

Santa Barbara County DOE GRIP Grant Application

DEADLINE: Wednesday, January 10

Project Overview	1
Project Details	1
Project Impacts	5
Community Benefits Plan	7

Project Overview

Applicant Name: The County of Santa Barbara

Project Partner(s): Santa Barbara Clean Energy/City of Santa Barbara, Southern California Edison, SBSCCoC, Clean Coalition, Scale Microgrids

Project Name: Goleta Load Pocket Virtual Power Plant

Project Location(s): CA

Applicable GRIP Topic Area: Topic Area 3: Grid Innovation

Applicant Cost Share: Combined

Federal Funds Requested: \$75,000,000.00

Transmission/Distribution/Combined: \$175,000,000.00

Anticipated Total Project Budget: \$250,000,000.00

Abstract 5889 characters out of 6,000-character limit.

The Goleta Load Pocket Virtual Power Plant (GLPVPP, or the Project) is a 55-megawatt (MW) VPP with “islandable” sections designed to improve whole-community resilience in Santa Barbara County, California. The Project consists of approximately: ~30 MW of independent commercial and industrial (C&I) microgrids; as well as ~25 MW of Community Projects (CPs), that will include microgrids focused on serving low-income and disadvantaged communities. The County and the project partners have already identified potential Community Resilience Hubs (CRHs), and other CPs at critical facilities throughout the county, such as the Santa Barbara Airport, and a microgrid that connects a school, fire station and other vital buildings.

Improving resilience is critical in Santa Barbara County. The Goleta Load Pocket (GLP) spans 70 miles of the Southern California coastline and is served by one set of transmission lines. These lines are routed through 40 miles of high-risk, fire-prone, landslide-prone, mountainous terrain. In the event of a transmission failure, roughly 220,000 residents could be without power, potentially for weeks. Although VPPs exist throughout the country, this project will innovate a new approach to VPP development by centering community resilience as the core benefit.

The County also has ambitious clean energy goals, including a draft goal to facilitate over 500 MW of renewable energy capacity procurement over the next 7 years to support aggressive electrification, as outlined in its draft Energy Assurance Plan. The County is currently a national leader in deploying key electrification technologies such as heat pumps and EVs.

This Project will have multiple outcomes including improving the reliability and resilience of the electrical grid as it transitions towards higher levels of clean energy. It will also create a model of a VPP focused on resilience that regions throughout the country can utilize. Finally, executing this project would represent an innovative public-private partnership between local governments, grid operators, and private-sector entities.

To develop and execute this Project, the County has built an initial coalition of partners that includes our local utility (Southern California Edison), our local Community Choice Aggregator (Santa Barbara Clean Energy), a leading Distributed Energy Resources development company (Scale Microgrids), local community organizations (Community Environmental Council, Clean Coalition), and our local chamber of commerce (Santa Barbara South Coast Chamber of Commerce). Moving forward, we intend to expand this coalition to include additional community organizations to ensure that broad and diverse stakeholder feedback is incorporated into execution of the Project. Our coalition will have the right mix of capabilities to develop this innovative VPP concept that will benefit all members of the community, with a minimum of 40% of the overall project benefits flowing to disadvantaged communities, in line with Justice40 Initiative goals. That said, all the federal funding would support the Community Projects.

In addition to generating direct clean energy and resilience benefits for our community, the Project will also facilitate VPP innovation that can be replicated throughout the country. The partners have identified new approaches to incorporating “islandable” hardware that will be demonstrated through this Project and can have broad national applicability. Additionally, the Partners will work to develop a sophisticated Distributed Energy Resources Management System (DERMS) software platform that will both enable the VPP to maximize benefits to the grid during normal operating conditions and allow the VPP to “island” from the grid during emergency events, providing critical electricity services to our community. Most importantly, the Project will demonstrate an innovative business model that is critical to national VPP deployment by establishing a unique public-private development partnership framework.

All portions of the GLPVPP project will utilize union labor, pay prevailing wage, and execute Project Labor Agreements (PLA) with the relevant local and regional chapters of the International Brotherhood of Electrical Workers (IBEW). This will guarantee that the project is completed by a highly skilled workforce and held to the highest possible labor standards. In addition to formal IBEW workforce development and apprenticeship standards, the County is also exploring opportunities to engage with local high schools, colleges, and universities on developing curriculum and training programs for Transmission, Distribution and Storage (TDS) jobs such as those created by this project. We believe this Project can be a foundation for

developing new and innovative TDS workforce development curriculum that can have broad applicability.

All federal funding will flow towards the Community Projects (CPs) portion of the GLPVPP. Overall, CPs represent 45% of the capacity of the GLPVPP, and roughly 65% of the cost of the proposed Project. Community Resilience Hubs and other CPs will be designed to provide resilience benefits to low-income, disadvantaged, and vulnerable populations. As one example, the County is considering developing a Community Resilience Hub that would connect critical resources including a school, a library, a police station, and a fire station and be able to island these facilities together in the case of an outage. This would be accomplished through a community microgrid connecting these four facilities. This approach will be replicated throughout the region, and the County in partnership with other groups will continue to identify high priority sites for community microgrids that provide resilience, particularly to disadvantaged communities.

The GLPVPP would strengthen our region's resilience, assist in achieving the County and cities' ambitious climate goals, and serve as a VPP model for other regions across the country.

Project Details

Brief description of the project, including outcomes that would result from the successful completion of the project that align with the strategic goals and objectives of the GRIP program and the applicable GRIP Topic Area.

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The Goleta Load Pocket Virtual Power Plant (GLPVPP, or the Project) is a 55-megawatt (MW) VPP with "islandable" sections designed to improve whole-community resilience in Santa Barbara County. It consists of approximately: ~30 MW of independent commercial and industrial (C&I) microgrids; as well as ~25 MW of Community Projects (CPs), that will include microgrids focused on serving low-income and disadvantaged communities. The County and the project partners have already identified potential Community Resilience Hubs (CRHs), and other projects at critical facilities, such as the Santa Barbara Airport.

The GLPVPP would strengthen our region's resilience, support the County and cities' ambitious climate goals, and serve as a VPP model for other regions. Improving resilience is critical in Santa Barbara County. The Goleta Load Pocket (GLP) spans 70 miles of the Southern California coastline and is served by only one set of transmission lines which are routed through 40 miles of fire-prone, landslide-prone, mountainous terrain. In the event of a transmission failure, roughly 220,000 residents could be without power, potentially for weeks. Although other VPPs exist, we believe that this project will innovate a new approach by centering community resilience as the core benefit.

The County and local government partners have ambitious climate goals, including a goal to facilitate over 500 MW of renewable energy capacity in the region within the next 7 years, and the City of Santa Barbara's goal to consume 100% renewable energy by 2030.

This project will have multiple outcomes including improving the reliability and resilience of the local electrical grid as it transitions towards higher levels of clean energy. It will also create a model of a VPP focused on resilience that regions throughout the country can utilize. Finally, executing this project would represent an innovative partnership between local governments, grid operators, and private-sector entities.

Brief description of the impact of DOE funding on the project.

1,892 characters out of 2,000-character limit.

Absent DOE support, the best version of the GLPVPP is not economically viable. This is primarily because an established model for developing an islandable VPP does not exist and the approach to implementing the larger project will need to be piecemeal. While we believe the model we will create in concert with our project partners will be innovative and have broad applicability, there are a myriad of interdependent technical and non-technical challenges that prohibit this project from being fully funded with traditional capital resources at present. As one example, the partners will need to work together with state agencies to determine how to account for the Resource Adequacy (RA) value the project provides, in addition to determining an effective way to compensate the project for the value it provides the broader grid and Load Serving Entities. Absent an established RA framework, traditional capital providers view current uncertainty around RA compensation as an un-bankable risk. Additionally, the project partners will decide how to successfully implement a variety of Community Projects, including Community Resilience Hubs, with a particular emphasis on supporting low-income, disadvantaged, and vulnerable communities. This work will include using community microgrids to island sections of the utility distribution grid during transmission system outages to maximize public services and deliver resilience during power outages.

The primary issue we face is that establishing a precedent is expensive. Given the innovative nature of this collaborative project, there is no viable pathway for executing the proposed project with traditional capital resources, especially for the portions of the project intended to serve low-income and disadvantaged communities.

Select the type(s) of technology(ies): Multiple. List the primary technologies and/or tools that will be deployed in the project.

1,867 characters out of 2,000-character limit.

Four primary technologies and tools will play an outsized role in this project:

(1) Solar and Storage — Achieving our climate and resilience goals will require generating and storing large amounts of clean energy inside the GLP. This will allow the region to island for

long durations in the event of a transmission system failure. Distributed solar and battery energy storage systems are currently the most cost-effective way to generate and store clean energy in SB County. We will analyze where to locate solar and storage resources to optimize the County's resilience and capacity objectives.

(2) Switchgear, Substations and Electric Panels — This project will establish the “island-mode” capabilities needed to meet resilience goals in a cost-effective manner. This will require significant coordination between all project stakeholders, led by SCE, to establish protocols for upgrading substations, switchgear, and electric panels at host sites in a manner that allows the project to island from the transmission system in a safe and effective manner.

(3) Distributed Energy Resources Management System (DERMS) — The project will require a sophisticated DERMS software platform that will: a) maximize grid benefits during normal conditions; and b) enable the portfolio of projects to operate in island mode during grid outages.

(4) Governance & Business Models — There is not a well-established precedent for executing this type of project in a deregulated energy market. We will develop novel approaches to items like project planning and cost allocation, which can be adopted by others in the future. It is also an opportunity to create an innovative governance structure, providing a framework for local governments, utilities, private developers, unions, and community advocacy organizations to collaborate to achieve resilience, climate, and justice outcomes.

If the project will be deploying hardware, describe the role and impact of hardware deployment as part of the proposed project scope and identify any elements of this deployment that represent a significant innovation for the industry and/or project. Enter "N/A" if no hardware will be deployed.

1,957 characters out of 2,000-character limit.

(1) Solar and Storage — The project will utilize standard hardware. However, determining where to site solar and battery resources to maximize climate, resilience, and justice impacts is immensely challenging. Developing a methodology for optimally deploying solar and storage systems will require coordination between the project partners and other stakeholders. The complexity of this task is further amplified because many potential host sites are located in high-threat wildfire districts and/or flood-prone areas, which adds even more complexity including to insurance procurement. These kinds of challenges will only grow nationwide as the climate crisis accelerates. Hence, tackling these issues in Santa Barbara County will provide valuable knowledge for future VPPs. We have the right project partners and the right local ecosystem to develop and execute solutions. If successful, the model we create will not only be scalable, it will also show meaningful, strategic public-private partnership models that others can follow.

(2) Switchgear, Substations and Electric Panels — As noted above, likely the biggest technical challenge surrounds our ability to install islandable switchgear quickly and at scale to support the VPP's network of solar and storage nodes. For decades, the biggest technical challenge surrounding microgrid implementation has been installing islandable switchgear. The process is

extremely customized and time-intensive. Leading global OEMs have recently brought "standardized" switchgear packages to market. We believe the GLPVPP represents an ideal opportunity to use this innovative technology on a large scale. If we move forward in the application process, we will work closely with leading vendors to accomplish this. According to the OEMs we have discussed the project with, the innovative switchgear deployed on the project could help bring durable and transformative change throughout the global microgrid industry.

If the project will be deploying software, describe the role and impact of software deployment as part of the proposed project scope and identify any elements of this deployment that represent a significant innovation for the industry and/or the project. Enter "N/A" if no software will be deployed.

1,858 characters out of 2,000-character limit.

Multiple layers of software will be deployed on the project, and several innovative elements have the potential for industry-wide impact. To maximize resilience benefits, each node of the VPP will be an independent microgrid. It will be capable of islanding from the broader VPP during major disruptions and/or at the request of the LSE. As such, each node will require independent and dedicated local control software. This software will enable optimized performance during grid-tied conditions and island-mode operations. Load and solar forecasts at a site level will be made available to the network for community-level aggregation.

Subsequently, the project will require a higher-level distributed energy resources management system (DERMS) to be implemented to enable optimization across the region. There are a variety of DERMS solutions that exist. However, the software challenges for maximizing whole community resilience are unique. Specifically, some of the proposed Community Projects (CPs), including Community Resilience Hubs (CRHs), will enable SCE to isolate sections of the utility's distribution grid during prolonged utility outages, which will require development of a front-of-meter. Some CPs will also dispatch distributed energy resources (DERs) to provide power across isolated sections to all entities, including low-income and disadvantaged customers. Proper design will require building a Digital Twin, which will enable the LSE to run a variety of simulations to test VPP capabilities and ensure stability of the distribution system during island-mode events. The project will also need to develop a methodology to ensure SCE has full visibility into island-mode operations. This will ensure line-worker safety during outage conditions. Extensive coordination will be required to ensure the system is fully compliant with utility and industry cybersecurity protocols.

If the project will include development of a new business/regulatory/financing approach, describe the approach and the potential for and path to replicability or broader adoption.

1,315 characters out of 2,000-character limit.

Distributed energy resources (DERs) are the foundation of VPPs. In California, and many other states across the country, the current approach to deploying DERs is far from ideal. To achieve

the objectives of the County's draft Energy Assurance Plan, we need to efficiently deploy resilient DERs throughout the GLP. Coordination between public and private stakeholders is critical for optimized and efficient deployment. Unfortunately, the current market discourages this.

To improve the reliability and resilience of our electrical grid in a manner consistent with our climate action goals, we need an optimized deployment strategy with involvement from a diverse set of stakeholders that include local cities, LSEs, Community Choice Energy providers, climate and equity advocates, chambers of commerce, and local unions, among others. The County intends to facilitate coordination and collaboration between these stakeholders. The best practices and lessons learned that we will develop through this process will be broadly applicable to facilitating the deployment of VPPs nationwide. The DOE Commercial Liftoff Report noted stakeholder coordination as one of the biggest barriers to achieving the DOE's 200-gigawatt (GW) national VPP deployment goal by 2030. We will make progress on that issue through this project.

Describe the readiness, viability, and expected timing of the project (include the impact of DOE funding in the response).

1,838 characters out of 2,000-character limit.

We believe that the bulk of the project can be commissioned in approximately 36 months from award. Private sector partners have already identified 30 MW of attractive VPP host sites on C&I properties located within GLP. We will deploy these projects as independent behind-the-meter microgrids. Extensive precedent for similar systems exists throughout California. Although the economic viability and specific scope of these independent projects are partially tied to the execution of the broader VPP, we anticipate hitting NTP on this portion of the project shortly after award. Current construction timeline estimates range from 6 to 18 months per site.

The subsequent 25 MW of capacity will be deployed in the form of CPs, including resilience hubs, and other projects at critical facilities including the airport. The projects will be designed to directly support low-income, vulnerable, and disadvantaged communities throughout the region, identified as California Climate Investment Priority Populations, and using the Climate & Economic Justice Screening Tool. Planning for the CPs has already begun at both the County and Community Choice Aggregation (CCA) level, and regulatory precedent exists. However, there are still challenges to address to obtain full financing and ensure these systems operate safely. Currently, we anticipate an additional 12 months of planning and coordination will be required, with around 24-month construction timelines post-NTP.

Finally, the DERMS system needs to manage the VPP in a safe and efficient manner, which will require extensive coordination between SCE and project partners. We anticipate that DERMS development can be accomplished in parallel with the development of the CPs and layered onto the private sector microgrids after commissioning. We do not anticipate technical barriers to developing DERMS on this timeline.

Identify risks and challenges (e.g. technical, labor, financial, market, environmental, regulatory, security) to project success, and outline mitigation strategies for each risk.

1,857 characters out of 2,000-character limit.

The project is subject to a number of challenges as discussed throughout; however, in the event this project secures DOE GRIP grant funding, the following three primary risks could directly impact our ability to execute the project:

(1) Regulatory — The regulatory environment surrounding distributed energy in California is dynamic. Although unlikely, it is possible that unanticipated future regulatory action could inhibit our ability to execute this project in a cost-effective and/or regulatory-compliant manner. Specifically, there are potential regulatory issues that could arise surrounding the development and operation of the DERMS system discussed above. However, based on current discussions with regulators and SCE, we do not believe we will encounter any issues that substantially delay implementation.

(2) Supply Chains — Supply chains for key equipment appear to be stabilizing. Nonetheless, many of the technologies required to execute this project are still subject to longer-than-expected lead times. If key equipment supply chains become materially worse, it could impact our ability to complete the project. The County has already engaged with several key vendors to begin the process of identifying key supply chain bottlenecks as a first step in our mitigation process.

(3) Insurability — Insurance premiums in several areas of the GLP are rising quickly. There are concerns about securing economically viable insurance coverage for assets that will be deployed as part of the VPP. Specifically, the \$100 million of private sector capital that has been committed to the project (applicant cost share) is contingent on our ability to secure sufficient insurance coverage for VPP assets. At present, we are highly confident that insurability will not be a material barrier to project execution, but it is a risk that we are monitoring closely.

Briefly describe the Project Management Team and any key personnel and project partners, including vendors and suppliers (if identified; if not yet identified, address how the project will secure vendors/suppliers). Indicate whether the Team has the required skills, any prior applicable experience, prior projects with partners, and access to equipment /facilities to successfully execute the proposed project. If those are not met, explain how the Team will obtain knowledge/access for successful execution.

1,828 characters out of 2,000-character limit.

Key project partners include:

The County of Santa Barbara — The County's Sustainability Division will oversee project implementation as part of our ongoing Energy Assurance Plan. Key personnel includes Ashley Watkins, Sustainability Division Chief; and April Price, Energy Portfolio Manager.

Southern California Edison (SCE) — The primary electric utility in Southern California, SCE serves 15 million customers across 50,000 square miles. Key personnel includes Mark Esguerra, Director of Distribution System Planning and Strategy.

The City of Santa Barbara / Santa Barbara Clean Energy (SBCE) — SBCE is the city-operated CCA, charged with implementing the city's Strategic Energy Plan. Key personnel includes Alelia Parenteau, Sustainability and Resilience Director.

South Coast Chamber of Commerce — Represents 1,100 businesses and 75,000 employees in the GLP. Key personnel includes Kristen Miller, President.

Scale Microgrids — An innovator of advanced microgrid technologies. Key personnel includes Tim Hade, Chief Development Officer.

Santa Barbara Community Environmental Council — An outstanding environmental and sustainability nonprofit serving the Central Coast. Key personnel includes Sigrid Wright, CEO/Executive Director.

Clean Coalition — A leading distributed energy nonprofit organization. Key personnel includes Craig Lewis, Executive Director.

We believe that these project partners have the skills and capabilities necessary to execute the proposed project in a manner that benefits all Santa Barbara County residents, with a particular focus on low-income and disadvantaged communities. All vendors and labor involved in the project will be subject to federal, state, and County procurement rules. If awarded, we are very confident that we have the ability to recruit leading global vendors to participate in project execution.

Project Impacts

How will this project reduce innovative technology risk, achieve further deployment at-scale, and lead to additional private sector investments?

1,901 characters out of 2,000-character limit.

The DOE Commercial Liftoff report indicated that to support U.S. climate action goals, we need to deploy nearly 200 GW of VPPs across the country by 2030. The report also emphasized that VPPs are critical to improving nationwide electrical system resilience. However, today there are very few VPPs that are designed to address resilience concerns. Furthermore, no programs exist in deregulated energy markets that we are aware of. As discussed above, the primary barriers to deploying resilience-centric VPPs are financial and regulatory, not technical.

Institutional investors are very interested in VPP-centric investments. However, unclear cost and revenue requirements are driving costs of capital in the sector to be prohibitively high, despite this intense interest.

We predict that executing this project will lead to additional private-sector investments. The partners involved in this project have the ability to create a model that works inside the existing regulatory framework while also adequately benefiting all stakeholders. Such a model can be replicable nationwide, and will help provide a foundation for VPP deployment across the U.S. Perhaps the most important macro-impact of this project will be demonstrating a meaningful public-private partnership approach through the strategic involvement of the stakeholders we're bringing together. One of the biggest barriers to grid innovation and VPP deployment in the market today is the perception of dysfunctional relationships between utilities, regulators, and private sector operators. The partners we've enlisted for this project are willing to work together in order to develop the optimal electrical system for the community. The example we will set here will have positive impacts throughout the industry and facilitate much more investment in the sector.

Describe how the project supports State, local, Tribal, community and regional resilience, in reducing the likelihood and consequences of disruptive events, decarbonization, or other energy strategies and plans.

1,993 characters out of 2,000-character limit.

As described in the County's Climate Change Vulnerability Assessment (2021), the primary electrical infrastructure serving the GLP is fragile. A solitary 230/66 kV substation serves the entire load pocket. This substation is connected to the SCE transmission system through a single set of 230 kV transmission lines occupying common towers. These lines are the only points of connection between the substation and the rest of the transmission system, and thus, the sole source of transmission service for the GLP. These lines are run through mountainous terrain that is prone to earthquakes, landslides, and fires. Moreover, climate change has increased the threat profile to the GLP transmission system; since 2007, there have been five major fires in the immediate area of the transmission lines.

In addition, SB County is currently one of the fastest adopters of electrification technologies in the country. SCE estimates that electricity sales will increase by 60% and peak load will increase by 40% in the region over the next 20 years. This means that the County will need to invest heavily in increasing electricity capacity in the region. The fundamental objective of the proposed project is to bring stakeholders together to determine the optimal mix of technologies that can be utilized to enable SB County to meet local climate action goals, while simultaneously addressing the material resilience threats faced by its communities. If successful, the proposed project will provide 55 MW of islandable renewable electric capacity in the event of a major transmission system failure. This represents about 15% of the GLP's peak load. The SBA airport microgrid is particularly important. Continuing to operate the SBA facility is a critical resilience priority, but there is not an economically viable pathway to building this project without

significant public funding. In the event of a transmission line failure, the GLPVPP project will provide life-saving support to our community.

What will be the grid-benefitting outcomes to be delivered by the project (e.g. number of customers impacted, unlocked clean energy generation, improvement in reliability metrics). List 1-3 outcomes maximum.

1912 characters out of 2,000-character limit.

(1) Long-term Cost Savings — Achieving our climate goals will require significantly expanding electrical capacity throughout our region this decade. The DOE Commercial Liftoff Report estimates that a VPP can provide peaking capacity to a utility that is 40-60% cheaper compared to alternatives such as utility-scale batteries or gas peaker plants. We believe that deploying this project's VPP represents the least-cost option for adding capacity over the long run. However, because of the lack of established business or funding models, implementing this strategy without significant DOE funding is prohibitive.

(2) Unlocked Clean Energy Generation — Today, 52% of Santa Barbara County's electrical consumption is clean. The County has a desire to facilitate over 500 MW of renewable energy from both utility-scale and distributed energy resources by 2030. What is troubling is that the region is already experiencing capacity constraints under peak load conditions. In addition, SCE expects peak load to increase by about 40% in the coming decades as the region moves on electrification and decarbonization goals. This project aims to bring grid operators, regulators, and private sector actors together to define the optimal mix of distributed energy resources and transmission/distribution system upgrades required to meet Santa Barbara County's future demand with renewable energy, while simultaneously maintaining reliability and improving whole community resilience.

(3) Improved Reliability — The North American Electric Reliability Corporation's (NERC) Long-Term Reliability Assessment indicates that WECC-CA/MX's is at high risk of energy or capacity shortfalls moving forward. The County is currently a leader in deploying innovative front-of-the-meter BESS to help address reliability concerns. The storage deployed as part of this project will be critical to ensuring system reliability moving forward.

Community Benefits Plan

Demonstrate how this Community Benefits Plan will address community and labor engagement, and how feedback from specific and relevant community stakeholders will be incorporated into the Community Benefits Plan.

3,935 characters out of 4,000-character limit.

All portions of the GLPVPP project will utilize union labor, pay prevailing wage, and execute Project Labor Agreements (PLA) with the relevant local and regional chapters of the International Brotherhood of Electrical Workers (IBEW) that will guarantee that the project is completed by a highly skilled workforce and held to the highest possible labor standards. A major objective of the project will be to work with the IBEW and other key stakeholders to ensure that we not only execute the GLPVPP project to the highest standard, but also maximize opportunities to develop a skilled and trained transmission, distribution, and storage (TDS) workforce as defined in Chapter 2.9 of Part 1 of Division 2 of the California Public Contracts Code. To ensure consistency, the County intends to work with the IBEW to develop a specific Workforce Development Strategic Plan (WDSP) to govern all aspects of the GLPVPP project including individual PLAs executed with contractors.

In addition to formal IBEW workforce development and apprenticeship standards governed by the PLA and WDSP, we also believe that this project can be an excellent platform from which to engage with local high schools, colleges, and universities on developing curriculum and training programs for Transmission, Distribution and Storage (TDS) jobs such as those created by this project. As noted in the DOE's 2023 Energy & Employment Report, TDS jobs outpaced every other energy sector in 2022, and there is a tremendous need for qualified TDS skilled workers over the coming decades. While no formal plans have been cemented to date, the County intends to engage with relevant local leaders to explore this space. In this respect, we believe SB County is an excellent community within which to develop the innovative curriculum needed to train the national TDS workforce required to execute our national climate action plan. The region is home to some of the most impactful and innovative Community Based Organizations in the country - including our project partners at the Community Environmental Council (CEC). The CEC has been doing groundbreaking work in the environmental space for over 50 years and was named the California nonprofit of the year in 2020. We believe the GLPVPP project combined with the region's world-class CBO community, strong public education system, and IBEW leadership can result in very promising workforce development outcomes that can have a national impact.

Community engagement is and will continue to be critical to the successful deployment of the community project portion of this project. Developing community projects that include critical facilities and CRHs is a goal of the County's draft Energy Assurance Plan (EAP), which was developed with input from a large and diverse group of community members. Ensuring that all CPs are designed and located to maximize impact for the greatest number of community members is an ongoing process that will require continuous coordination with a broad

contingency of community members and agencies. Our project partners at the Clean Coalition were key drivers of the recent Santa Barbara Unified School District (SBUSD) microgrid project, a network of microgrids located at 15 schools across SB County. The community engagement framework developed through that project serves as a model that can be utilized and built upon to ensure that the GLPVPP project Team is operating in concert with community engagement best practices.

Finally, community engagement will also be critical to the development of the Santa Barbara Airport (SBA) microgrid. SBA is a critical economic driver for the county. As discussed above, there are significant technical and development challenges associated with the SBA airport and executing this project will require close and ongoing coordination with both community members and the business community.

Provide expected number of jobs or workforce development opportunities that the project will create. Describe how these positions are the result of community engagement or agreement. Explain how your project will generate quality jobs and that workforce development opportunities provided are relevant to impacted communities.

3,579 characters out of 4,000-character limit.

The project is still in an early stage of development, and there is a possibility of scope changes pending detailed development and the availability of GRIP Grant funding. We currently estimate that the GLPVPP project will create 700 full-time union jobs during the project construction period, and approximately 15 ongoing full-time union jobs post commissioning.

Moreover, the County is committed to working with the IBEW, SCE, and the project partners to develop a WDSP that will include the creation of both apprenticeship and internship programs to help train workers on a variety of skills needed to accomplish the DOE's objective of deploying 200 GW of VPPs nationally by 2030. The WDSP will also set objectives for prioritizing both local hires and targeted hires, e.g., homeless individuals; custodial single parents; those receiving public assistance; individuals lacking a GED or high school diploma; individuals that have been continuously unemployed for six months; populations that have been emancipated from the foster care system; United States veterans; residents in an area that falls into the top twentieth percentile for the CalEnviroScreen 4.0 score; or members of tribal communities. The objectives will also prioritize the development of environmental stewardship standards.

We believe this project is an excellent opportunity to facilitate community engagement and workforce development opportunities. The County has had 37 declared disasters over the past 20 years, and the impacts of climate change have been acutely felt by all members of our community. This coming weekend the community will come together to acknowledge the anniversary of the 1/9 debris flow event that claimed 21 lives six years ago. This tragedy resulted from one of the largest fires in California history followed by an unprecedented and intense rain event. In general, members of our community are engaged in and supportive of bold climate action. At both the County and the city levels, our constituents have empowered

local government to pass bold climate action targets. This includes the City of Santa Barbara that is on track to achieve their 100% Renewable Energy target by 2030; one of the most aggressive renewable energy goals in the country.

With the GLPVPP project, the County has the opportunity to generate climate action impact that not only supports our entire local community, but also creates national and international impact. Deploying VPPs is an important part of the global energy transition required to combat the climate crisis. In addition to facilitating GHG reductions, one of the most important aspects of VPP deployment is the ability to improve electric system resilience which is critical to effective climate adaptation. However, while there are examples of innovative VPPs being deployed to improve resilience, there are far too few and none exist in deregulated energy markets. We have an opportunity to create an innovative technical solution, but perhaps more importantly an innovative execution model, for deploying "islandable" VPPs that can both reduce system-wide GHG emissions and improve system-wide resilience.

As evidenced by the diverse coalition of project partners listed herein, we believe that we have already successfully generated a lot of community support for this project and have the ability to unite a very broad coalition of community members in support of this project moving forward. We are confident that community support will lead to truly excellent outcomes from both a labor and a workforce development perspective.

Identify Community Benefits Plan elements that will support Diversity, Equity Inclusion, and Accessibility, including methods to ensure accountability to specific goals throughout the project.

3,652 characters out of 4,000-character limit.

The County has begun conversations and is committed to working closely with SCE and the International Brotherhood of Electrical Workers (IBEW) to refine and execute this project. All organizations focus on Diversity, Equity, Inclusion, and Accessibility.

The County acknowledges that longstanding decades of repeated individual and systemic racism and violence have had harmful consequences over many generations and has adopted a Statement of Commitment to Equity and Inclusion. The County of Santa Barbara is dedicated to implementing programs that reduce socioeconomic disparities. The County believes in embedding equity in all policies, institutional practices, and systems. It commits itself to cultivating and sustaining an equitable and inclusive environment everywhere and at all levels of its organization. Equity and inclusion are vital to fulfill the County's mission and to embody a culture of "One County, One Future."

In addition, SCE has achieved significant accomplishments in this area. SCE acknowledges that the clean energy transition will only be successful if it is equitable for everyone. It must be just, inclusive, and result in socioeconomic benefits for all. SCE's talent pipeline provides scholarships (over \$3.4 million), internships, and mentorships specifically to underrepresented groups. SCE also ensures supplier diversity through their 50% or higher diverse supplier

participation goal for RFPs. They've seen incredible results. In 2022 alone, SCE was awarded "Best Place to Work for LGBTQ+ Equality" by the Human Rights Campaign Foundation; listed among "Best Companies for Latinos" by Latino Leaders Magazine; named one of the "Best Places to Work," by the Disability Equality Index; was a finalist for the National Association of Corporate Directors' (NACD) Diversity, Equity & Inclusion Awards; named one of the "Best Places to Work," by Glassdoor; and listed as a 5-star company by the Hispanic Association of Corporate Responsibility.

The IBEW created the IBEW Strong Initiative that focuses on helping those who have historically been under-represented throughout all IBEW sectors. IBEW Standing Committee identified themes that form IBEW's strategic plan, which includes expanding outreach to recruit members of historically marginalized communities; training and educating all IBEW members on inclusion; offering inclusive opportunities for members to learn leadership skills and engage in local activism; providing opportunities for local union members to take on leadership roles; and documenting and replicating best practices for outreach and inclusion programs.

IBEW supports the implementation of the Biden-Harris Justice40 Initiative, which directs federal agencies to take steps to ensure that at least 40 percent of the benefits from federal investments in clean energy will benefit disadvantaged communities. Hundreds of federal government programs devoted to fighting the climate crisis now have Justice40 requirements.

IBEW supports the implementation of inter-governmental pledges by the Departments of Labor (DOL), Energy (DOE), Commerce (DOC), and Transportation (DOT) to integrate job quality, labor standards, and equal employment opportunity standards across all transportation infrastructure grants; assist state and local government partners and private-sector industry who can identify, train, employ, reskill, and retain a diverse infrastructure workforce; engage stakeholders and develop strategic partnerships, including coalitions that represent underrepresented populations; and support workforce development strategies that are proven to train workers for successful project delivery.

Identify how this project will contribute to the Justice40 Initiative goal that 40% of overall benefits flow to disadvantaged communities.

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Community Projects (CPs) represent 45% of the capacity of the GLPVPP, and roughly 65% of the cost. Community Resilience Hubs and other CPs will be designed to provide resilience benefits to low-income, disadvantaged, and vulnerable populations. As discussed, the transmission infrastructure serving the region presents resilience challenges. In the event of a significant, prolonged transmission system failure, disadvantaged communities will be disproportionately impacted. CRH microgrids would be able to provide critical services and minimize impacts on these vulnerable populations.

As one example, the County is considering developing a Community Resilience Hub that would connect critical resources including a school, a library, a police station, and a fire station and be

able to island these facilities together in the case of an outage. This would be accomplished through a community microgrid connecting these four facilities. This approach will be replicated throughout the region, and the County in partnership with other groups will continue to identify high priority sites for community microgrids that provide resilience, particularly to disadvantaged communities.

The California Public Utility Commission approved the Microgrid Incentive Program in April 2023. The program provides regulatory guidance for building community microgrids that enable private behind-the-meter generators to transmit power across isolated utility-operated distribution circuits during periods of grid disruption. This program provides a clear regulatory path for executing the CRH program. However, without federal funding, there is not an economically viable path to construction. The technical challenges and innovation requirements surrounding community microgrids add significant cost to the overall project. This cost cannot be offset through traditional market mechanisms.

Meeting the County's goal to support the development of several CRHs in the coming years requires investments from a number of agencies. The scope and design of these projects can be further optimized to maximize DAC outcomes if GRIP funding is awarded. Upon award, the 25 MW of CRH capacity will require approximately 12 months of additional development work prior to NTP. A significant portion of that work will be focused on ensuring that the CRH program exceeds Justice40 initiative goals and maximizes benefits for disadvantaged communities as defined by the Climate & Economic Justice Screening Tool (CJEST).