

**CPRG IMPLEMENTATION GRANTS COMPETITION
COVER PAGE FOR APPLICATION**

APPLICANT INFORMATION

Organization: City of Unalaska, Alaska
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TYPE OF APPLICATION: Lead Applicant for a Coalition
Coalition Member(s): Qawalangin Tribe of Unalaska
FUNDING REQUESTED: \$131,930,000
APPLICATION TITLE: Unalaska Renewable Energy Project

BRIEF DESCRIPTION OF GHG MEASURES: Solar Electric Generation, Wind Electric Generation / Battery Energy Storage System, Geothermal Electric Generation Resource Study, Diesel Generation Coordination & Reserve Sharing.

SECTORS: Electricity Generation

EXPECTED TOTAL CUMULATIVE GHG EMISSION REDUCTIONS

Estimated cumulative GHG reductions for 2025-2030 (in metric tons): 79.9 kMT

Estimated cumulative GHG reductions from 2025-2050 (in metric tons): 527.9 kMT

LOCATIONS:

City: Unalaska **State:** Alaska

APPLICABLE PRIORITY CLIMATE ACTION PLAN(S) (PCAP) ON WHICH MEASURES ARE BASED

PCAP Lead Organization(s): PSEAP prepared by the Alaska Municipal League for the Alaska Department of Environmental Conservation.

PCAP Title(s): 2024 State of Alaska Priority Sustainable Energy Action Plan (PSEAP)

PCAP Website link(s) (if applicable): <https://akfederalfunding.org/cprg/>

List of GHG reduction measures and PCAP page reference for each measure: Wind generation, solar generation, battery storage, geothermal, and diesel generation coordination measures are supported in the 2024 State of Alaska PSEAP, *Community Electric Generation and Transmission Projects*, Remote, Islanded Electric Grids, pg. 44-46, and p. 61.

Section 1: Overall Project Summary and Approach

The City of Unalaska (COU) and the Qawalangin Tribe of Unalaska (QTU), a federally recognized sovereign nation, share a commitment to substantial, long-term greenhouse gas (GHG) emission reductions while simultaneously delivering numerous benefits to community members. The Unalaska area is composed of both COU and several generation plants independently owned and operated by the fish processing companies. There is currently little coordination and planning between COU and independent processors to minimize fuel usage and subsequent GHG within the area. The Unalaska Renewable Energy Project (UREP) is proposed as a holistic approach to climate change that addresses the mitigation of GHG from all generation resources in the region, regardless of ownership. UREP integrates various technological solutions to accomplish both short-term and long-term GHG reduction for multiple power plants owned by various entities. This comprehensive approach is designed to maximize the potential GHG reduction in a region heavily reliant on diesel generation. To achieve year 0-to-5 GHG emission reductions, COU will install 10 MW of wind power capacity in lower Pyramid Valley, 2 MW of solar power capacity on Hog or Amaknak Island, and a 10 MW/20 MWh battery energy storage system (BESS) to offset approximately 35% of COU and seafood processor loads by operating the generation in the entire region more efficiently. By addressing GHG emissions comprehensively across the entire region, it becomes feasible to achieve greater reductions in emissions than if the individual emitters attempted reduction on their own.

In addition to the reduction of GHG from existing diesel generation, in year 0-to-5, COU will complete a geothermal power resource assessment of Makushin Volcano as a means to eliminate all sources of GHG from electric generation in the region. The potential for geothermal generation was first investigated in the 1980's and has been the subject of multiple development interests since. Should the geothermal assessment indicate it can support a project of 30 MWe or more, COU and QTU will work with the Ounalashka Corporation, the geothermal site landowner, and potentially other development partners to construct a geothermal power facility to power the electrical needs of the COU and processors. If supported by the resource capacity, then existing oil fired heating loads will be replaced by electrical heating technologies using clean energy from the geothermal plant without the production of GHG.

In the event that geothermal power development is not feasible, COU and QTU will work to achieve their GHG reduction goals through additional wind and solar power capacity, attempt further consolidation of area wide generation to reduce overall GHG emission. This includes possible replacement of older high GHG engines with newer emissions controlled engines, and will investigate other renewable and/or non-GHG emitting technologies that may prove viable at that time.

COU will serve as the fiscal agent, point of contact, and lead organization for EPA grant management, reporting, and compliance, and the COU will manage the renewable energy projects. As a coalition member, QTU may use existing state, federal, and private infrastructure funding, grants, and cooperative agreements to support the UREP, including existing DOE workforce development funding which may be used for training needs to support the project. The COU will submit a MOA signed by all coalition members by July 1, 2024.

a. Description of GHG Reduction Measures

Unalaska Island is located in the Aleutian Island chain off mainland Alaska where the economy is heavily reliant on the seafood processing industry. The COU operates an islanded micro grid utility that serves a mixture of residential, commercial, and industrial customers and includes processor owned and operated generation plants whose total generation exceeds that of the COU. The industrial customers, primarily seafood processing facilities, operate large refrigeration units during seasonal peaks which are powered by internal combustion engines (ICE). The diesel ICE units on the island are high emitters by today's standards with Tier II or lower EPA emissions ratings. In addition to being individually high emitters, each of the three power plants are operated independently, without consideration of economies gained by common unit commitment and dispatch.

During the 5-year implementation schedule for this project, the GHG emissions from existing diesel-electric generation will be dramatically reduced with a **co-benefit** of reducing hazardous NOX, CO, Sulfur Dioxide, and PM emitted from the ICE units. This reduction will be accomplished by two methods: 1) the displacement of ICE-produced energy with clean energy from wind and solar, and 2) the optimization of independent power plants to operate in a more fuel efficient manner with correspondingly fewer emissions. Solar and wind provide unique benefits to this project and are described in detail in the Technical Appendix. In addition, a grid-forming Battery Energy Storage System (BESS) will tie the various generation and customer loads together to maximize renewable penetration while also allowing peak shaving and reserve sharing among the plants.

GHG Reduction Measures			
Measure	Reduction	Benefits / Rewards	Risks
Measure 1: Solar Power (2 MW capacity)	1.2 kMT/y	Rapid installation, uncomplicated permitting; relatively low capital cost; low risk	New distribution connection; relatively low capacity factor due to maritime climate

Measure 2: Wind Power and BESS (10 MW capacity), Battery Energy Storage System	19.7 kMT/y	Captures Unalaska's most salient renewable resource, the wind; 300% higher capacity factor than solar power. The BESS is essential for high penetration wind power and will add grid resilience and stability.	Moderately energetic wind environment; seismic potential; high instantaneous penetration requires sophisticated integration; Industry-wide production delays
Measure 3: Geothermal (30 MW continuous)	179.4 kMT/y* (maximum potential)	High-output baseload energy production; maximum potential GHG reduction for Unalaska; long operating life	Test wells fail to perform as expected; extreme weather and snowfall at the plant site; construction challenges
Measure 4: Diesel generation coordination & reserve sharing	2.0 kMT/y**	Reduces total fuel used for electric generation among all producers; paves the way for coordinated operation with Geothermal energy	Some generation plants may be constrained due to waste heat requirements, competitive factors among fish processors

* Measure 3 Geothermal GHG reductions were excluded from the cumulative GHG calculations since the project will not be completed under this grant.

** Measure 4 GHG reductions were excluded from reported cumulative due to calculation uncertainty.

Measure 1: *Solar Electric Generation*

To achieve an immediate reduction in GHG, the project will install 2 MW of solar PV panels during year 1. The installation will be strategically located in Unalaska, with a focus on south-facing solar arrays to maximize efficiency and minimize environmental impacts.

Two preferred locations have been identified: Hog Island in the bay and the slopes of Amaknak Island, above the airport. Both sites offer good southern exposure with minimal shading, making them ideal for solar panel installation. The tasks and milestones are below.

- Final selection of the site and securing Right-of-Way (ROW) access.
- Completion of archaeological and environmental studies as necessary.
- Vendor selection and procurement of materials.
- Distribution design and access and array design.
- Milestones include ROW access, permitting, procurement, and installation.

The project is expected to have low impact and be rapidly deployable compared to other proposed measures. It will not significantly affect existing generation and distribution systems and can be

completed before or concurrently with other necessary upgrades. Potential risk areas and risk mitigation are below.

- Cultural resource studies are crucial due to Unalaska's high density of cultural resources. These studies may influence the final location of the solar panel array.
- Right of Way experts will be involved to ensure legal access and will work closely with private and public landowners. Multiple site options will be assessed, with a focus on minimizing costs and impacts.

The solar PV installation project in Unalaska presents an opportunity for immediate GHG reduction while minimizing environmental impacts. With careful site selection, thorough studies, and effective risk mitigation strategies, the project is poised to contribute significantly to the city and the State of Alaska's sustainability goals.

Measure 2: Wind Electric Generation

Project year 2 and 3 will install wind generators and a BESS that will reduce the community's fossil fuel consumption for electric generation by over 30%. This phase will include five 1 MW turbines installed at Obernoi Point in year 2 and five 1 MW turbines installed during year 3 at Pyramid East. The 10 MW/20 MWh BESS will be installed in Year 2 to allow GHG reductions from each wind turbine as they are installed as well as realizing the complete GHG reductions of the solar energy. The City has completed wind studies at Obernoi Point and is ready to immediately progress to the design, permitting, and procurement phase of this portion of the plan.

Wind studies at the Pyramid East site will begin immediately followed by completion of permitting and wind turbine procurement, installation, and commissioning. **Tasks and Milestones** include completion of wind studies at Pyramid East, permitting at both sites, completion of design, procurement of turbines, contractor award, turbine installation, electrical interconnection, installation, and commissioning, and the design, construction, and commissioning of BESS. **Potential risk areas** include relatively high storm winds, moderate turbulence, and the seismic potential of the Aleutian Islands. This applies to the turbines themselves, though these issues have been considered with the turbine model and tower selection, execution of construction activities, and ancillary equipment such as the BESS and electrical equipment.

Risk mitigation will start with a review of the site conditions with turbine vendors to ensure that the offered technology is viable for the site. Turbine technology has matured and we are confident that equipment can be selected for the application. It is expected that Class 1A turbines (the highest wind class) will be required for Pyramid East. Construction activities will be executed by experienced contractors and project managers based in Alaska who will schedule site work around seasonal weather windows. Ancillary equipment, including the BESS, will be housed in weather tight enclosures or indoors. Electrical cabinets and transformer enclosures will be stainless steel to ensure a full operating life.

Two recent studies supporting this measure include: (1) *City of Unalaska Wind Power Development and Integration Assessment Project, Phase II Report, Aug. 6, 2018, V3 Energy LLC.* (2) *City of Unalaska Wind Power Development and Integration Assessment Project, Wind Resource Assessment Report, Feb. 18, 2022, V3 Energy LLC.*

Measure 3: Geothermal Electric Generation Resource Study

It has long been proposed that a geothermal power plant located near the Makushin Volcano could have the potential to deliver 30 MW continuously and provide decades of clean energy to communities on the Island of Unalaska. Publications studying this resource date back to 1982. Most recently, a report commissioned by the Alaska Industrial Development and Export Authority (AIDEA) in 2023 stated *“The characteristics of the geothermal resource appear to be compatible with the planned project, especially as regards the heat resource that is potentially available for exploitation. Because there is so far only one exploratory well that has directly investigated the geothermal reservoir..., some uncertainty remains as to what will be the typical characteristics of wells drilled over a broader area...”* The purpose of this measure is to complete the resource investigation to allow progress toward the next stage of development and funding.

The proposed geothermal project is located on private lands owned by Ounalashka Corporation, a key member of the project team and the Alaska Native Village Corporation for Unalaska. The Ounalashka Corporation directly supported development of this application and is a key stakeholder in future developments.

Features will include a helicopter-supported drilling operation that can be accomplished with minimal environmental impacts. **Tasks** will include design and permitting, site selections (well locations), mobilization of the drilling contractor, and implementing the drill program. **Milestones** will include completion of permitting and well design with assistance from a senior geologist, geotechnical engineer, and geothermal drilling expert. **Potential risk areas** include schedule and cost impacts from extreme weather at the site. **Risk mitigation** will include ensuring a full range of experts are overseeing the project. This project will only be successful with assistance from a senior geologist, geotechnical engineer, and geothermal drilling expert. Weather risks will be mitigated by scheduling work around months of the year known to have the best weather conditions. In addition, a weather delay contingency will be worked into the schedule to ensure success.

Measure 4: Optimized Diesel-Electric Generation

In year 1, COU will develop operating and interconnection agreements between the COU system and each of the fish processing plants to allow for optimized operation of the region’s diesel generation and coordination with the use of the BESS to allow for system peak shaving. Utilization of the BESS will allow certain peaking generation required for only a few hours to be kept off-line, eliminating the associated GHG emissions for these peaking hours. The BESS will also allow generation to be operated more fully loaded, relying on the BESS for contingency and operating reserves instead of keeping additional units

on-line for reserves. In addition, by pooling generation and load requirements, there will be a closer match between generation and load, resulting in an overall increase in efficiency of electrical production and a reduction of GHG. As the pool matures, we believe processors will move towards a complete pooling arrangement, resulting in further GHG emissions as the older and largest emitters are taken off-line.

Tasks to be completed will be installation of improved interconnections with capacity for some processors, installation of additional SCADA points in the COU power plant, SCADA upgrades and new screen layouts to include the BESS, wind and solar projects. SCADA monitoring will be included at certain processor facilities. **Tasks and Milestones** include upgrading the SCADA system to accept the wind and solar data, increase COU and processor monitoring and control points, integrate the BESS into the SCADA system, develop an algorithm to effectively increase the efficiency of the COU/processor power resources and the completion of power sharing agreements between all parties. **Potential risk areas** include the inability to reach agreement with all owners of existing generation. **Risk mitigation** includes working with one or two key processors first to develop the project and show positive results before bringing in all processors.

The GHG reduction calculation for this measure is based on experience that ICE optimization reduces fuel consumption by 5-10%. Assuming a conservative 5% efficiency gain in ICE generation, nominal GHG equivalent reduction would be 2,000 MT/yr after implementation of Measure 1 and Measure 2. Despite the initial uncertainty while this measure progresses through development, this is a low cost, high impact approach to GHG and HAP reduction. The year 1 study will seek to reduce uncertainty by modeling generation options using fuel curves from specific units. Wind generation, solar generation, battery storage, geothermal, and diesel generation coordination measures are supported in the 2024 State of Alaska PSEAP, *Community Electric Generation and Transmission Projects*, Remote, Islanded Electric Grids, pg. 44-46, and p. 61.

a. Demonstration of Funding Need

National competitive funding opportunities are difficult to access for remote, islanded grid communities as the costs are often high for the number of people served and the process of developing a permit application, securing funding, and administering the funding is beyond the manpower of the entity on a routine basis. However, the COU continues to pursue these opportunities as available. The COU has relied on diesel since WWII and has been trying for nearly four decades to find an affordable way to implement renewable energy measures and ultimately displace all diesel usage with a geothermal power plant. However, recent plans of private developers have fallen through, largely due to high start-up costs.

Aging infrastructure of both the COU and the area processors equipment have strained the capability of the city's powerhouse. Moreover, Trident Seafoods is relocating its flagship processing plant to Unalaska which will bring an estimated 650 jobs and over 14 MW of additional demand. A key factor in the

decision to move significant operations to Unalaska is the prospect of purchasing renewable energy from the COU. The Ounalashka Corporation, with the COU, has explored grants from the Department of Energy, Alaska Energy Authority, and the Alaska Industrial Development and Export Authority. However, there has not been a grant opportunity with the level of funding needed to complete or develop a significant portion of the project and/or the required match amount has exceeded the City's budget capability. Additionally, pursuing a private loan with elevated interest rates would inevitably escalate energy costs for community members, thereby exacerbating the already high cost of living in this secluded area. This would further widen the gap in living standards between our community and urban areas linked to national or regional power grids. Thus, securing financial assistance from the EPA is imperative to enable the smooth transition toward a sustainable and robust energy infrastructure reliant on renewable sources.

The COU has a pending award from the Department of Energy for upgrades to the distribution system; essential for accommodating future geothermal energy generation. More specifically, it is congressionally directed spending, GD-0000870 from the National Energy Technology Laboratory, for "Unalaska Aging Infrastructure Replacement." It will connect current islanded self-generators (mainly processing plants) to the City's grid to facilitate transitioning to the City's more efficient diesel generation and ultimately renewables. It is a \$2.5M award with a \$2.5M City match. Although the COU applied for \$1M of matching funds from the Denali Commission, we were recently notified that our request did not receive the matching funds.

QTU received \$2.5 million through the appropriation committee as part of the infrastructure funding announced by the White House in 2022 to go towards geothermal diversification, education programs, and to support the long term vision of geothermal energy generation.

b. Transformative Impact

Environmental Benefits: The project is situated on Unalaska Island in the Aleutian Islands, part of the Aleutians West Census Area of Alaska. For millennia the region has been inhabited by the Unangan people (also known as Aleuts). Unalaska is home to Dutch Harbor, one of the most important fishing ports in the United States. Dutch Harbor serves as a crucial hub for the commercial fishing industry, including processing, storage, and shipping of fish and seafood products. The waters surrounding Unalaska support a thriving ecosystem, with species such as sea otters, seals, sea lions, whales, and various species of fish. Unalaska is in a subpolar oceanic climate zone, which is characterized by persistently overcast skies, high winds, and frequent cyclonic storms which cause frequent power outages. Unalaska often experiences severe weather, high winds gusting over 75 miles per hour, high surf of over 50-foot waves, thunderstorms producing lightning, and blizzard conditions.

Alaska's Bering Sea is particularly vulnerable to the effects of climate change, including warming temperatures, ocean acidification, and changes in sea ice extent and timing. These changes can have significant impacts on marine ecosystems, fisheries, and indigenous communities that depend on them.

By transitioning away from fossil fuels, the proposed project aims to reduce the negative impacts of climate change on marine ecosystems.

Cost Savings: UREP not only aims to achieve significant GHG reduction but also promises substantial cost savings for residents and businesses. Currently, the average monthly residential electricity bill in Unalaska exceeds the state average by 27.6%, amounting to \$175.54 per month. Harnessing power from combined wind, solar, pooled generation, and the Battery Energy Storage System (BESS), UREP will not only provide sustainable energy, but also stabilize customer rates against future fuel cost disruptions. This transition to clean energy options will particularly benefit disadvantaged community members by reducing their energy production impacts. One of the most significant positive impacts of UREP is its ability to provide accessible renewable energy options to low-income and disadvantaged households without imposing any financial burden. This accessibility ensures that those who might otherwise never have the opportunity to access renewable energy can now benefit from its transformative potential.

Moreover, the project aims to deliver more predictable and stable electricity prices for residents, enabling households, businesses, and industries to budget more effectively. The cost savings from lower energy bills will translate into increased disposable income for consumers, stimulating local economic activity and supporting businesses, thereby fostering a thriving and sustainable community. In summary, UREP not only promises environmental benefits, but also offers tangible economic advantages for the residents and businesses of Unalaska, ensuring a more resilient and prosperous future for the entire community.

Community Energy Security & Resilience: Transitioning to renewable energy generation not only yields immediate cost savings, but also plays a crucial role in bolstering the security and resilience of Unalaska's aging and isolated infrastructure. By diversifying its energy resources, the community decreases the risks of damage to associated infrastructure during blackouts, especially amid harsh winter conditions when rapid freeze-ups can harm fragile above-ground water and sewer systems. The integration of renewable energy systems into the existing diesel grid will be transformative, significantly reducing the frequency, duration, and impacts of disruptive events such as blackouts caused by the loss of a single power source such as the COU power plant.

By diversifying Unalaska's energy sources and introducing more stable and sustainable options, this project serves as a lifeline for a community in dire need of enhanced energy stability. In essence, UREP represents more than just a transition to cleaner energy; it is a strategic investment in the resilience and well-being of the Unalaska community. By mitigating the risks of blackouts, the project ensures a safer and more reliable energy future for all residents, even in the face of adverse weather conditions.

Reduced Carbon Footprint for Dutch Harbor: Dutch Harbor is the only deep draft, year-round ice-free port along the 1,200-mile Aleutian Island chain. It provides vital services to vessels operating in both the North Pacific and the Bering Sea and is the operations center for the Bering Sea commercial fishing fleet. For more than 50 years, Unalaska's economy has been based on commercial fishing, seafood processing, fleet services, and marine transportation. It has the western-most container terminal in the United

States and provides ground and warehouse storage and transshipment opportunities for the thousands of vessels that fish in the region or pass through while in transit between North America and Asia.

By transitioning to renewable energy generation, Dutch Harbor could significantly reduce its carbon footprint and contribute to local and global efforts to combat climate change. This is particularly important in Alaska, where climate change impacts are already being felt acutely. Unalaska's role as the largest fisheries port in the U.S. and its strategic trade route location means the impact of the increased resilience and electricity cost is experienced in Unalaska, throughout the U.S., and globally.

Subsistence Community Sustainability: The Bering Sea is particularly vulnerable to the effects of climate change, including warming temperatures, ocean acidification, and changes in sea ice extent and timing. These changes can have significant impacts on marine ecosystems, fisheries, and indigenous communities that depend on them. Indigenous communities such as the Yup'ik, Inupiat, and Aleut have inhabited the coastal regions of the Bering Sea for thousands of years. These communities have deep cultural and subsistence ties to the sea, relying on its resources for food, materials, and cultural practices. Transitioning to clean energy not only preserves the environmental integrity of ancestral lands but also supports traditional livelihoods tied to the land.

Innovation and Technological Advancement: To support the community and the related goals of the project, the Qawalangin Tribe will work strategically and cooperatively with the COU to develop the Renewable Energy and Innovation Center in Unalaska, Alaska. The goal is to develop the Center using existing state, federal, and private infrastructure funding, grants, and cooperative agreements. The Center would be focused on (but not limited to) quantifying GHG reductions and their impacts to the tribal community and community at large, innovative clean technology analysis, creation, and implementation, commission studies with universities and national labs, environmental restoration, food security, weatherization and energy efficiency for home and community buildings, grant writing support for clean energy deployment, workforce development, and communications. A long term transformational goal is realizing the renewable geothermal energy of Makushin Volcano and supporting future geothermal technology development and deployment at scale. The vast thermal resources of the 60 Aleutian volcanoes (500,000MW), larger than any other place on Earth, could be tapped to power large-scale business ventures on these islands to transform the fishing industry, enable carbon-free transportation and shipping, promote, and expand tourism, provide fresh food, and attract large industries to locate on the Aleutian Islands.

Geopolitical Importance: There are global businesses that have operations based in Unalaska. GHG reduction measures provide opportunities for countries to collaborate on shared goals, negotiate agreements, and work together to implement solutions on a global scale. This can foster stronger diplomatic relations and promote peace and stability. Alaska state legislators, city officials and tribal and community leaders have been discussing a greater military presence in the Aleutian Islands. And for the first time in more than 30 years, the U.S. Navy and Marine Corps have held large-scale exercises in the Aleutians designed to test their capabilities in a cold-climate environment. The Navy is resolutely committed to achieving net-zero carbon emissions from its shore installations by 2045. There is a shared

need and priority to increase the training and deployment of renewable energy technologies such as solar photovoltaic (PV) panels, wind turbines, and geothermal systems to generate electricity for shore installations. As the only deep-water, ice-free port from Unimak Pass to Adak that is open year-round, the Port of Dutch Harbor is prime to support operations in the Arctic. The Department of Defense is planning to host a joint force Innovative Readiness Training (IRT) in 2024 in Unalaska to increase readiness.

Job Creation: Construction, operation, and maintenance of renewable energy systems require a skilled workforce, leading to training and employment opportunities in the region. The transition to clean energy creates new job opportunities in tribal communities in the region, contributing to economic development, poverty alleviation, and self-sufficiency. The Aleutian region has systems in place to support partnerships between Municipalities and Tribal Governments such as green jobs programs and initiatives to promote workforce participation in clean energy projects. Ounalashka Corporation estimates that at least 50% of the workforce in current clean energy projects on the Aleutian Chain are DAC/tribal members. The workforce goals will be similar for the Unalaska Renewable Energy Project.

Reduced Out-migration: Households in Unalaska rely on heating oil (with rates that fluctuate from \$3.23/gallon to \$16/gallon) and incur a separate heating fuel bill in addition to their electric bill. The average residential monthly electric bill is \$175.54/month, with many bills for 2-3 bedroom homes exceeding \$300/month. With energy costs being a primary cost input regarding cost-of-living expenses, there also remains additional risk that such cost escalations may result in further out-migration from Unalaska to elsewhere in the nation. Clean energy sources have lower operating and maintenance costs and are not subject to fuel price fluctuations. Lower electric bills help alleviate energy poverty by making energy services more affordable and accessible to all members of society.

When Native peoples are forced to relocate from their ancestral lands due to financial reasons, it represents not only an economic issue but also a profound social, cultural, and environmental injustice with long-lasting consequences for both the affected communities and society as a whole. By implementing these measures in a holistic and culturally sensitive manner, it is possible to stem out-migration from indigenous communities and support sustainable development that respects the rights, aspirations, and well-being of indigenous peoples.

Section 2: Impact of GHG Reduction Measures

Besides carbon dioxide, Homer software that was used to model the system from baseline to project completion with 2 MW solar, 10 MW wind, and a 10MW/20 MWh BESS calculates other environmental pollutant emissions associated with burning fossil fuel for electrical energy generation. These are listed below. See the Technical Appendix for details.

Environmental pollutant summary table

	Baseline		10 MW wind, 2 MW solar, 20 MWh BESS		Reduction	Reduction Quantity	
Pollutant	Value	Units	Value	Units	%	Value	Units
Carbon dioxide	62.2	kMT/y	39.8	kMT/y	36.0	22.4	kMT/y
Carbon monoxide	121.9	MT/y	57.5	MT/y	52.8	64.4	MT/y
Unburned HC	12.9	MT/y	7.9	MT/y	38.8	5.0	MT/y
Particulate matter	2.6	MT/y	1.7	MT/y	34.6	0.9	MT/y
Sulfur dioxide	126.8	MT/y	81.2	MT/y	36.0	45.6	MT/y
Nitrogen oxides	248.5	MT/y	178.5	MT/y	28.2	70.0	MT/y

a. Magnitude of GHG Reductions from 2025 through 2030

COU anticipates 22.4 kMT/year of GHG reduction, or 36% compared to baseline, with 2 MW solar, 10 MW wind, and 20 MWh BESS capacities for the electric load demands of COU itself and the Westward, Alyeska, and UniSea seafood processors. Note that this 22.4 kMT reduction rate will occur during year 3 when the full project build-out is completed. To account for the ramped build out of the project with solar power only in year 1 and wind construction in two phases over the following two years, a phase-in of GHG reduction was calculated. This sums to 79.9 kMT for project years 1-to-5 (2025 to 2030) of the project. See the Technical Appendix for details.

b. Magnitude of GHG Reductions from 2025 through 2050

The project is planned to be completed in year 3 of the project and then operational through 2050. This results in a total GHG reduction of 527.9 kMT/year for the life of the project. See the Technical Appendix for details. Note that these calculations do not include reductions proposed in Measure 4.

c. Cost Effectiveness of GHG Reductions

Measure	Cost (\$)	CO2e Reduction (MT, through 2050)	Effectiveness (\$ per MT CO2e)
Solar Electric Generation	\$8,930,000	30,000	\$298
Wind Electric Generation	\$107,560,000	497,900	\$216
Solar + Wind Generation	\$116,490,000	527,900	\$221
Optimized Diesel-Electric	\$2,500,000	50,000	\$50
Entire Project	\$116,490,000	527,900	\$221

Documentation of GHG Reduction Assumptions

A technical appendix demonstrating the reasonableness of the GHG emission reduction is attached. See [TechAppx_CityofUnalaska.pdf](#)

Section 3: Environmental Results – Outputs, Outcomes, and Performance Measures

a. Expected Outputs and Outcomes

The specific outcome of these measures will be significant and lasting CAP and HAP reduction for the Unalaska region. With diesel fueled ICE power generation is shifted to renewables, every gallon of fuel saved results in a direct reduction of carbon emissions, nitrous oxides, and PM. The high output Internal Combustion (IC) ICE units operated independently and by the city are located in areas of the community populated by low-income and transient workers.

b. Performance Measures and Plan

GHG reduction will be indirectly tracked with Unalaska's integrated Supervisory Control and Data Acquisition (SCADA) control network in the powerhouse. The SCADA system records high-resolution operational data, such as the operational status of all generators and power levels and fuel usage of each. This SCADA system currently only records generation assets in the powerhouse, but will be expanded during this project to include data from the solar farm, wind turbines, and BESS. To measure GHG reduction, COU will calculate expected fuel usage from baseline operations (no solar, wind, and BESS assets) and compare to actual fuel usage. This can be accomplished automatically with algorithms programmed into the SCADA and be high resolution. Summary data extracted from the SCADA will form the basis of reporting to demonstrate to itself and others that the City of Unalaska is meeting its renewable energy goals.

c. Authorities, Implementation Timeline, and Milestones

The projected grant performance period for the project is from October 1, 2024 to September 30, 2028. This schedule allows for long lead times in procurement of equipment and supplies, and severe weather which can cause flight cancellations delaying contractors' travel to Unalaska, and considers the short window for construction activities on Unalaska, typically April through October.

Key contractors, technology vendors, and stakeholders are listed as follows. The contractor team was selected based on directly applicable experience and each was involved in the development of this grant proposal. COU intends to de-risk the project by starting with an experienced team from day one of the project execution.

- **City of Unalaska (COU)** is the lead applicant and will oversee all funding and work under this contract.
- **Qawalangin Tribe (QTU)** is the coalition member and DAC most directly impacted by these measures.
- **Ounalashka Corporation (OC)** is the primary land owner at the proposed development sites for all three measures.
- **Electric Power Systems (EPS)** will be the lead engineering and Right-of-Way (ROW) firm representing COU. EPS will coordinate all design, permitting, and commissioning activities under the oversight and cost controls of the COU project manager. EPS will assist the City in developing interconnect agreements with the processors and upgrading the existing SCADA system. EPS is an experienced consulting firm based out of Anchorage, Alaska with expertise in all aspects of electric power generation and distribution. EPS has done extensive work with COU's electrical infrastructure and controls.
- **3-Tier Consulting (3-Tier)** will provide environmental permitting and cultural resource studies. 3-Tier has several years of experience and onsite knowledge assisting with the development of the proposed geothermal project.
- **Recon, LLC (RECON)** will provide civil engineering, geotechnical engineering, and manage logistics for the geothermal investigation.
- **V3 Energy, LLC (V3)** will provide wind resource studies and GHG reduction modeling. V3 is one of Alaska's leading consulting groups that provides wind studies and has an extensive project history at locations throughout the state.
- **STG Incorporate (STG)** will provide remote logistics and specialized equipment for erecting the wind turbines. STG has more experience than any other company assembling wind turbines in remote areas of Alaska and has spent time at Unalaska during previous studies commissioned by COU to assist with developing a logistics plan.
- **ORMAT Technologies (ORMAT)** will eventually complete development of the geothermal project and has been actively involved as a technology provider and consultant on the Makushin Geothermal Project for several years. During this phase of the project, subsurface specialists will assist with reviewing logs from the proposed drill sites and assist with drill site selection.
- **EWT** is the proposed wind turbine vendor. The extreme weather conditions and remote region of Alaska is best served with 1 MW direct-drive turbines such as those provided by EWT. EWT was recently selected to replace three Class 1A turbines on the South Pole, has a support

network in the State of Alaska, and has specialized experience that is applicable to this application.

- **Hilcorp** will provide geothermal drilling support using a unique helicopter-portable O&G drill rig. Hilcorp actively explores, develops, and operates oil & gas facilities in Prudhoe Bay and Cook Inlet.

Contractor Selection and Cost Controls

Many of the work activities named in this work plan are niche and specialized. Competitively bidding specialty materials or activities can be ill-advised due to the potential for cost overruns if inexperienced contractors are allowed on the project sites. A non-competitive procurement program will be put into place by the COU project manager that will require itemized budgets from all sole-source contractors. In addition, sole-source justifications will be developed for each preferred contractor following guidelines used on similar federal projects. Competitive bidding will be issued, where possible, with a local bidder preference. Examples of work directed to local contractors include telecom, road construction, and concrete materials.

Budget and Schedule Management

The budget provided with this application is a pre-design budget that will require regular updates and revision as the project progresses. The team assumes that the funds requested represent a hard non-contingency amount, and cost overruns will either be carried as a shared cost by COU, or the project will be modified to match with available funds while meeting the GHG reduction targets. During design phases of the project, the COU project manager will require Engineer's estimates at the 35, 65, 95, and IFC design levels. This will allow the PM to address potential cost overruns in advance. Cost estimates will be updated with increasing levels of detail as final cost estimates are delivered by contractors. COU anticipates providing an updated budget with each semi-annual project report produced for the EPA. The project schedule will be updated weekly by COU's project manager to provide a real-time assessment to stakeholders, including the EPA, of the project's health and progress.

Measure 1 Implementation Plan - Solar Electric Generation

Final site selection for the solar installation will begin immediately after award. The initial selection is the South facing bluff above the airport. Members of the design team's ROW group from Electric Power Systems will assess property ownership and ROW access for the electric utility. Purchase or lease agreements will be coordinated with the COU and land owners as needed. Purchase or lease of private lands is not included in this CPRG grant proposal and will be funded by the COU as shared cost. Along with the ROW study, the potential site options will be assessed by the cultural resource and environmental permitting team to ensure that the project will have adverse impacts. Once final site

selection is completed, geotechnical and civil engineering will be performed for foundation design and access.

Solar panel selection and procurement will be initiated while the design team is finalizing site selection. The team's initiative with this measure will be rapid deployment to maximize GHG reduction early in the project development. Design, panel procurement, and site selection will occur during the winter season of 2024-2025 when construction weather conditions are unfavorable. COU will coordinate an installation schedule that is in line with favorable summer weather in 2025 and plan to have the system online within one year of grant award. The rapid design and construction schedule will require efficient management and coordination of subcontractors. COU will have a dedicated project manager working on this measure while other longer-duration projects are underway. Scheduled completion of the solar installation is October, 2025.

Measure 2 Implementation Plan - Wind Electric Generation

Measure 2 includes two project phases of turbine installations and a BESS installation. A geotechnical investigation and LIDAR survey of the proposed turbine sites and BESS location will be initiated as early as possible after award. Concurrently, permitting and other required studies will be initiated for all three sites. It is anticipated that new access roads and major reconstruction of existing access roads will be required to safely move the equipment and turbine components to the sites. The island has an existing batch plant that can produce the large volumes of concrete required for the turbine bases.

The Obernoi Point wind site has already been extensively studied as a wind generation site and can immediately move toward final permitting and procurement of the units. Based on material lead times and a minimum 12-month time period for permitting, it is anticipated that the turbines will be installed and commissioned during the Summer of 2026. These initial five turbines are placed on land owned by COU and will require minimal ROW studies and land ownership negotiations. The team will prioritize turbine procurement during the first months of project award to ensure adequate time for production of long-lead items. Scheduled final commissioning of the Obernoi point turbines is September, 2026 to ensure operational capacity by the start of project year 2.

The Pyramid East site has not yet been directly studied as a wind power site, but is in close proximity to Obernoi Point and modeling indicates that wind speeds will be moderately higher. A LIDAR metrology station will be installed as soon as possible after contract award to begin collecting wind speed data. This will be used to verify turbine performance modeling and confirm our expectation that an IEC Type 1A turbine for high wind speeds will be required. The land is owned by OC, and a land-lease between the COU and OC will be required prior to site work. EPS' ROW team will assist with a complete land-use investigation and assist with preparing legal documentation. Due to the additional wind study, the team will schedule construction of the Pyramid East site 1-year later than Obernoi point. Access roads, distribution, and the BESS will be shared by both sites. Scheduled final commissioning of the Pyramid East turbines is September, 2027 to ensure operational capacity by project year 3.

A 10 MW / 20 MWh BESS will be installed on COU property at a suitable location in the electric grid to support fluctuations coming from the wind turbines as well as provide reserves, peak shaving and contingency operations. The goal will be to have the BESS online and commissioned before commissioning the wind turbines at Obernoi point in the summer of 2026. By including the pooling of COU and processor generation, the wind and solar will be allowed to operate at peak output during all load levels by serving the processor facilities with clean energy when the output of the wind and solar exceeds the COU's demand. In addition, grid stability will be improved and outages reduced.

Procurement of the BESS will begin immediately on NTP as our experience with procuring BESS units for other sites has revealed large cost and lead time fluctuations. In addition, BABA procurement rules will likely limit vendor options. Special design consideration will be given to hardening the BESS against corrosion at the COU power plant location. Since the BESS will be installed on COU-owned property, minimal environmental review will be required. Permitting with the State of Alaska will be required to ensure compliance with NFPA 855 and other applicable codes.

Measure 3 Implementation Plan - Geothermal Resource Investigation

The helicopter-supported drilling program will start field work in the summer of 2026 during a timeframe when there is historically favorable weather conditions and low snowpack. The preparation phase will include a meteorological study to determine the best weather-window in advance of mobilization. Project coordination, including permitting, drill site selection, and design, will start immediately after contract award to ensure success.

The shipping vendor and drilling operator will be brought under contract in 2025 to lock in a drilling schedule for 2026. Up to four wells will be drilled to a depth of 2,000 ft. The drill rigs will be rapidly moved between well locations using a Chinook helicopter with 10 days allocated at each drill site. During demobilization, the helicopter will place the drill rig directly on the barge. After completion of the test wells, geothermal experts will evaluate the findings and determine the best design for the final geothermal installation. It is anticipated that the test wells will ultimately be put into service as part of the complete power plant.

Measure 4 Implementation Plan - Optimized Diesel-Electric Generation

This measure will require an upgrade to existing SCADA control infrastructure. The upgrades will have minimal impacts to existing operations, but will allow coordinated operation of power generation throughout the community. Concurrently, the City will coordinate with producers and negotiate power sale agreements under separate funding. Year 1 will see a power study completed to determine the best optimization approach. New SCADA infrastructure will be implemented during year 2 and 3. Year 4 will see finalization of powersale and cooperative agreements between participating producers.

Section 4: Low-Income and Disadvantaged Communities

a. Community Benefits

Unalaska is a racially and ethnically diverse and partially disadvantaged community with 4,254 year-round residents. Qawalangin Tribe of Unalaska (QTU) is a federally recognized Aleut Alaska Native tribal entity. In addition, the population increases seasonally by about 5,000-6,000 transient workers who arrive on island to work at the fishing and seafood processing companies. Filipino migrants and immigrants are the dominant racial/ethnic workforce in fish processing in Unalaska/Dutch Harbor. Unalaska's diversity is a source of strength that drives social and economic prosperity and residents look forward to the transformative impacts that clean energy could bring to the community. QTU will take the lead to support community engagement and/or training needs to support the project. Engagement that has taken place to date is listed in Community and Labor Stakeholders (Section b).

All designations of disadvantaged or not disadvantaged communities were made using the Climate and Economic Justice Screening Tool:

Unalaska, Alaska; Aleutians West Census Area: This tract/area is considered partially disadvantaged. The population was 4,254 at the 2020 census, which is 81% of the entire Aleutians West Census Area. Almost all of the community's port facilities are on Amaknak Island, better known as Dutch Harbor. It is the largest fisheries port in the U.S. by volume caught. It includes Dutch Harbor Naval Operating Base and Fort Mears, U.S. Army, a U.S. National Historic Landmark. Cultural resource and archaeological studies will be completed at each proposed undeveloped site to minimize risks and impacts of disturbing historically significant areas.

Qawalangin Tribe, federally recognized tribe in the City of Unalaska: This Alaska Native Tribe is considered disadvantaged and does not own land nor do Tribal members live adjacent to the construction site. Ounalashka Corporation (OC) is the organization that serves tribal members that live on or have roots on Unalaska and who are disadvantaged.

Benefits to Low-Income and Disadvantaged Communities: All DAC households within the COU, Tribal Members of Qawalangin Tribe, and renters and homeowners with residences built and maintained by OC will see stable electricity rates and improvements in public health and economic development as a result of diminished use of fossil fuels for electricity. Stabilizing the cost of electricity, while exceeding environmental standards will ensure that traditional food gathering and other culturally important activities continue to thrive.

DAC Benefits of the proposed project are detailed below:

(1) A decrease in energy burden (costs)		Metrics: Quarterly tracking of residential rates and electrical consumption.	Milestones: Project Initiation.
DAC: Low income households in the COU and the QTU.	How: Direct, via rates to households.	When: Project initiation	CBO: QTU, The Aleutian Pribilof Islands Association, Inc.
<p><i>Benefit 1.1 Keep electricity rates low:</i> Low-income households are very sensitive to price variability. Monthly residential electricity bills in Unalaska exceed the state average by 27.62%, amounting to \$175.54 per month. This project is critical to reducing energy burden by ensuring grid resilience, reducing disruptions, and continued delivery of low-cost electricity. Renewable energy systems have relatively low operating costs once installed, providing stable and predictable energy prices for low-income households.</p>			
(2) A decrease in environmental exposure and burdens		Metrics: Hospital/Doctor visits related to respiratory episodes.	Milestones: Project Completion.
DAC: Children and adults with respiratory illness, Low income households, Alaska Native, and other minority residents.	How: Direct reduction due to not running diesel generators, Indirect by supporting electrification.	When: Immediately after project completion.	CBO: QTU, The Aleutian Pribilof Islands Association, Inc.
<p><i>Benefit 2.1 Reduce emissions associated with generating electricity with diesel generators within the COU and continue to encourage beneficial electrification:</i></p> <p>Reducing reliance on fossil fuels can improve air quality, benefiting the health and well-being of DAC residents that may be disproportionately affected by pollution. American Indians/Alaska Natives are 20% more likely to have asthma and the death rate from asthma is 41% higher than white Americans. The proposed project aims to eliminate 2.22 million gallons/year of diesel fuel, 70.0 MT/year of NOx, 0.9 MT/year of PM10, and 22.4 MT/year of CO2 from the environment (2 MW solar, 10 MW wind, 20 MWh BESS capacities) every year through 2072. Additionally, there will be less noise pollution than diesel. There is an affordable housing development owned by Aleutian Housing Authority directly up the hill from the powerhouse. Air quality and noise pollution has been a complaint for DAC residents.</p>			
(3) An increase in resilience and continuous power generation		Metrics: COU operations and residential electricity costs.	Milestones: Project completion.
DAC: Low income households in the COU	How: Direct, via rates.	When: Immediately after project	CBO: QTU, The Aleutian Pribilof Islands

and The Qawalangin Tribe.		completion.	Association, Inc.
<p><i>Benefit 3.1 Maintain dependable and affordable energy access and availability:</i> This project is critical to long-term reliability and availability of low-cost, renewable energy for the COU and especially vulnerable energy insecure community members. The project is about generation resilience and affordability (which enable community resilience). Affordable electricity is essential to making electrification truly beneficial and accessible to our community. Wind is an abundant and inexhaustible resource in Unalaska. Having a diversity of energy sources (wind, solar, BESS, and eventually geothermal) reduces vulnerability to fuel price fluctuations and supply disruptions.</p>			
(4) Increased Job Creation and Economic Development	Metrics: Data collection, % of area labor costs performed by Unalaska DAC residents.		Milestones: Conduct needs assessment with community leaders, Partnership formation,
DAC: Low income households in the COU and The Qawalangin Tribe.	How: Addition of high quality jobs with job security available to community members.	When: During and after project completion.	CBO: QTU, The Aleutian Pribilof Islands Association, Inc.
<p><i>Benefit 4.1 Job creation in the renewable energy sector:</i> The development and operation of renewable energy projects contribute to the creation of high-quality jobs across a range of disciplines and sectors, offering competitive wages, career stability, and opportunities for advancement in a growing industry focused on sustainable energy production. Investing in local staff (Alaska-based and community-based) as employees and as independent contractors will enable a local, qualified, and fully staffed construction and operations and maintenance effort for the proposed project. COU commits to implementing a plan to reduce barriers and improve access to jobs for local and underrepresented workers, including DAC residents. OC estimates that at least 50% of the workforce in current clean energy projects on the Aleutian Chain are DAC/tribal members. The workforce goals will be similar for the Unalaska Renewable Energy Project. It is estimated that the proposed project will add direct employment of 2 personnel through COU, and indirect employment of numerous other individuals on the island. These will include travel operators, housing providers, equipment operators, restaurant operators, grocery stores, rental agencies, and others who will benefit from the influx of work.</p>			
(5) Increase parity in clean energy technology access and adoption	Metrics: Delivered energy cost per kWh (overall) for area residents.		Milestones: Project Completion.
DAC: Low income households in the COU and the QTU.	How: Indirect, access and adoption will be easier with reliably low-cost electricity.	When: Immediately after project completion.	CBO: QTU, The Aleutian Pribilof Islands Association, Inc., Ounalashka Corp.

Benefit 5.1 Keeping electricity affordable, making beneficial electrification accessible to our entire community, including those with limited financial resources: The project will distribute electrical energy to homes, subsistence gathering camps, and tribal buildings operated by OC. Installing electric heaters for water and space heating that will only be used during periods of low-cost energy availability will result in financial savings for all as expensive home heating oil is displaced. To support the community, the QUTU will create a Renewable Energy and Innovation Center focused on (but not limited to) quantifying GHG reductions and their impacts to the tribal community and community at large, innovative clean technology analysis, creation, and implementation, commission studies with universities and national labs, environmental restoration, food security, weatherization and energy efficiency for home and community buildings, grant writing support for clean energy deployment, workforce development, and communications. The Tribe is considering purchasing hydroponic facilities that are already on the island with the long term goal of powering the facilities with geothermal energy offering a sustainable, cost-effective, and efficient solution for agricultural production, contributing to increased food security and environmental sustainability.

Potential Negative Project Impacts to Low-Income and Disadvantaged Communities and Strategies for Mitigating those Risks:

Displacement and Land Use: The project is not expected to cause any displacement or land use issues.

Health and Safety: Geothermal projects involve drilling and sometimes the release of gasses or fluids that could pose health risks to nearby communities. To address this, robust environmental impact assessments (EIAs) and monitoring programs will be implemented. COU commits to provide adequate training and resources for emergency response in case of accidents or leaks and ensure compliance with health and safety regulations and standards. The drilling site is located on a mountain more than 12 miles from human settlement.

Economic Impacts: The proposed project is expected to bring numerous benefits to the community including job creation. COU prioritizes local hiring and training programs to maximize job creation opportunities for local residents. COU commits to develop local procurement policies to encourage the use of local goods and services, benefiting local businesses. COU commits to establish community benefit agreements to ensure a portion of project revenues is invested in local infrastructure, services, or community development programs.

Cultural and Social Impacts: Cultural considerations related to land use, subsistence activities, and cultural practices with local community stakeholders have been taken into account to ensure that the project respects and aligns with community values and priorities. The proposed project will not introduce conflicts with cultural practices or resources. The indigenous communities within and around Unalaska support the project and desire to have lower energy costs. The COU will continue to respect indigenous rights and engage in meaningful consultation and collaboration with indigenous communities throughout the project lifecycle and thereafter.

Environmental Impacts: COU commits to implementing sustainable land use and management practices. COU commits to monitoring and mitigating air and water pollution through emissions controls and treatment systems.

Equitable Workforce Development

The COU offers apprenticeship programs for electric utility employees represented by IUOE, Local 302. COU annually reviews and renews its commitment to Equal Employment Opportunity and Affirmative Action to “create an environment of acceptance and inclusion of all employees that values diversity and mutual respect and is free from harassment or discrimination against employees, customers, suppliers, and other contacts in all aspects of daily operations.” All personnel actions – recruitment, hiring, training, promotion, compensation, benefits, transfers, layoffs and recall from layoffs, access to training, education, tuition assistance, and social recreation programs – are enacted without regard to race, color, religion, national origin, citizenship, sex (including pregnancy), sexual orientation, gender identity or expression, marital status, veteran’s status, age, disability, or any other classification protected by non-discrimination law. In accordance with the Anti-Harassment and Non-Discrimination policy, any form of discrimination or harassment of one individual by another will not be tolerated.

Community Partnerships

The presence of Alaska Native corporations plays a significant role in supporting workforce development, particularly in sectors such as construction, transportation, and tourism. Alaska boasts a network of vocational and technical education institutions, including the University of Alaska system, community colleges, and trade schools, which provide tailored training programs aligned with the state's workforce needs.

The QTU will sponsor a Community Energy Fellowship Program (CEFP) candidate from a diverse background to spend 18 months embedded in Unalaska’s local and tribal governments learning about and assisting in the implementation of clean energy projects and programs. Energy Fellows will receive hands-on experience that provides an understanding of the mission, operations, and culture of the local or Tribal government and first-hand experience implementing new clean energy projects and initiatives. In addition, the QTU received \$2.5 million in federal funding to support geothermal diversification and education programs, further bolstering training initiatives and skill-building opportunities. This workforce development strategy will focus on identifying and delivering new or improved rural place-based training to underserved areas for upskilling and reskilling Alaskans for employment in the renewable energy sector.

COU commits to implementing a plan to reduce barriers and improve access to jobs for local and underrepresented workers, including DAC residents, those with disabilities, returning citizens, opportunity youth, and veterans. COU will provide targeted opportunities and resources to Alaska Native and other disadvantaged and local job seekers and contractors by leveraging our relationships

with Tribal Governments, local contractors, local utilities, regional organizations, including Ounalashka Corporation and The Aleutian Pribilof Islands Association, Inc. COU in collaboration with the QTU is creating a robust recruiting action plan that includes a strong focus on building diverse recruitment pipelines into craft positions and engineering roles. In support of this plan, COU will continue to partner with:

- Ounalashka Corporation (OC) is headquartered in Unalaska. For the proposed project, the COU would partner with OC and utilize their talent pool for construction and support services.
- Partnership with the Aleutian Pribilof Islands Association, Inc., a federally recognized organization of the Aleut people that provides programs for the tribal members that reside in 13 communities along the Aleutian chain. APIA provides funding for training and testing for Alaska Native employees.
- COU aims to increase representation from disadvantaged communities to better reflect the diversity of society and will collaborate with community organizations to identify potential candidates and provide additional support during the hiring process. In addition, support networks will be established to help individuals from disadvantaged communities integrate into the workplace and succeed in their roles.

b. Community Engagement

Community and Labor Engagement

To understand the perspectives and needs of community members and labor, COU proactively engages with stakeholders through various communication methods, partnerships, committees and recurring meetings, research and surveys, employees who are directly responsible for stakeholder engagements, and by monitoring emerging initiatives and regulatory proceedings. Stakeholders include residential, commercial, and industrial customers, residents of COU, Alaska Native Tribes and Tribal organizations, non-profit and low-income advocates, environmental groups, federal, state, and local regulators, elected officials, and more. The proposed project also aligns with multiple goals and objectives in local and regional plans that are based on multi-year stakeholder engagement. These include the Unalaska Comprehensive Plan 2020, Housing Plan 2020 and Electrical Utility Master Plan.

Community and Labor Stakeholders Engaged to Date

Through Community Engagement with the stakeholders below, COU has heard concerns and interest in the project. COU plans to contract with union and non-union contractors and will start that engagement once project specifications are finalized and requests for bids are formalized and released.

Org/Community Interest: Qawalangin Tribe of Unalaska/Federally Recognized Alaska Native Tribe		
Type: Renewable energy input	Date: Ongoing	Outcome: Letter of Support, Coalition

Org/Community Interest: Aleutian Pribilof Islands Association/Federally Recognized Tribal Org.		
Type: Renewable energy input	Date: June 2020	Outcome: Letter of Support
Org/Community Interest: American President Lines/French & American Container Shipping Co.		
Type: Renewable energy input	Date: June 2020	Outcome: Letter of Support
Org/Community Interest: Offshore Systems, Inc./Fuel & Dock Facility in Dutch Harbor		
Type: Renewable energy input	Date: June 2020	Outcome: Letter of Support
Org/Community Interest: Lynden/Transportation & Logistics Co.		
Type: Renewable energy input	Date: October 2022	Outcome: Letter of Support
Org/Community Interest: Fleetzero, Inc./Battery-Electric Cargo Ship Building Co.		
Type: Renewable energy input	Date: November 2022	Outcome: Letter of Support
Org/Community Interest: Trident Seafoods/Largest Seafood Company in the U.S.		
Type: Renewable energy input	Date: March 2023	Outcome: Letter of Support
Org/Community Interest: UniSea/Seafood Processing Company		
Type: Renewable energy input	Date: March 2024	Outcome: Letter of Support
Org/Community Interest: Westward Seafoods/USA-Japanese Seafood Co. -main plant in Dutch Harbor		
Type: Renewable energy input	Date: March 2024	Outcome: Letter of Support
Org/Community Interest: Alyeska Seafoods/Seafood Processing Plant		
Type: Renewable energy input	Date: March 2024	Outcome: Letter of Support
Org/Community Interest: Ounalashka Corporation/Alaska Native Village Corporation		

Type: Renewable energy input	Date: March 2024	Outcome: Tribal Resolution
Org/Community Interest: Alaska State Legislature Representative Bryce Edgmon		
Type: Renewable energy input	Date: March 2024	Outcome: Letter of Support

Community and Labor Stakeholders to be Engaged

The COU will continue engagement with the organizations identified above and begin intensive engagement with the labor community, primarily with construction contractors. Project updates and engagement will occur throughout the life of the project to ensure that project impacts are tracked and addressed quickly for any and all impacted communities.

Org/Community Interest: Aleutian Arctic Energy Ambassador - Laresa Syverson/Tribal Members, Residents of Unalaska, other island communities in the Aleutian region.		
Type: Aleutian All Community Engagement Meeting	Date: TBD 2024	Outcome: TBD
Org/Community Interest: COU & Qawalangin Tribe/Residents of Unalaska, Tribal Members		
Type: Newsletter/ updates, calls/meetings, as needed	Date: Continuous, as needed	Outcome: Decision making, community input, & reporting
Org/Community Interest: COU/Residents of Unalaska, Tribal Members		
Type: City Council presentations, newsletter, web	Date: Monthly, as needed	Outcome: Community input & reporting back
Org/Community Interest: Labor- Contractors & Union		
Type: Direct outreach in Phase 1, formal communication via procurement process	Date: Continuous, as needed	Outcome: Project decision making, community input, & reporting back

Outreach Strategy

COU has identified and engaged a diverse range of stakeholders representing linguistic, cultural, institutional, geographic, and other perspectives from the outset of the project, leading to more equitable and sustainable project outcomes that reflect the diverse needs and priorities of the community. This includes community members Laresa Syverson, DOE Arctic Ambassador representing the Aleutian region and Technical Lands Manager at Ounalashka, City Council members of Unalaska, QTU, and other multicultural and multilingual community members. QTU has been an early supporter of

the clean energy transition and has taken the lead to ensure that perspectives of low-income and disadvantaged communities have been heard and incorporated into this application. QTU intends to ensure that DAC feedback is included throughout the life of the grant.

COU commits to an outreach strategy to create early, frequent, and continuing opportunities for community engagement. This outreach strategy will maintain transparent communication channels to keep stakeholders informed about project developments, decisions, and outcomes. This will involve regular updates through newsletters, websites, social media, and other communication platforms, as well as opportunities for open dialogue and feedback. To ensure that the communications are inclusive of language barriers, website visitors may contact the City Clerk to request a translation. COU commits to fostering a culture of continuous learning and improvement by soliciting feedback, conducting evaluations, and reflecting on lessons learned throughout the project lifecycle. This involves actively seeking input from key stakeholders (community members, local organizations, government agencies, businesses, indigenous groups, and other relevant parties), sharing knowledge and best practices, and adapting project approaches based on feedback and emerging insights.

QTU has been invited to provide cultural competency training for project developers, planners, and implementers to help ensure that project activities are culturally appropriate and sensitive to the needs and preferences of diverse communities. The mission of the QTU is to keep alive the cultural traditions of the indigenous people and to maintain the environmental stewardship of their traditional lands. COU intends to partner with the Tribe to integrate traditional ecological knowledge, cultural values, and customary practices into project design and decision-making.

Section 5: Job Quality

For the Unalaska Renewable Energy Project, COU plans to attract and retain a skilled, local, and diverse workforce for design, engineering, and construction and ongoing operations to the greatest extent possible. Investing in local staff (Alaska-based and community-based) as employees and as independent contractors will enable a local, qualified, and fully staffed construction and operations and maintenance effort for the proposed project. If awarded, the COU will complete this project using policies and standards for employees and contractors that ensure participation of quality, skilled workers and minimize disruptive and costly delays. For all employment contracts and procurements associated with this program, COU will comply with applicable federal procurement guidelines and follow our human resources (HR) and procurement guidelines. COU will ensure that quality jobs are created and includes the following commitments to wages and benefits, education and training, and worker involvement in health and safety:

Empowerment and Representation. COU's Electric division entirely consists of IUOE, Local 302 represented employees. However, the City does not currently have any Linemen. Those positions are all being filled by contractors, but ideally all positions (Line Chief, Lineman (2), and Lineman Apprentice (2))

would be City employees. Those positions are all represented by 302. COU commits to the rights of workers to join together to improve their wages and working conditions, with or without a union, per the National Labor Relations Act, and will ensure compliance with labor and employment laws by appropriate use of personnel and procurement policies. This commitment extends to the entire project workforce. In addition, COU will establish goals to track and adjust practices that lead to negative impacts, including those in the workforce.

Wages and Benefits. COU commits to require contract(s) pay competitive wage and benefit rates benchmarked against local Davis-Bacon prevailing wages as follows: Per the Davis-Bacon Act wages (in accordance with subchapter IV of chapter 31 of title 40, United States Code) for construction, COU fully intends to follow federal guidelines by including clauses in construction contracts that require construction contractors and subcontractors to pay wages at rates not less than those prevailing, as determined by the Davis-Bacon Act wages and submit certified payroll when necessary. Applicable wage scales and overtime payment practices for all union employees expected to be directly involved in construction will follow union standards. For contractors, this information will be established upon hiring. COU employs IBEW Local IUOE, Local 302 members through a contract that is negotiated every 3 years with defined increases in the interim years. For its non-represented employees, the City works with a consultant to perform market research for every position every three years, ensuring each employee is earning a wage or salary that appropriately reflects the market. For the interim years between salary surveys, the city provides cost of living adjustments and merit increases as appropriate.

Skills and Career Advancement. Workers have access to quality employer or labor management provided training and education and are provided opportunities to progress to future, long-term jobs within their organization or outside them. COU provides workforce education and training through partnerships with IUOE Local 302, Merchant Job Training & Safety and the Northwest Public Power Association. As part of the proposed project, a portion of the funding requested will be utilized to develop a plan for the training, recruitment, and retention of workers living in Unalaska to increase the number of skilled and properly credentialed Public Utilities employees.

COU regularly uses Registered Apprenticeship labor to expand the pool of highly skilled workers for at least 10% of the total labor hours on a project. In alignment with Equal Employment Opportunity and Affirmative Action, COU is creating a robust recruiting plan in collaboration with the QTU that includes a strong focus on building diverse recruitment pipelines into craft positions and engineering roles, among others. By engaging with community development and Alaska Native programs and building partnerships with local organizations serving people of color, women, LGBTQ+, and persons with disabilities, we are purposeful in our approach to recruit in new and diverse ways to access all members of our community.

Job Security, Working Conditions, and Culture. COU will ensure the highest standards of construction site health and safety, including site free of harassment and discrimination to include compliance with 41 CFR §§ 60-1.4(a), 60- 300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities and

prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity, national origin, or for inquiring about, discussing, or disclosing information about compensation. Moreover, these regulations require that covered prime contractors and subcontractors do the same.

At this time, the COU does not employ second-chance hiring policies. COU does not currently provide childcare and transportation assistance, however in view of the proposed project, the City, the QTU, and Ounalashka Corporation are open to creating a collaborative plan to provide these services. COU requires professional licensure and training for specific areas of work. All workers that are hired as part of this project will need to have at least an OSHA 10 card for safety training. These requirements will be clearly stated in any procurement documents and be included in all construction contracts for this proposed project. In addition, COU will hold anti-harassment and Diversity, Equity, and Inclusion training for new employees. COU makes their best effort to promote stable, predictable employment through minimizing the use of temporary or contract workers. For the proposed project, COU plans to attract and retain a skilled, local, and diverse workforce for design, engineering, and construction and ongoing operations to the greatest extent possible. Investing in local staff (Alaska-based and community-based) as employees and independent contractors will enable a local, qualified, and fully staffed construction and operations and maintenance effort for the proposed project.

Ensuring Compliance with Build America Buy America. Named contractors (including individual consultants and equipment vendors) will be selected in compliance with the competitive requirements of the Procurement Standards in 2 CFR Part 200 as interpreted in EPA best practice guidance. COU commits to providing training to staff involved in procurement and project management to ensure awareness of BABA requirements and procedures as well as maintaining accurate documentation throughout the procurement process. This includes documenting the origin of materials and components used in the project and ensuring that all suppliers and contractors certify compliance with BABA requirements. Moreover, COU will verify the compliance of suppliers and subcontractors with BABA requirements. This will involve conducting audits, requesting certifications, or obtaining other forms of documentation.

Section 6: Programmatic Capability and Past Performance

Past and current grant awards have successfully met federal and state audit standards and have followed all regulatory requirements. An independent accounting firm conducts annual audits. The Management Team meets weekly to review grant-funded projects. Project management software is used to track assignment and completion of tasks, due dates of reports and deliverables, project scheduling, and completion of grant requirements. Progress and financial reports are completed regardless of whether expenditures or progress on the project were made during the reporting period.

Unalaska has successfully managed multiple Federal, State, foundation, corporate, and private grants. Due to Unalaska's short summer construction season, many projects are multi-year projects.

a. Past Performance

- 1) Project Title & Description: City of Unalaska Brownfields Community Assessment; Site inventory selection, quality assurance plan, sampling and analysis.
Funding Agency, Agreement Number, & CFDA Listing Number: Environmental Protection Agency (EPA), Agreement # 02J15601CFDA, CFDA# 66.818.
Contact: Michael Underwood, underwood.michael@epa.gov
- 2) Project Title & Description: Captains Bay Road Waterline Extension; Engineering/design/permitting for waterline extension.
Funding Agency, Agreement Number, & CFDA Listing Number: Denali Commission, Agreement # 1722-00, CFDA # 90.100.
Contact: Kristen Reardon, kreardon@denali.gov
- 3) Project Title & Description: Mobile Integrated Healthcare (MIH) & Community Paramedicine; Mobile trailer and supplies.
Funding Agency, Agreement Number, & CFDA Listing Number: Department of Health & Social Security (DHSS), Agreement # 161-315-23002, CFDA # 93.391.
Contact: Amy Burke, amy.burke@alaska.gov
- 4) Project Title & Description: American Rescue Plan Act (ARPA); Covid relief and fiscal recovery.
Funding Agency, Agreement Number, & CFDA Listing Number: Department of the Treasury, Agreement # AK0137, CFDA # 21.027.
Contact: Jill King, DCRA.ARPA@alaska.gov
- 5) Project Title & Description: NOAA Tsunami Hazard Mitigation Program; Purchase & installation of 4 tsunami sirens.
Funding Agency, Agreement Number, & CFDA Listing Number: Department of Homeland Security (DHS), Agreement # 20NOAA-GY21, CFDA# 11.467.
Contact: James Benzschawal, james.benzschawal@alaska.gov

b. Reporting Requirements

COU has received four federal grants and one state grant in the past three years and submitted all required reports by the original submission deadlines or by extended deadlines granted because of the impact of the COVID pandemic for all grants during the rating period.

c. Staff Expertise

The COU currently has 160 employees who fulfill the obligations of a local government, which include public safety, public works utilities functions, and services. The City owns and operates all public utilities including electric, water, wastewater, refuse and fuel utilities and services. Since the City owns and operates the electric utility, the Department of Public Utilities staff will have the capacity to maintain the wind, solar, and BESS systems once installed. This project will create several new maintenance technician jobs in the community. The City receives revenue from selling electrical services to the community, and the City's annual budget includes Enterprise Funds used to account for the operations of these services.

The City's public utilities infrastructure has been funded, built, and maintained by the City. Both City administrative staff and City force account labor will be necessary for the completion of this project. The City Manager will fulfill the overarching project and administration for the City. This position will be responsible for developing RFP's, contracts, and agreements; participating in biweekly meetings with Project Manager, contractors, and engineers; and monitoring project tasks and task scheduling. The Finance Director will be responsible for financial management (invoicing, accounting, and financial reporting) of the project. The Finance Accounting Clerk will assist with procurement and processing orders. The Director of Public Works will manage grant requirements, implementation, grant reporting and other administrative functions to ensure successful execution of the grant process. The Public Utilities Administrative Assistant will assist with management of vehicle and heavy equipment rentals and tracking of public utilities laborers working on the project. The Power Plant Operator, Equipment Operators, and Laborers are all Public Utilities force labor that will be assisting on-site with the implementation of the project.

Section 7: Budget

See Attachment BudgetNarrative_CityofUnalaska.pdf