

Voucher 8 Provider Capabilities

Pacific Northwest National Laboratory Energy storage siting and community engagement (VO8-1)
www.pnnl.gov

Capability Title: Energy storage siting and community engagement

Capability Summary: Through work on a series of related projects, PNNL has developed a suite of capabilities that directly respond to the needs identified in this voucher program. As will be described in greater detail below, teams at PNNL in recent years have actively worked with communities to quantify the targeted benefits that energy storage can provide to them and assisted those communities in developing plans for deploying projects in a way that will equitably distribute benefits across community members. This multi-disciplinary capability has been enabled by several core capabilities at the lab, such as energy storage and microgrid modeling tools, energy system engineering, energy infrastructure siting (including a particular emphasis on siting energy storage technologies), and energy policy and regulatory expertise. Collectively, these capabilities enable PNNL to provide the type of holistic, community-focused support envisioned by this voucher program. A key lesson learned from these efforts—one that informs and guides PNNL’s interactions with communities—is to let communities lead. In these partnerships, our role is to support communities with the information, tools, and analysis they need to realize their self-determined objectives.

Capability Core Competencies: Community engagement: In working with communities across several projects, PNNL has identified three guiding principles for successful community engagement: 1. Community needs and objectives vary significantly across and within communities; 2. Communities must lead the process of determining objectives and needs; and 3. Assistance must meet communities where they are. Energy storage siting and permitting: Energy storage is flexible, scalable, and emission free. These characteristics allow it to be placed closer to customers, which creates the potential for conflicts with other land uses. Safety risks exacerbate these conflicts. Siting energy storage requires risk-informed processes that balance the benefits of energy storage with the necessary mitigations to protect the community. PNNL is actively working in this space and developing materials that can inform and guide these processes. Energy storage modeling: PNNL has developed a suite of energy storage modeling tools that can assist communities in identifying the benefits of energy storage.

Capability Qualifications and Credentials: PNNL’s qualifications and resources for this voucher program are primarily captured in its people – the scientists, engineers, economists, and analysts who perform the work identified in the projects above. Collectively, this team possesses various types of expertise and certifications. Resources that could be used in supporting communities include energy storage modeling tools and engineering software.

Capability Background: PNNL’s capabilities in this space are captured in two programs. The first, Energy Storage for Social Equity, involved a multidisciplinary PNNL team working with 14 tribes and communities from around the country to identify how energy storage could fit into their objectives and opportunities for integrating storage technologies. Work in this program included load analysis, basic engineering designs, energy storage system and microgrid modeling, community engagement, regulatory engagement, and community benefit measurement. This capability is reinforced by additional, complementary work done in the Office of Electricity Energy Storage Program, where PNNL’s policy and regulatory team is actively working on the challenging subject of energy storage siting, having produced a guidance document for local jurisdictions trying to site energy storage projects and/or develop zoning ordinances specific to energy storage. The work has been cited by the American

Planning Association and cited in multiple local zoning proceedings, and additional reports are forthcoming.

Inputs required from Recipient: Successful community assistance requires collaboration between community members and the provider to help the community express its goals and co-develop a plan for achieving them. Our initial input requirements would be minimal and only used to determine initial staffing for the project. We would simply request a general statement of the community's overall goals and what the community hopes to receive from the assistance, with the mutual understanding that those goals and needs can change as the process unfolds. We would also request a brief description of the organization(s) that applied for the voucher and their role in the community.

Geographic Constraints for the Capability: We do not anticipate any geographic constraints. PNNL has worked with partners and completed projects around the country.

Capability Critical Details: Successful community assistance efforts require a team that can balance the expertise to provide the requested assistance with the deference to yield to the community's leadership. Only when the community establishes the objectives and leads the co-development of a plan for reaching those objectives can a community assistance program be successful. PNNL has learned this lesson and refined its approach across several projects and many communities, and is ready to apply that approach to voucher recipients in this program.

How many weeks the capability will take: 40

Midpoint Milestone Description: Workplan finalized with recipient

Final Milestone Description: Workplan complete

1728 Solutions, LLC, Model-Based Decision-Making (MBDM) and Organizational Friction-Reduction (OFR) for Community Development (VO8-2)

Voucher 8 Provider Capabilities

1728 Solutions, LLC Model-Based Decision-Making (MBDM) and Organizational Friction-Reduction (OFR) for Community Development (VO8-2)
<https://1728.solutions>

Capability Title: Model-Based Decision-Making (MBDM) and Organizational Friction-Reduction (OFR) for Community Development

Capability Summary: To synchronously and asynchronously facilitate connections among people, models, and data necessary for project planning, organization coordination, and team success, the key deliverables and deployments from the Voucher Project include and are not limited to: codebase CI/CD, model coordination documentation (architecture documents, user guides, roadmaps to future modeling capabilities and activities), verification and validation plans and reports, digital twinning technology readiness assessments, new product introduction design decision logs and stage gate reports, communication plans for interfacing with the public and permitting agencies about technology siting and encroachment, trust-building documentation and relationships with the public and permitting agencies, strategic plans, quarterly strategic hygiene plans, growth assessments, growth assessment update plans, post mortem analyses, bespoke (team specific) conflict resolution and feedback plans, and decision discovery and justification tools. The Voucher Provider and the Voucher Recipient will discover together and agree upon the set of deliverables and deployments that will strategically support the Recipient's decision-making and friction-reduction to (set and/or) meet their intentions.

Capability Core Competencies: The Voucher Provider brings 28,000 hours of renewable energy startup experience. Comprising 23,000 hours of Simulation Engineering are the development, maintenance, and operation of proprietary and validated heliostat field, plant system, and techno-economic models at eSolar & Heliogen. Comprising 5,000 hours of Management are the growth of a team from 1 to 12, the identification and professional development of line management within the team, exporting a successful onboarding process company-wide, and providing company-wide conflict resolution, mentorship, and strategic planning services. 1728 Solutions has seen first-hand what works and what doesn't for technology and people to interoperate. Deploying a collection of human-centered technologies & processes can help a Voucher Recipient meet and exceed the professional and personal challenges that face Community Development with joy and enthusiasm.

Capability Qualifications and Credentials: David Gross, Founder & President of 1728 Solutions, holds a B.S. in Mathematics from Harvey Mudd College, conferred in 2008, with 3 Major Concentrations (in Pure Math, Applied Math, and Scientific Computing), and a Humanities Concentration in Literature. At eSolar, Gross completed corporate training in Project Management and ISO 9000 compliance, published in Energy Procedia, and patented in the US. At Heliogen, Gross received personal executive coaching in management (specifically feedback, delegation, and concise messaging) and completed Engineering Manager training, both from The Executive Advisory. He also presented at SolarPACES in Daegu and online, and published each in AIP Conference Proceedings. In 2023, Gross incorporated 1728 Solutions, LLC (1728) and since has provided hundreds of hours of decision-making, business development, and professional development to energy startups and established small businesses. At 1728, Gross received a Positive Intelligence Grant for Coaches (Cohort 17).

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Capability Background: Gross's publications "Statistical Analysis and Verification of Performance for CSP Subsystems" (<https://doi.org/10.1016/j.egypro.2015.03.092>), "Solar field modeling and verification" (<https://doi.org/10.1063/5.0030111>), and "Simulation, control, and verification of novel closed-chain kinematics" (<https://doi.org/10.1063/5.0087180>) represent successful verifications & validations enabling critical data-based business decisions. Deployments of those systems--23,712 eSolar SCS5 Heliostats and ~500 Heliogen heliostats of multiple generations--have, as of June 2024, accrued over 700 million operational heliostat-hours. Proprietary and unpublished works by Gross on assembly-line reflector surfaces, population quality targets, and plant maintenance scheduling all directly added value at eSolar & Heliogen. Right-sizing a New Product Introduction is a core Product Development Lifecycle activity to which Gross brings over 15,000 hours of experience as a developer, product/project/program manager, and people manager. Gross's competencies as a science communicator earned him the trusted Heliogen Engineering role to support Business Development in Glint/Glare & Encroachment discussions with the Audubon Society, the DOD, the DOE, and other permitting agencies."

Inputs required from Recipient: Discovery at 1728 takes the form of 3Ds (what Decision needs to be made with what Data and Due when) and 5Whys as a root-cause justification for all of us to be working on that decision with that data in the given timeframe. This process is implemented at large and small scales in order for us to collectively agree on a New Product Introduction process of the right size for the right product.

Geographic Constraints for the Capability: While 1728's services are primarily delivered online, 1728 is situated near a Small Hub airport in CA and can participate in quarterly or other special offline summits as required by or designed into the project plan.

Capability Critical Details: 1728's model-based decision-making and organizational friction-reduction services are broadly agnostic to equipment specification or organizational structure.

How many weeks the capability will take: 24

Midpoint Milestone Description: Discovered metrics of decision-making and friction-reduction are reevaluated for suitability in the second half of the project.

Final Milestone Description: Evolved metrics of decision-making and friction-reduction are evaluated for success and further recommendations at the end of the project.

Boundless Impact Research & Analytics , VO-8– Boundless LCA Calculator Tool to Support Long Duration Energy Storage (LDES) Community Development (VO8-3)

Voucher 8 Provider Capabilities

Boundless Impact Research & Analytics VO-8– Boundless LCA Calculator Tool to Support Long Duration Energy Storage (LDES) Community Development (VO8-3)
<https://www.boundlessimpact.net/>

Capability Title: VO-8– Boundless LCA Calculator Tool to Support Long Duration Energy Storage (LDES) Community Development

Capability Summary: The Boundless LCA Calculator quantifies the potential environmental outcomes of different operational or product scenarios. It provides community leaders with a decision-making tool and stakeholders with comprehensive guidance to improve their climate and environmental impact. It offers immediate feedback for customizable scenarios as communities seek to better understand their environmental footprint and further develop and scale their technology. The calculator tool can either be industry specific or community specific and allows the user to evaluate how their environmental impact changes based on varied inputs and input quantities. The Boundless LCA Calculator tool includes an interactive, Excel-based LCA Calculator. This product will allow communities to alter their LDES solution, or other inputs, to see the resultant change in their emissions associated with those decisions

Capability Core Competencies: Boundless provides decision support and information tools for assessing the environmental impacts and technical efficiency of emerging technologies. These tools analyze multiple factors, including, but not limited to, costs, supply chain climate impacts, human and environmental toxicity, and greenhouse gas (GHG) impacts. The Boundless approach provides spider graphs to holistically assess data, bar charts to explain each Environmental Key Performance Indicator (EKPI) that we analyze, reports that provide important context, and other infographics and data that facilitate the rapid, rigorous, and consistent assessment of emerging clean technologies. Our industry analytics also provide direct comparison of specific technologies to industry peers, focusing on key environmental performance.

Capability Qualifications and Credentials: Boundless is an industry research and environmental impact analytics firm that provides objective and actionable information to move investment dollars more quickly toward clean technologies and companies driving positive environmental change. We employ a science-based, data-driven approach, grounded in the proven LCA methodology. The scores and metrics derived are trustworthy and reliable because they are unbiased and validated by external industry and/or scientific experts. Boundless' LCA incorporates conventional LCA databases, tools, and scientific literature reviews, and has a deep network of over 1,000 industry experts at leading universities and consulting groups around the world who provide independent validation and peer reviews for our LCAs. We also have a Scientific Advisory Council made up of LCA and environmental impact measurement experts who guide, advise, and help refine our science-based methods, to ensure we are maintaining the highest standards in our work.

Capability Background: Boundless has completed assessments of hundreds of clean-tech products and projects in renewable energy, LDES, circular economy, food and ag technologies, bioenergy and bioproducts, and advanced materials. Our proprietary methodology and expert-validated dataset enable us to streamline and automate data collection and produce highly accurate and actionable industry and company analytics that are used to de-risk clean technologies, manage environmental impact reporting, and differentiate products. Boundless has assessed a variety of LDES technologies

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ranging from lithium-ion batteries, flow batteries, lead-acid batteries, zinc batteries, mechanical energy storage, and other storage methodologies. Some of these reports have been produced in partnership with the Energywerx platform and the information provided has been used to streamline storage pathways, minimizing environmental impact while maximizing storage potential.

Inputs required from Recipient: Our projects are comprehensive and require customer cooperation to maximize effectiveness. As such the following is required from our customers: An extensive and completed Request for Information (RFI), produced in a timely manner, detailing material and resource use per unit of product/technology, including all phases of production from raw materials to grave. Cooperation and communication, including participation in two to four 30-minute virtual meetings as well as email communication throughout the process to ensure the reliability and accuracy of data.

Geographic Constraints for the Capability: We are capable of working with teams across the country with the understanding that time zones will require flexibility regarding meeting times from both teams.

Capability Critical Details: For matching purposes, it may be relevant to match communities who are looking to receive an estimate of LDES environmental impacts to Boundless' Calculator LCA capability and communities who are looking to see a more in-depth analysis of LDES implementation in their community with Boundless' Rapid LCA.

How many weeks the capability will take: 6

Midpoint Milestone Description: The midpoint milestone will be met when the first draft calculator has been completed and sent to the Voucher Recipient.

Final Milestone Description: The final milestone will be complete when the final calculator, with revisions incorporated, has been sent to the Voucher Recipient.

Boundless Impact Research & Analytics, VO-8– Rapid Life Cycle Assessment to Support Long Duration Energy Storage (LDES) Community Development (VO8-4)

Voucher 8 Provider Capabilities

Boundless Impact Research & Analytics VO-8– Rapid Life Cycle Assessment to Support Long Duration Energy Storage (LDES) Community Development (VO8-4)
<https://www.boundlessimpact.net/>

Capability Title: VO-8– Rapid Life Cycle Assessment to Support Long Duration Energy Storage (LDES) Community Development

Capability Summary: Boundless’ Rapid LCA follows rigorous ISO guidelines but is performed at a fraction of the time and cost compared to ISO-Compliant LCAs. Boundless proposes to conduct an Environmental Impact Assessment and write an Environmental Impact Report for the Voucher Recipient. Boundless will conduct an independent modeling assessment using proprietary methodology supplemented by literature review and independent expert analysis. Boundless will quantify the impact metrics relevant to LDES implementation and customize a use-phase analysis to the community of interest specifications. Boundless’ Rapid LCA will provide communities who wish to benefit from the decarbonization, resilience, affordability, and workforce benefits of energy storage with a case study assessment to determine the most impactful LDES deployments and facilitate technology solution decision-making. Boundless’ report will highlight details about environmental performance, operations, and growth with community and environmental impact in mind. Boundless will work with each Voucher Recipient to tailor their assessment to the needs of their municipality, expectations, and timeline. We will propose industry-specific environmental metrics and work with your staff to find the metrics most applicable to your technology. Our objective is to provide valuable insights on the environmental impacts associated with the supply chain, production system, and operational life cycle of LDES implementation.

Capability Core Competencies: Boundless provides decision support and information tools for assessing the environmental impacts and technical efficiency of emerging technologies. These tools analyze multiple factors, including, but not limited to, costs, supply chain climate impacts, human and environmental toxicity, and greenhouse gas (GHG) impacts. The Boundless approach provides spider graphs to holistically assess data, bar charts to explain each Environmental Key Performance Indicator (EKPI) that we analyze, reports that provide important context, and other infographics and data that facilitate the rapid, rigorous, and consistent assessment of emerging clean technologies. Our use-phase analytics also provide direct comparison of different LDES solutions, focusing on key environmental performance.

Capability Qualifications and Credentials: Boundless is an industry research and environmental impact analytics firm that provides objective and actionable information to move investment dollars more quickly toward clean technologies and companies driving positive environmental change. We employ a science-based, data-driven approach, grounded in the proven Life Cycle Assessment (LCA) methodology. The scores and metrics derived are trustworthy and reliable because they are unbiased and validated by external industry and/or scientific experts. Boundless’ LCA incorporates conventional LCA databases, tools, and scientific literature reviews, and has a deep network of over 1,000 industry experts at leading universities and consulting groups around the world who provide independent validation and peer reviews for our LCAs. We also have a Scientific Advisory Council made up of LCA and environmental impact measurement experts who guide, advise, and help refine our science-based methods, to ensure we are maintaining the highest standards in our work.

Boundless Impact Research & Analytics, VO-8– Rapid Life Cycle Assessment to Support Long Duration Energy Storage (LDES) Community Development (VO8-4)

Boundless Impact Research & Analytics, VO-8– Rapid Life Cycle Assessment to Support Long Duration Energy Storage (LDES) Community Development (VO8-4)

Capability Background: Boundless has completed assessments of hundreds of clean-tech products and projects in renewable energy, LDES, circular economy, food and ag technologies, bioenergy and bioproducts, and advanced materials. Our proprietary methodology and expert-validated dataset enable us to streamline and automate data collection and produce highly accurate and actionable industry and company analytics that are used to de-risk clean technologies, manage environmental impact reporting, and differentiate products. Boundless has assessed a variety of LDES technologies ranging from lithium-ion batteries, flow batteries, lead-acid batteries, zinc batteries, mechanical energy storage, and other storage methodologies. Some of these reports have been produced in partnership with the Energywerx platform and the information provided has been used to streamline storage pathways, minimizing environmental impact while maximizing storage potential.

Inputs required from Recipient: Our projects are comprehensive and require customer cooperation to maximize effectiveness. As such the following is required from our customers: An extensive and completed Request for Information (RFI), produced in a timely manner, detailing material and resource use per unit of product/technology, including all phases of production from raw materials to grave. Cooperation and communication, including participation in two to four 30-minute virtual meetings as well as email communication throughout the process to ensure the reliability and accuracy of data.

Geographic Constraints for the Capability: We are capable of working with teams across the country with the understanding that time zones will require flexibility regarding meeting times from both teams.

Capability Critical Details: For matching purposes, it may be relevant to match communities who are looking to receive an estimate of LDES environmental impacts to Boundless' Calculator LCA capability and communities who are looking to see a more in-depth analysis of LDES implementation in their community with Boundless' Rapid LCA.

How many weeks the capability will take: 8

Midpoint Milestone Description: The midpoint milestone will be met when the preliminary results report has been completed and sent to the Voucher Recipient.

Final Milestone Description: The final milestone will be complete when the report has been reviewed by experts and sent to the Voucher Recipient.

Voucher 8 Provider Capabilities

ELECTRIC POWER RESEARCH INSTITUTE, INC Hazard Mitigation Analysis and Emergency Response Plan (VO8-5)
epri.com

Capability Title: Hazard Mitigation Analysis and Emergency Response Plan

Capability Summary: Understanding emerging technology safety is important to those who own and operate storage, as well as to communities where they will be located. This project aims to help provide practical resources for those looking to deploy energy storage and can aid in the discussion with community stakeholders about safety risks and mitigation strategies. Specific tasks include performing a hazard mitigation analysis (HMA) and developing an emergency response plan (ERP) for either a planned demonstration or for a pre-defined reference case. The hazard mitigation analysis will leverage the ESIC Energy Storage Reference HMA. EPRI will perform a design review, review potential hazard pre-conditions, review pertinent literature, conduct a workshop with the recipient and relevant parties (e.g., technology providers, integrators), and develop targeted guidance to support safety audits. A report will document findings and recommendations. EPRI will also incorporate generalized learnings into the ESIC reference guide to support facilitation of transparent hazard discussion for future projects. Using the information from the hazard analysis, an emergency response plan will be developed. This includes additional coordination with first responders or other local authorities. The output will be a site-specific or reference case study emergency response plan plus a virtual training workshop.

Capability Core Competencies: For more than five decades, EPRI's team of scientists and engineers have worked with energy companies, government agencies, and technology developers to accelerate the adoption of new energy storage technologies. Founded in 1972, EPRI is an independent non-profit energy research, development, and deployment organization. The institute collaborates with hundreds of organizations representing the energy sector, academia, and governments, in 45 countries around the world. EPRI staff has expertise in technology development and evaluation, cost and performance assessments, benefit analyses, lab testing, field deployment, and commercial operation, including firsthand experience with hundreds of proposed energy storage technologies and products. EPRI established the Energy Storage Integration Council in 2013, a collaborative effort with more than 2,200 participants to address technical and operational issues associated with energy storage systems and advance the deployment, safety, and integration of these systems.

Capability Qualifications and Credentials: EPRI has performed HMAs for over 10 utility-scale BESS and developed extensive tools and guidance documents to support safe deployment. EPRI has conducted safety reviews of several technologies including lithium ion, flow batteries of varying chemistries, and iron-air batteries.

Capability Background: EPRI is conducting a phased research program titled BESS Fire Prevention and Mitigation. This program is focused on characterizing the risks of energy storage, developing best practices for deployment and operation, and conducting site-specific hazard mitigation analysis and emergency response plans. This research program also considers codes, standards and regulations related to storage safety, and provides training for various stakeholders that may interact with storage systems. Through these projects, 10 public-facing generalized resources, templates, and guides were developed to support the industry as a whole.

Inputs required from Recipient: Adequately providing these capabilities requires support by not only the recipient but the technology provider for the project being evaluated. Information required may include equipment specifications, installation and operation manuals, design drawings, certification testing data (e.g., UL 1973 and 9540A test results). Recipients are also expected to participate in workshops.

Geographic Constraints for the Capability: No geographical constraints

Capability Critical Details: See inputs required from voucher recipients.

How many weeks the capability will take: 12

Midpoint Milestone Description: Hazard Mitigation Analysis Workshop

Final Milestone Description: Final Documentation Delivery and Emergency Response Plan Training

Voucher 8 Provider Capabilities

Grand Summit Group, LLC New Technology Evaluation, Selection, and Implementation Feasibility Package (VO8-6)
<https://www.grandsummit.co/>

Capability Title: New Technology Evaluation, Selection, and Implementation Feasibility Package

Capability Summary: The proposed New Technology Evaluation, Selection, and Implementation Feasibility Package will provide a set of detailed research, analysis, and custom strategies to a community considering an innovative, first-time LDES technology to ensure commercial success of the project. The scope will include five report deliverables consisting of a Community Wants, Needs, & Requirements Report; Project Performance & Economic Assessment; Technology Economic & Feasibility Assessment; Technology Validation & Certification Assessment; and a Project Implementation Roadmap. The goal of this package is to: Aide the client to document the objectives and requirements of the project in written form, and analyze the overall project economics factoring in technology price, performance, and O&M impacts. Assess 3 to 5 technology options for performance and economic impacts of each to the project, assess the risks of each option, and compare all options to determine the leading 1 to 2 options. Evaluate the leading option's validation & certification work to identify any gaps or risks and make a final recommendation. Generate a high level project schedule, rough budget, and implementation plan for the project. A detailed breakdown of the package scope and estimated effort has been included in the attached Work Sample document for more information.

Capability Core Competencies: Grand Summit Group offers expert consulting services to technology innovation companies and their customers to maximize the chances for success of first of a kind installations. We survey the market to deeply understand both product and project requirements. We use this information to generate detailed project performance and economic models to anticipate the feasibility and impact new technologies have. We perform reviews of product validation and certification work to assess compliance with project requirements and identify gaps. Finally, we help companies execute on project development activities unique to deploying first of a kind technologies into a demonstration project environment. This suite of expertise is critical to assuring success at even the earliest phases of technology development.

Capability Qualifications and Credentials: Peter Ciulla, founder and principal partner of Grand Summit Group, has over 20 years of experience in hardware product development, transition to production, and product deployment. For the first decade of his career, Peter worked for several Fortune 500 multi-industry product manufacturing companies like Textron and ITT where he worked as both a hardware engineer and as a Lean Six Sigma Black Belt. For the next decade, Peter has worked with Cleantech companies such as eSolar, Heliogen, and CarbonCapture develop and launch multiple innovative products. Prior to consulting, Peter has been a founding team member at a startup with a multi-billion dollar exit, an executive team member, and a founder & CEO. For several years, he has worked as an industry reviewer of DOE grants, and has a Masters of Science in Mechanical Engineering from UC San Diego.

Capability Background: We have helped many organizations including eSolar (Sierra SunTower Project), Heliogen (Lancaster Demonstration and Testing Facility), CarbonCapture (Project Bison), and Continuum Renewables (project to be announced) achieve success on projects that deploy first of a kind technology. Our most recent work and perhaps most relevant is a current engagement with

Grand Summit Group, LLC, New Technology Evaluation, Selection, and Implementation Feasibility Package (VO8-6)

Continuum Renewables to drive the project development for their novel LDES technology into a demonstration project setting. Despite the differing technology of each company, the framework for project modeling, technology evaluation, and project planning remains consistent and is our core competency. All of the tasks proposed in this package have been implemented successfully for these companies' projects and are "tried and true."

Inputs required from Recipient: For the project to be successful, we will need from the recipient any background information about the community, requirements for the project, and project economics. Any gaps will be filled as a part of the proposed scope. Additionally, we will need a list of the technologies being considered and contacts at each technology company from which to obtain information used to generate the detailed assessments.

Geographic Constraints for the Capability: Located in the Los Angeles region of California, Grand Summit Group has worked effectively with clients across the US and globally. By leveraging a suite of remote collaboration tools (including Microsoft Teams, OneDrive, and SharePoint), we are confident that we can effectively service clients throughout the US. Additionally, our Pacific home time zone enables easy coordination with both Eastern time zones and the further west time zones of Alaska and Hawaii.

Capability Critical Details: Our best fit client would be a community looking to deploy a highly innovative technology from several options that would benefit from a deeper understanding of project requirements, project economics, technology risks and feasibility, technology validation and certification, and a project development road mapping.

How many weeks the capability will take: 20

Midpoint Milestone Description: Completion of Community Wants, Needs, & Requirements Assessment; Project Performance & Economic Assessment; and Project Model Technology Scenarios Analysis.

Final Milestone Description: Completion of Technology Economic & Feasibility Assessment; Technology Validation & Certification Assessment; and Project Implementation Roadmap.

Voucher 8 Provider Capabilities

Fedsprout Community Engagement (VO8-7)

<https://www.fedsprout.com>

Capability Title: Community Engagement

Capability Summary: Fedsprout offers community engagement consulting services for long-duration energy storage projects. These services include identifying relevant stakeholders and community partners, conducting stakeholder analysis, and developing plans to obtain community feedback through surveys. We also identify key project information about long-duration energy storage to be shared within the community. Fedsprout reviews community feedback and analyzes the information performing regression analysis if needed and helps develop engagement strategies and activities to address community concerns, providing guidance on budgeting for these activities. Additionally, we offer advice on creating agreements with stakeholders to build accountability, if needed, and assist in developing metrics for successful engagement. The recipient of this service will receive a final report documenting community engagement plans, a list of stakeholders, and the guidance provided throughout the consultation.

Capability Core Competencies: Fedsprout assists organizations in developing Community Benefits Plans and supports research and development organizations by creating DEI and PIER plans. For community benefits, we employ experts with direct experience working with communities facing environmental justice issues and disadvantaged populations. Our work relating to community benefits is strategic in using best practices, past knowledge, and experience to formulate ideas and creative ways to benefit communities and develop metrics. We consult with individual communities and local organizations to develop tactics specific to those communities. Our experts have also worked within organizations focusing on improving their own policies and procedures, such as hiring practices. We are expert writers and planners.

Capability Qualifications and Credentials: Fedsprout's team comprises energy storage experts, former utility and municipality managers, community engagement specialists, DEI experts, sustainability specialists, environmental science experts, environmental justice experts, and workforce development professionals. We work with end users (including utilities) that deploy electrification technologies such as energy storage systems and have assisted numerous utilities nationwide by developing community benefits plans and engagement strategies. We have worked within both rural and urban communities with varying demographics. We have developed in-house, proprietary document templates for community benefits planning, approaches, and training materials to educate and provide guidance around community benefits. We conduct community benefits workshops to help develop an understanding of best practices and goals.

Capability Background: A few examples of past and current efforts include:

1. We are assisting a foreign energy storage system developer in finding funding opportunities to deploy their solutions in the U.S. and identifying communities and partners to positively impact disadvantaged communities.
2. We have helped develop community benefits plans and community engagement strategies for various utilities nationwide. In this capacity, we have worked strategically, educating our clients, brainstorming with them, and developing creative approaches to maximize community benefits and minimize impacts. We have assisted them with developing budgets around community engagement and benefits. We have also provided guidance on developing MoUs with potential partners.

Fedsprout, Community Engagement (VO8-7)

Inputs required from Recipient: Are you targetting a contiguous geographic location and what is the expanse of your project (in population and square miles)? How have you done community outreach in the past and why do you need help with community engagement?

Geographic Constraints for the Capability: We will assist with finding partners and collaborators only in the U.S. We already provide our services across all U.S. states and have no restrictions of geographic location within the U.S. We work remotely with local stakeholders to ensure that the strategies and tactics for a given community are appropriate and that information is disseminated through trusted sources.

Capability Critical Details: Organizations that are specifically unfamiliar with the CBP pillars can learn and gain insights into how to ensure technologies can make an equitable impact. Moreover, Fedsprout follows a scientific and structured approach that follows first principles of community engagement. If the recipient is seeking expert community engagement guidance and new ideas that can maximize the acceptance of their projects and the positive impacts, then this service should be considered.

How many weeks the capability will take: 40

Midpoint Milestone Description: Report with stakeholders analysis, approaches to gather community feedback, and summary of community feedback

Final Milestone Description: Report summarizing community engagement strategies and associated budget

Voucher 8 Provider Capabilities

Strategen Consulting Inc. Long Duration Energy Storage Roadmap (VO8-8)
<https://www.strategen.com/>

Capability Title: Long Duration Energy Storage Roadmap

Capability Summary: Strategen will conduct a Long Duration Energy Storage Assessment in the geography of the client's choosing. The goal of this assessment is to evaluate the current status of long duration energy storage (LDES) in a given geography, identify opportunities for deployment, and develop recommendations. This will also include a consideration of technology status and a summary of LDES technology capabilities. Recommendations can be customized based on the client's needs but can either relate to the realization of value for a given LDES technology or general market and regulatory recommendations to promote the growth of an LDES economy in a given geography.

Capability Core Competencies: Strategen has conducted detailed economic analysis of storage use cases, modeled the value proposition and potential market size for energy storage at different customer and grid locations across the country, both for behind-the-meter and in-front-of-the-meter applications, and synthesized this information into workshops, reports, and other outreach materials for diverse stakeholders, ranging from the general public to informed policy makers. Strategen has established an effective analytical methodology, has honed its stakeholder engagement skills, and possesses a strong understanding about the value that energy storage can deliver, as well as the market and regulatory changes that will unlock storage's value potential – yielding results best aligned with our clients' objectives.

Capability Qualifications and Credentials: The Strategen team will be led by Jennifer Potter, a former Commissioner with the Hawaii Public Utilities Commission and advised by Janice Lin, Strategen's CEO. Jennifer has a deep understanding of resource deployment, customer equity, and stakeholder perspectives. Janice co-founded the California Energy Storage Alliance in 2009, where she successfully served as Executive Director for ten years, growing the organization into the definitive voice for energy storage in the state and beyond with over 100 active members. Janice also co-founded and for seven years chaired the annual Energy Storage North America conference and expo, the only mission-driven and the leading standalone grid-connected energy storage event in North America. Strategen has also composed a robust support team of analyst-level staff to implement this scope of work guided by the in-depth expertise of core, senior team members. Strategen will prioritize allocation efficiency via the use of lower cost resources when possible.

Capability Background: Strategen developed the Pennsylvania Energy Storage Assessment and Virginia's Energy Storage Study the goal of which was to provide recommendations for policymakers on ways to advance energy storage in the Commonwealth. Strategen also led or co-led many other states' energy storage roadmaps, including the Massachusetts State of Charge Report, the New York Battery & Energy Storage Consortium's "New York City's Aging Power Plants: Risks, Replacement Options and the Role of Energy Storage" report, the Alliance for Affordable Energy & Clean Energy Group's "Assessment of Potential Alternatives for Local Peaking Capacity in the Entergy New Orleans Service Area", the University of Minnesota's Energy Transition Lab led "Modernizing Minnesota's Grid: An Economic Analysis of Energy Storage Opportunities" report, and a White Paper Analysis of Utility-Managed, On-Site Energy Storage in Minnesota developed for the Minnesota Department of Commerce.

Inputs required from Recipient: To develop the Long Duration Energy Storage Roadmap, the following is required from our clients: 1) a defined geographic region (RTO/ISO or state) for project focus; 2) a

summary of the technology or product of focus; 3) if applicable, a summary of community engagement conducted to date and relevant points of contact; and 4) at least 1 point of contact with decision-making ability to work with on a regular cadence.

Geographic Constraints for the Capability: We can support projects in the continental US.

Capability Critical Details: N/A

How many weeks the capability will take: 25

Midpoint Milestone Description: A detailed outline of the Long Duration Energy Storage Roadmap with initial results and draft findings.

Final Milestone Description: Long Duration Energy Storage Roadmap detailing the current landscape, value proposition, and recommendations for a given geography

Voucher 8 Provider Capabilities

Strategen Consulting Inc. Community Engagement and Consensus Building (VO8-9)
<https://www.strategen.com/>

Capability Title: Community Engagement and Consensus Building

Capability Summary: Leveraging its technical background and expert facilitators, Strategen can deliver engaging educational content, consensus building and technical assistance. Strategen recognizes the critical importance of peer sharing and dedicated engagement that enables robust discussions and ensures that diverse stakeholder and expert perspectives are represented. Strategen’s technical subject matter expertise enables us to accessibly communicate complex topics related to resource planning, clean energy technology innovation, and rate design for stakeholders. Our support is estimated and budgeted for 5 months with potential for an extended scope to conduct stakeholder engagement based on the Community Benefits Roadmap. The following outputs are provided at the end of the project and at key milestones during the project. 1) Stakeholder Engagement Matrix: A matrix detailing the key stakeholders impacted by the project, anticipated issues and perspectives, and approaches to engage with them. 2) Community Benefits Roadmap: An internal report with goals, milestones, measurement metrics, priority development opportunities to create local benefits, and a community engagement plan to facilitate community input.

Capability Core Competencies: Strategen is a recognized leader in engaging diverse stakeholders to receive and incorporate input, address concerns, and jointly develop solutions to complex issues throughout the energy ecosystem, especially around emerging technologies. Our approach to stakeholder engagement 1) recognizes that each project and situation is different; 2) meets people where they are; 3) makes engagement accessible; 4) focuses on data-driven and transparent analysis; and 5) utilizes a “listen-first” approach. Our team has experience from developing a webinar program with 8,000+ participants and managing several successful associations, and working with clients such as Utility Commissions, government agencies, and nonprofit organizations to convene stakeholders to discuss emergent technologies and regulatory programs. Strategen also has the necessary storage expertise and industry connections. We founded the California Energy Storage Alliance (CESA) in 2009 and managed its operations until 2022.

Capability Qualifications and Credentials: The Strategen team will be led by Jennifer Potter, a former Commissioner with the Hawaii Public utilities Commission and advised by Janice Lin, Strategen’s CEO. Jennifer has a deep understanding of resource deployment, customer equity, and stakeholder perspectives. Janice co-founded the California Energy Storage Alliance in 2009, where she successfully served as Executive Director for ten years, growing the organization into the definitive voice for energy storage in the state and beyond with over 100 active members. Janice also co-founded and for seven years chaired the annual Energy Storage North America conference and expo, the only mission-driven and the leading standalone grid-connected energy storage event in North America. Strategen has also composed a robust support team of analyst-level staff to implement this scope of work guided by the in-depth expertise of core, senior team members. Strategen will prioritize allocation efficiency via the use of lower cost resources when possible.

Capability Background: Strategen is currently developing a stakeholder engagement map and community benefits roadmap on behalf of the Navajo Transitional Energy Company with funding from ENERGYWERX. Additionally, Strategen has supported the community benefits aspects of multiple GRIP federal funding applications. Further, the Strategen team has extensive experience with economic impact analysis, jobs studies, economic and workforce development, equitable and just transition, and

community engagement and benefits estimation related to both the energy industry and the broader economy. Example clients include the Connecticut Green Bank, Ohio River Valley Institute, New York's PEAK Coalition, the Coalition for Clean Affordable Energy, Glendale Water & Power, and the Green Hydrogen Coalition.

Inputs required from Recipient: To develop an effective stakeholder engagement plan and build consensus, the following is required from our clients: 1) a defined geographic region for project focus; 2) a summary of the technology or product of focus; 3) if applicable, summary of community engagement conducted to date and relevant points of contact; and 4) at least 1 point of contact with decision-making ability to work with on a regular cadence.

Geographic Constraints for the Capability: We can support projects in the continental US.

Capability Critical Details: N/A

How many weeks the capability will take: 20

Midpoint Milestone Description: A matrix detailing the key stakeholders impacted by the project, anticipated issues and perspectives, and approaches to engage with them.

Final Milestone Description: An internal Community Benefits Roadmap with goals, milestones, and metrics and a community engagement plan to facilitate community input.