. This program is particularly helpful for those in the local area that rent or do not want to put solar on their roof. Subscribing to shared solar can help local families reduce their energy burden. Hawai'i has the most expensive electricity in the US, and during a time when inflation rates have spiked, subscribing to this program can help hedge against future energy cost increases. Arion Energy and Pivot Energy will set aside the first three months to give those who are closest to the project first access to subscribe to provide more community benefits to the local Ka'ū area.

Assuming the average household on the Island of Hawai'i spends \$200 per month on electricity, Subscribers can expect to save approximately \$30 per month with shared solar. That's the equivalent of nearly 1.5 months worth of free electricity each year! And, about \$7000 over the lifetime of the program. There are no fees to join and you can cancel without penalty. Compared to a come solar installation, shared solar requires no up-front investment/cost for the households that participate.

Local job creation

As with any major construction project, solar farms involve a variety of trades and service providers, many of which will be sourced from the local community. This may include ongoing landscape management, fence installation, electrical engineering, construction labor, permitting, and operations and maintenance.

This project is expected to generate up to 10 local jobs during the construction phase of the project. Once operational, the facility will provide various permanent jobs for ongoing maintenance and monitoring. Construction jobs created from the project will boost consumer spending in and around the Town. Increased household income is spent and invested back into the local communities, thereby generating sales and income tax revenues.

Community Reinvestment

Pivot Energy believes in investing in the communities where we operate. As part of this project, we plan to donate \$10,000 to local non-profit organizations working within the Ka'ū region. As critical stakeholders in this project, we would like to solicit input from the local community on which non-profits we should support, as locals know their community's needs best. Please let us know if you have any ideas; please



submit your recommendations [to this email address](#). We greatly appreciate your input!

Other Benefits

A 2019 study¹ showed that Hawaii's imports more than six million tons of petroleum. By diversifying and distributing (spreading out) the Island of Hawaii's homegrown renewable energy facilities, it reduces the island's reliance on imported fossil fuels and can provide increased grid reliability. Additionally, the risk of spills during the transport of fossil fuels poses a threat to the ocean and the local aquifer. Solar is a safe alternative.

Renewable energy can result in better air quality and improved public health. One of the biggest benefits of solar energy is that it emits no local air pollutants, such as nitrous oxide, sulfur dioxide, and particulate matter emissions, all of which can cause health problems.

As part of Arion Energy and Pivot Energy's commitment to be good stewards of the 'āina, we will plant local native species on the land and incorporate fencing aligned with requirements from the local permitting authority, which will protect nearby grazing animals.

3. Why was this site selected? How can this project be done in lava zone 2 and where there is less sun than other parts of the island?

We consider many factors when selecting land parcels. We consider proximity to local infrastructure (substations, switch yards, overhead power lines). It's an exercise of balancing real estate considerations and community impact along with the need to support the grid and ensure greater grid reliability in a 100% renewables energy mix. To this end we consider as many aspects as we can such as how close the facility will be to neighborhoods, visibility from major roads or viewsheds, land preservation, cultural impact, all while balancing the needs of the grid. Similarly, the utility considers many factors in how to spread generation across the island. Resiliency being one driving factor. The main factor here is proximity to the main substation in the area to support grid reliability.

¹ U.S. Energy Information Administration - EIA - independent statistics and analysis. Hawaii - State Energy Profile Overview - U.S. Energy Information Administration (EIA). (n.d.). Retrieved March 3, 2022, from <https://www.eia.gov/state/?sid=HI>.



It's relatively simple to do this in lava zone 2. We know there is lava rock (basalt) close to the surface from prior flows, and it is simple enough to adjust our installation methods to accommodate this. If there were to be an eruption with surface lava flows toward the project, we would be able to make the facility safe with advance warning and any damage to the project from lava would be addressed through insurance. Since solar facilities are unmanned, the project location doesn't place any workers at undue risk. Given that this is zone 2 we expect to have prior warning if there are any complications due to lava flow. The County permits solar farms in lava zone 2.

There is sufficient sun in this location to produce the desired amount of electricity. Every community receives enough annual solar radiation to make solar a viable energy option. Minneapolis receives 90% of the incoming sunlight that Miami sees each year. Solar panels still work in cloudy or overcast conditions. Pivot Energy has solar in development in nearly every state, including northern places like Minneapolis, Michigan, and Illinois.

4. How will this project impact our view?

Due to the remote location of the project and its lack of visibility from public right of way (ROW) and neighboring homes it is not anticipated to have any negative impacts on the community. The fenced facilities will be shielded from view with natural vegetative screening and will not be visible from the main roads.

5. How is the project financed? How is pricing determined?

Pivot Energy and Arion Energy are providing the financing for this CBRE Ka Lae project. The Public Utilities Commission approved and directed the Hawaiian Electric Companies (HECO Companies) to implement the CBRE Program. CBRE is designed to provide broader participation in renewable energy projects, and economically help Hawai'i meet its goal of transitioning to sustainable renewable energy resources and off of expensive imported oil. Dependence on imported petroleum and isolated grids has resulted in Hawai'i having the highest electricity prices in the nation. The projects awarded capacity under the CBRE program are designed to benefit the island by providing low-cost clean energy. The state is purchasing renewable energy instead of fossil fuel based energy to maximize the state's



self-sufficiency and provide families and households with more stable and predictable electricity pricing.

As part of a competitive bidding process, the utility selects the best value projects, based on a number of factors including price, value savings to subscribers, and community benefit. Pivot Energy and Arion Energy's project budget is thoroughly reviewed by the utility and is formed based on a number of factors including the project costs of developing, building, financing, and maintaining the solar generation facility. In addition to the project budget, pricing is based on competitive rates that are consistent with other CBRE projects. Pricing is informed by guidance from the utility/PUC and is subject to state laws and regulations.

The Hawaiian Public Utilities Commission (PUC) regulates Hawaiian Electric including electric rates. It provides greater oversight of this process and grants the final approval or denial of the project. The PUC will conduct its own thorough review and due diligence. The project website includes contact information as well as a space that allows for public feedback and questions.

- The point of contact for community engagement is Sam Frick, communityfeedback@pivotenergy.net 1.888.734.3033 ext. 726.

Any written comments received will be included in the application to the PUC. The public will have an additional opportunity to submit comments following the submission to the PUC.

As a subscriber, there is no fee to join. Similar to other subscription services, you will pay for the energy consumed but at a discounted rate compared to traditional power. Your on-bill credits will always be greater than your subscription payment, leading to long-term savings on your electric expenses.

6. Are there any negative impacts?

Appropriate cultural, environmental, and archaeological studies have been conducted. No significant impacts are expected. We do not believe this will increase or decrease property value, it will have no effect. In this [American Clean Power Association Fact Sheet](#), research has shown that solar farms do not have a negative impact on property values in rural areas, including in Hawai'i.

The only time traffic may be impacted is during the delivery phase in which materials will be transported prior to the start of construction. This phase is estimated to take roughly 8 weeks or less. No road closures or traffic control measures are anticipated during the delivery phase. Other than that, there are just the personal vehicles of the construction crew (approximately 5 to 10 people).

7. Will this displace agricultural production?

We have always had a major interest in helping farmers keep their land. Solar projects diversify revenue sources for landowners where the facility is located, and with agrivoltaic options (co-locating agriculture and solar), the project site can create new revenue for the landowner while supporting agricultural activities. It is our intention to improve the environment and leave the soil in an even better condition than its current status through responsible environmental management techniques and adherence to site management practices specified by local authorities. At a minimum, we will plant native plants/pollinator habitat as ground cover. This means that the land will retain some agricultural involvement during solar operations and has the additional benefit of soil quality improvement over time.

Solar farm components are primarily inert (steel, aluminum, glass) and are not expected to require extensive clean-up for any agricultural use if solar operations cease after 25 years. All components will be recycled or removed from the property at the end of the project term. For any solar modules that are still in good operating condition, we will endeavor to donate to a local organization or recycle them. Extensive grading or earth movement within the fence line is not expected; racking should for the most part be able to follow the natural contours of the land. Appropriate environmental and archaeological studies have been conducted and no significant impacts are expected. At decommissioning, the companies will restore the site to its original condition.

8. If the power goes down, will the local area have access to the energy?

No, the CBRE program is not designed to provide backup power to residents during a power shortage. There are other programs at HECO underway to increase grid reliability during storms and to reduce outage times. Generally, by increasing the number of distributed renewable energy facilities placed throughout the island, this should improve the overall resiliency.

9. How will the local community be prioritized, especially low income individuals?



Arion Energy and Pivot Energy will set aside the first three months to invite those closest to the project to subscribe to the project. In our continuing outreach efforts we will endeavor to partner with community organizations and stakeholders to help us spread the word about subscription benefits and job opportunities to those closest to the projects. Pivot Energy and Arion commit to subscribing at least 10% with low income individuals.

We want to note that Pivot Energy is currently acquiring subscribers for one of the largest dedicated low-income community solar portfolios in the country – 41MW dedicated exclusively to Colorado households (10,000 to 12,000 low-income Colorado households). We are learning lessons from that experience to ensure that for these Hawai'i projects we build a community-coordinated subscriber acquisition strategy that leans into energy burden reduction, education and advocacy, and improved access to the clean energy transition.

Also, based on our social impact pillars of community giving, our strong preference is to use the community reinvestment funds to support organizations that support low-income residents. Our goal is to gather input from this group to help inform our reinvestment plan.

Building on the experience collaborating with local communities in several other states, we are taking a more extensive approach to include community participation, and actively seek ways to create even more opportunities for local community benefit in projects going forward.

10. What is the plan for decommissioning the solar project?

The useful life of the solar facility is expected to be at least 20 years. At the end of the term, the project will be decommissioned per a comprehensive plan reviewed by Hawai'i County during the permitting process. At the end of the project's useful life, Pivot will suspend operations and decommission the plant, which will include any necessary removal of above and below ground equipment, and site reclamation efforts. Pivot's obligation under the Solar Lease Agreement is to return the site to the landowner in substantially the same condition that the property was in prior to the improvements being made.

The individual project components to be decommissioned will either be 1) recycled or reused to the maximum extent practicable, or 2) removed from the site and



disposed of at an appropriately licensed disposal facility. The general decommissioning approach will be the same whether a portion of, or the entire Project is decommissioned.

Arion and Pivot are committed to caring for the land during operations of the solar farm, and when the site is decommissioned we have committed to the following decommission plan.

- During decommissioning, project components that are no longer needed will be removed from the site and recycled, reused or disposed of at an appropriately licensed disposal facility. The first operation is to disconnect and remove modules from the tracker assemblies.
- Next, the tracker and mounting structures, DC wiring materials, and combiner boxes will all be assembled and segregated for disposal or salvage. Steel piles that support the PV racking system will be removed and either reused or recycled to the maximum amount possible. Below ground portions of the supports will either be removed or cut off at least two feet below ground surface and left in place.
- The demolition debris and removed equipment will be safely removed from the premises and transported to an appropriately licensed disposal facility or recycling center. Photovoltaic modules will either be reused, recycled or disposed of in accordance with applicable laws at the time of decommissioning.
- During the disassembly and demolition process, materials will be segregated and temporarily placed in gathering areas for transportation. Various materials including, but not limited to, concrete, steel, aluminum, and copper will be temporarily stockpiled at or near a designated processing location pending transport to an appropriate offsite recycling facility. All such materials will then be transported from the site to approved designated facilities for recycling, scrapping or disposal. All metals will be recycled to the extent practical given the recycling options available at the time of decommissioning.
- Areas where excavation is required will be backfilled with natural material and compacted. Any voids left from the removal of foundations will be backfilled with surrounding subsoil and topsoil and fine graded to ensure suitable drainage and reclamation of natural grades.
- Soil management and recontouring operations will be conducted so as to minimize the surface area disturbance and implement the activities in the safest and most efficient manner and in accordance with applicable local



requirements. Major earthwork is not anticipated as construction of the site will not alter the general grade across the site.

- To account for post-decommissioning dust control, areas of exposed soils will be revegetated, consistent with the expected future use of the site and State or County requirements. The native dry grass vegetation will be reestablished to prevent the spread of weeds. Mulching or palliatives may be used for temporary dust control until vegetation is established.