

## Section 1: Overall Project Summary and Approach

### Description of GHG Reduction Measures

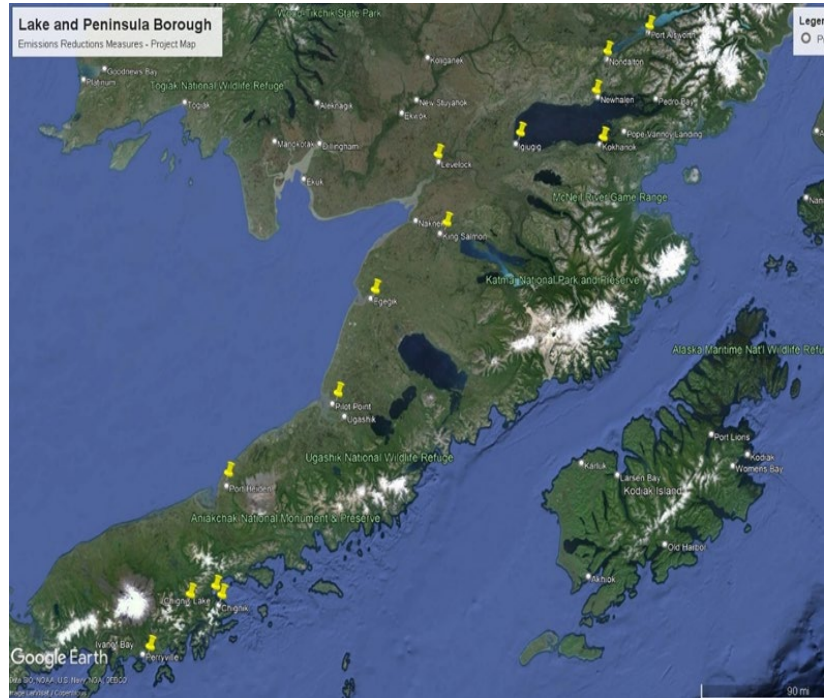
The Lake and Peninsula Borough in Alaska is seeking \$5,335,473 from the EPA Climate Pollution Reduction Grant program in order to fund critically needed building energy efficiency retrofits in 13 school facilities, the Lake and Peninsula School District Office building, and 29 teacher housing units. The proposed measures will reduce emissions by over 9,000 Metric Tons over their 20-year useful lifetime. The proposed measures and resulting greenhouse gas reductions are among the highest priorities specified in the Bristol Bay Native Association Regional Tribal Priority Climate Action Plan.

The objective in concentrating on these areas is to decrease energy demand for heating and electricity, thereby lessening the reliance on diesel-generated electricity and fuel oil heating. Such initiatives not only aim to conserve energy but also significantly reduce GHG emissions, aligning with broader environmental sustainability and energy security goals. Although community building and residential energy efficiency do not encompass all sources of emissions within each community, they represent the largest contributors to GHG emissions, offer the most substantial opportunities for reductions, and are identified as the highest priority for emissions reduction efforts across the region. If funded, these energy efficiency projects will provide a critical means of progress to reduce greenhouse gases for 14 isolated communities, 13 of which are Tribal, who find themselves on the front lines of climate change.

For this CPRG, the Lake and Peninsula Borough (LPB), will be the grant recipient and will provide pass through funding to the Lake and Peninsula School District (LPSD), who will be responsible for implementing the project.

### Measure 1: School Facility Energy Efficiency Upgrades for 13 LPSD Schools and the LPSD Main Office Building

The purpose of this measure is to implement weatherization and energy efficiency retrofits to 14 school building facilities in 14 communities within the Lake and Peninsula Borough of Alaska. School facilities stand as vital hubs of community activity and operate similarly to commercial buildings in terms of energy consumption and infrastructure requirements. School buildings are generally the largest structures representing the greatest energy consumption of community / commercial type buildings in remote Alaska communities. The average square feet for the 14 primary school structures in this proposal is 15,151. When large facilities with extremely dated construction methods operate in



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northern regions with long harsh winters and reduced daylight hours, it is a scenario for very high energy use of heating fuel and electricity. Additionally, in these remote, off-grid communities' electrical power is generated by burning diesel fuel, creating more GHGs per square foot than typical urban communities across America. The average year of construction for the LPSD facilities in this grant proposal is 1987, averaging 37 years old. Implementing weatherization and EE retrofits to these facilities represents the greatest potential for GHG reductions in community / commercial building types for the Lake and Peninsula region.

To begin these projects, investment grade energy audits (IGAs) will be performed on the school facilities. Based on the findings, the most cost-effective energy efficiency and weatherization measures from the audits will be implemented to achieve the highest levels of greenhouse gas reductions for these buildings. Typical energy efficiency and weatherization retrofits may include heat loss mitigation through air-sealing, increased insulation in walls, floors, and roofs, more efficient windows and doors, boiler replacement and maintenance, maintenance of heating distribution devices, energy efficient heating and ventilation control and management systems, LED lighting retrofits, set-back thermostats, and replacement of appliances with more energy efficient versions. To manage and complete these projects LPB will maintain an administrative role and will work closely with LPSD to ensure all aspects of the projects are properly planned and implemented from start to project completion, including tracking and reporting progress and results of energy efficiency (EE) savings and greenhouse gas (GHG) reductions. The Lake and Peninsula School District will be responsible for all aspects of project planning, construction and implementation as follows:

### **Tasks and Milestones to Ensure Project Success**

#### **Investment Grade Energy Audits**

These will be performed on all 13 schools and the School District Main Office (a total of 14 communities), to identify the best opportunities for energy savings and GHG reductions. Energy savings in terms of heating fuel and kWh's of electricity will be determined using the proven Alaska Housing Finance Corporation's commercial building AKWarm energy use modeling software which draws from Alaska specific climate and other data. These energy savings will then be translated to GHG reductions.

Under the management of the LPSD Facilities and Maintenance Director, LPSD will solicit services competitively and publicly for a qualified energy services company or engineering firm to complete investment grade energy audits for the 13 school facilities located throughout the Lake and Peninsula Borough and for the LPSD Main Office building located in King Salmon, Alaska. The firm selected will include at least a Certified Commercial Building Energy Auditor, Certified Energy Manager and/or qualified professional engineering service. The selected energy auditing entity will also complete any residential energy audits on teacher housing units located in a given community where school facilities are also located. For teacher housing units, energy auditors will use the residential version of AKWarm, Alaska specific energy auditing software.

Energy auditing Engineering firms with rural Alaska experience will be prioritized to optimize project development and coordination with LPSD, considering the realities of implementing construction-based projects in isolated Alaskan villages. Contracts for energy audits will include a planning and consulting agreement between the energy auditor(s) and key LPSD maintenance and construction staff, so there can be informational exchange for technical understanding of the construction, mechanical and design details that will ensure the most effective results for each selected EE measure. This communication and information exchange will be instrumental in LPSD's role of managing contracted projects and

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ensuring work is done correctly to design specifications. Additionally, for any EE measures LPSD chooses to self-perform with their existing construction and maintenance workforce, they can interface with original energy auditors to ensure success of the measures.

### Identification of Most Cost-effective measures for Energy Savings and GHG Reductions

LPSD will work with contracted energy auditors to identify the most cost-effective energy efficiency and weatherization measures to implement for each school and the LPSD Office, to achieve the greatest energy savings and corresponding GHG reductions. The AKWarm software accounts for regional climate conditions, regional construction cost estimates, cost of heating fuel and electricity, existing building construction, and other factors to create a list of energy savings measures in order of savings magnitude. AKWarm then calculates an estimated range of operational time required to pay for the measure (simple payback), comparing energy savings per year with cost of implementation. The measures with the best savings and payback potential within CPRG budgets will be selected for implementation.

### Implementation Plan

Described in more detail below, LPSD will create an implementation plan that prioritizes site specific planning and delivery components for each school facility and village. This plan will be used for communications and coordination with each community and project contractors to guide the progress and completion of the projects. The general scope of work for each school facility will be assessed and planned in terms of:

- Types of selected EE and GHG reduction measures
- Contractor skills and availability required to complete the work.
- Site specific seasonal, weather, and cultural considerations
- Materials required.
- Shipping and logistical considerations
- Identification of site-specific existing equipment and resources available for the projects to achieve possible project delivery cost savings.
- Time frames and scheduling required to complete the work.

### Solicitation of Contractors

The vast majority of these projects will be completed by qualified and vetted construction and energy service contractors hired through a competitive bidding process. The EE and building science knowledge and experience of energy service contractors will be beneficial in achieving the most effective and long-term EE and GHG reduction results. LPSD will competitively solicit qualified construction, renovation, and maintenance contractors using the Best Value solicitation method. Price will be considered the most important factor but not the only factor for consideration. Given the remote and unique northern conditions, other factors such as experience and project approach will be considered in selection. The selected contractor will be responsible for the implementation of identified energy efficiency measures from the audits. The selected contractor will oversee all subcontractors, coordinate with the energy auditor, the LPSD Facilities and Maintenance Director, and be responsible for adherence to all permits, follow the design specifications for the projects and adhere to applicable codes and regulations, and reporting to LPSD and other project stakeholders.

### Contract Oversight and Contractor Accountability

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The LPSD Facilities Director or appointed Lead staff will oversee contractors to ensure that contract deliverables and terms are met, as well as advocate for and ensure the interests of LPSD and LPB are met through delivery of each contract. The LPSD Facilities Director will review deliverables to ensure they are satisfactory, complete, and that they actively seek the EE improvements specified in the Investment Grade Audits (IGAs). The LPSD Facilities Director or appointed lead staff will manage the overall schedule and budget as well as provide review and recommendation of change orders and invoices to LPSD.

### **Contractual Agreement with Owner's Representative**

A contract for owner's representative support will be competitively bid to secure a qualified experienced project manager with rural Alaska project management experience to support the school district in procurement activities and oversee coordination and performance of installed EE weatherization and mechanical energy improvements. The Owner's Representative will also ensure all reporting requirements and community outreach and engagement activities are performed, including local hire and workforce development and training for local residents.

### **Procurement of Equipment and Materials**

LPSD and their selected contractors will adhere to LPSD adopted Procurement Policies and follow procurement standards as outlined in the Code of Federal Regulations (CFR) Title 2, Part 200. These regulations govern the procurement of goods and services and provide guidance on competition, documentation, and oversight to ensure transparency, accountability, and cost-effectiveness in the use of federal grant funds. LPSD has rigorous procurement standards and are quite familiar with this requirement. Following these codes will ensure transparency, accountability, and effective utilization of grant funds in all procurement processes related to this project. The contractor will procure the necessary materials and equipment for the project, as well as any supplies or other items. The contractor will develop a cost loaded schedule for delivery of the project and coordinate required workforce needs, workforce housing, equipment availability and other considerations.

### **Permitting**

The contracted construction, mechanical and energy service companies will oversee activities related to permitting for whatever measures they are contracted to complete. These tasks will include safety permits, regulatory permits, and any other permit required for completion of the projects.

### **Quality Control**

The contractor will implement a comprehensive quality control program, conducting inspections and tests coordinated with LPSD lead staff to verify all EE and weatherization measures are completed to design specifications to achieve optimal results for the measures.

### **Health and Safety**

The contractor will prioritize the health and safety of their workers and adhere to all relevant health and safety regulations. They will implement appropriate safety measures, provide necessary training, and maintain a safe working environment throughout the construction process.

### **LPSD Labor Component**

LPSD has a seasoned core staff responsible for facilities and maintenance management across the Lake and Peninsula School District. For details, please see LPSD staff resumes attached in the Other Attachments form: Team Biographies. For each school site receiving CPRG EE upgrades, an LPSD lead staff will work closely with selected contractors to ensure work is done to design specifications and

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on-schedule according to each site's implementation plan. Additionally, for some EE measures, LPSD may elect to complete some EE measures using its existing staff and in-house resources.

As an added value initiative, LPSD currently works with the Bristol Bay Regional Career and Technical Education Program (BBRCTE). Where possible LPSD will work with BBRCTE to provide on-the-job training and career development opportunities to local youth and other residents in the fields of construction, building weatherization and energy efficiency retrofits during implementation activities. An educational component of this partnership will be conveying this work aims to mitigate climate change by achieving GHG reductions wherever possible.

### Project Scheduling

Project scheduling will be initiated for each school site as part of preliminary implementation plans and will be refined in communications with selected contractors according to their available schedules. LPSD will work with selected contractors to identify groups of facilities and communities based on village proximity, similarity of EE measures to complete, availability of required contractors and what makes sense for project efficiency considering variables of contractor scheduling, means and scheduling for shipping, availability of specific construction materials, local weather and seasonal considerations, etc.

### Communication and Coordination

For each school facility site, LPSD lead staff will be appointed to oversee the project and work closely with Owner's Representative and selected contractors to ensure work is done to audit specifications and implementation plan timelines. LPSD lead staff will attend scheduled meetings with Owner's Representative and contractors and provide regular status updates to the LPB project manager throughout the course of the project. Notes from these meetings will document any decisions, action items, or relevant information that needs to be followed up on and will be recorded for LPB's progress reporting on the CPRG, including regular reporting to communities and the elected LPB Assembly.

Additionally, as coalition partners in this CPRG implementation grant, the LPB project manager and the LPSD Facilities and Maintenance Director will attend regular scheduled meetings with Owner's Representative and maintain communication and coordination throughout the projects to ensure site specific implementation plans, project tasks, milestones, timetables and all phases of project delivery remain on track within the 5-year time-table for these projects. Based on this coordination, LPB will perform quarterly and final reporting to EPA on the CPRG projects throughout the grant timeline.

### PCAP Measure Identification:

Community and commercial building energy efficiency projects are identified in the Bristol Bay Native Association Regional Tribal Priority Climate Action Plan as the 2<sup>nd</sup> highest priority for the region, preceded only by residential energy efficiency which is the focus of the second measure listed in this CPRG. School facilities in rural Alaska communities are generally the largest structures in the village and therefore have the highest energy use for heating fuel and electricity. They also carry substantial electrical power demand, so reducing their energy use will have a two-fold effect in reducing GHG emissions. The strategy for selecting GHG reduction measures in the PCAP is informed by data from the highest sources of GHG emissions. The rural, Tribal communities addressed in the plan are predominantly isolated, relying on independent microgrid electric utilities mostly powered by diesel for both electricity generation and most heating requirements. Consequently, GHG mitigation strategies are focused on areas which stand to decrease energy use and GHG emissions in the highest energy end-use sectors of residential and community buildings, and simultaneously to decrease the amount of diesel



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fuel burned in power generation for those same buildings. Reducing diesel fuel use also reduces the need to ship diesel fuel over long distances and reduces fuel spill risks in fragile environments.

Community Building Energy Efficiency is detailed starting on page 20 of the Bristol Bay Tribal PCAP (In reference to the LPSD Main Office Building located in King Salmon, Alaska). Commercial Building Energy Efficiency Including Schools is detailed starting on page 23 of the Bristol Bay Tribal PCAP. School Building Energy Efficiency is also detailed starting on page 25 of the BB Tribal PCAP.

### **Measure 2: Residential Energy Efficiency Upgrades for 29 Teacher Housing Units Throughout the Lake and Peninsula School District**

Residential building energy efficiency upgrades are identified in the Bristol Bay Tribal Priority Climate Action Plan as the number one GHG reduction priority for the region because cumulatively, residential homes use the greatest quantity of heating fuel and electricity out of all energy use sectors in remote Alaska villages. For electrical use this is true both in terms of kWh's of electricity used by homes and additionally in terms of gallons of diesel fuel burned to make that electricity by the micro, off-grid power plants that serve most of our Lake and Peninsula Borough villages.

By installing critical EE and weatherization measures to residential homes, these remote villages can scale back their use of diesel fuel in their power plants and use less fuel to heat and electrify their retrofitted EE homes. Residents will also reap the benefits of lowered home heating bills and potentially lowered electric bills from off-setting diesel fuel consumption at the local power plants. Home utility costs in rural Alaska villages can be debilitatingly high, sometimes literally posing the choice of whether to heat, or whether to eat. In the economically depressed region encompassing the Lake and Peninsula Borough, lowered utility costs can carry a very real quality of life benefit. Lowered demand for electricity in a village also sets the stage for renewable energy projects to be able to contribute to a more efficient community use of electricity. For this CPRG proposal only select teacher housing units belonging to LPSD will receive EE building upgrades. Full housing stocks for LPB villages will be pursued through other grants, but for the Lake and Peninsula Borough and School District, these residential EE upgrades combine with the school facility EE upgrades proposed to complete the EE needs for their entire building stock, providing critical energy savings and GHG reductions.

For this measure, 29 teacher housing units were selected based on their locations in the same 14 communities where School Facility EE upgrades will take place, and also based on their dated construction and substantial opportunities for EE savings and subsequent GHG reductions. Many teacher housing units were constructed in the '80s, '90s, and a good share in the '70s. With an average age greater than 30 years old, these units, if retrofitted will achieve substantial EE savings and GHG reductions.

Residential energy consumption refers to the amount of energy used within households or residential buildings. This includes energy for various purposes such as heating, cooling, lighting, cooking, water heating, and running appliances and electronic devices. The type and amount of energy consumed in residential settings can vary widely depending on factors such as geographic location (i.e., homes in colder regions often consume more energy for heating), building characteristics (size, design, insulation, age of building), how efficient the household appliances are, and personal preference (thermostat setting). Monitoring and managing residential energy consumption is important for reducing environmental impact, controlling costs, and ensuring sustainable energy usage. Under this sector, the

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prime measure to reduce residential energy consumption is the reduction in energy usage for both heating and electrical needs through weatherization and related energy efficiency. Typical energy efficiency retrofits may include actions which are very similar to those listed above in Measure 1.

The annual average electricity consumption of a residential home was captured from the FY-2022 PCE data for each community. For this implementation grant proposal, it is estimated that residential energy efficiency measures could result in a 10% reduction in electricity usage. Because nearly 100% of the electricity in the region is generated from diesel fuel, the reduction in electricity was converted to gallons of diesel fuel saved by the electric utility considering the utility's diesel efficiency; this resulted in an equivalent gallons of diesel fuel displaced for energy efficiency due to reduced electricity consumption. The displaced equivalent diesel gallons were converted to metric tons of CO<sub>2</sub> equivalents (MTCO<sub>2</sub>e) of greenhouse gases reduced. The cost savings for the reduced electricity consumption were calculated from the reduced annual kWh and the resulting reduction in diesel fuel usage for generating the electricity. The annual heating oil usage for a residential home was developed using the 2014 Alaska Housing Finance Corporation (AHFC) Alaska Housing Assessment report. From this 2014 AHFC data, we estimated that a typical housing unit in rural Alaska uses 694 gallons of heating oil.

Based on contractor reports on previous building shell and heating system energy efficiency retrofits, it is estimated that implementing residential energy efficiency can achieve a 20% reduction in heating fuel consumption across all residences in the region. The 20% reduction is measured in gallons of heating oil which were converted to reduced MTCO<sub>2</sub>e of GHG emissions.

The benefits of Residential Energy Efficiency were quantified as total greenhouse gas reductions for both electricity and heating oil usage. The simple payback was calculated by using an implementation cost of \$36,000 per residential energy efficiency retrofit and dividing by the total cost savings to the owners, resulting in a simple payback period in years. This cost is based upon a 2019 Weatherization program assessment from AHFC, which identified the average rural household weatherization project requiring \$30,000. The number was increased by 20% to account for inflation between 2019 and 2025 when the project will be implemented.

### **Tasks and Milestones to Ensure Project Success**

For the purposes of this CPRG proposal and the projects it would implement if funded, all tasks and milestones needed to complete residential building energy efficiency upgrades are identical to those required to complete commercial and community building EE upgrades. LPB and LPSD will follow the same approach and methods to complete residential EE retrofits in their teacher housing units as they will for their school facilities. The same energy auditing entity will audit both building types during the same site visits to each community. Selected construction or energy service contractors will have both building types in their planned scope of work. Materials and equipment for both building types will be procured and purchased and shipped together. Construction and installation measures for both building types will be planned and carried out concurrently in each village which has both building types. As such, for details on Tasks and Milestones to Ensure Success of the Projects, for Measure 2, please refer to those listed above for Measure 1.

### **Underlying Assumptions and Risks, Measure 2**

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For the purposes of this CPRG proposal and the projects it would implement if funded, all tasks and milestones needed to complete residential building energy efficiency upgrades are identical to those required to complete commercial and community building EE upgrades. As such, for details on Underlying Assumptions and Risks for Measure 2, please refer to those listed above for Measure 1.

### PCAP Measure Identification, Measure 2

Residential building energy efficiency upgrades are identified in the Bristol Bay Tribal Priority Climate Action Plan as the number one GHG reduction priority for the region because cumulatively residential homes use the greatest quantity of heating fuel and electricity of all energy use sectors in remote Alaska villages. Residential homes in rural Alaska are often built in the '80s and '90s with two by four frame construction, substandard air-sealing methods and poor levels of insulation. This combined with long, harsh winters result in very high heat loss and subsequent high energy use and cost of heating fuel. As such, residential homes in remote Alaska villages carry enormous potential for energy savings and GHG reductions. While the 29 teacher housing units make-up a small share of residential home stock in the communities represented in this CPRG proposal, implementing EE upgrades in these units, completes LPSP's EE retrofits for their buildings and paves the way for additional residential upgrades by familiarizing these communities with the process, value and EE savings and GHG reduction results from these measures. Residential Building Energy Efficiency is detailed starting on page 15 of the Bristol Bay Tribal PCAP.

### Demonstration of Funding Need

The Lake and Peninsula School District communities participating in this proposed Energy Efficiency Improvement project are all low or moderate income, extremely remote with no roads connecting the communities to any other location outside the region, primarily Alaska Native, and all highly dependent on diesel fuel for meeting both electric and heating needs. The rugged and expansive geography of the region—encompassing the largest Lake in Alaska, mountains, volcanoes, glaciers, vast rivers and wetlands, extensive coastal areas, and other challenging terrain—results in complex and challenging logistics for fuel delivery. All of this translates into extremely high energy costs, often with unique obstacles and limited solutions.

For example, several of the communities can only receive fuel via airplane delivery in small increments on aircraft manufactured in the 1950s with no available spare parts. In such cases, at times the entire community may accumulate less than one month of fuel supply for all electric, heating, and transportation needs, and bad weather or equipment failures such as the breakdown of the one village snow plow used to clear the runway in the winter, may delay the next fuel delivery to the point of requiring fuel rationing. Other communities rely on fuel barges that deliver fuel only once a year during the few ice-free summer months, hence they must buy and store an entire year of fuel from a single delivery, which adds costs and raises the stakes of a missed delivery or a fuel spill. Diesel fuel prices in excess of \$12/gallon for home heating fuel are not uncommon and electricity prices can exceed \$1/kWh. These are 4 or 5 times higher than average energy prices in the Lower 48 and are experienced by households with low incomes located in extremely cold environments, hence there is high demand and high usage of expensive diesel fuel. From an energy security and equity standpoint, this is among the worst possible permutations: high need, high usage, high price, low ability to pay, and low system reliability that is extremely vulnerable to disruptions.



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These energy needs and high prices are exacerbated by poor construction and aging infrastructure. As mentioned above, the average age of the LPSD facilities proposed for retrofits is 37 years and are often the largest building in the community. These buildings have been maintained as well as possible, but inevitable wear and tear, settling of insulation, cracks and broken seals, outdated and inefficient boilers and pumps, and other equipment is in dire need of replacement and upgrade. Unfortunately, the State of Alaska has not increased school budgets for the last seven years despite skyrocketing costs and inflation. In other words, schools must pay their ever-increasing energy bills from allocated budgets that have shrunk in purchasing power, resulting in teacher lay-offs and significant cuts in service. Schools are facing a less-than zero-sum game in which paying their heat and electric bills necessarily results in less funds for educating students.

In addition, the teacher housing units and School District support building are all essential for providing educational services to our students, and these buildings similarly need substantial energy efficiency improvements and are currently consuming significant amounts of energy and producing disproportional amounts of GHG emissions. These upgrades are also cost-prohibitive without targeted support from outside entities such as what is proposed in this funding request.

The GHG emissions from heating and electrifying these buildings is documented in the Bristol Bay Native Association Regional PCAP and directly informs this proposal and identified retrofit opportunities. Broadly, by reducing demand, i.e., increasing energy efficiency through weatherization and related energy conservation, the LPSD can do more with less while also proportionally reducing their GHG emissions and climate change impacts. While renewable energy is another high priority identified in the planning process and related documents, energy efficiency and weatherization is the single most cost-effective and immediate opportunity for improving energy security, reducing fossil fuel demand, and mitigating GHG emissions. Yet these proposed energy efficiency measures are still in need of grant support because of the low income levels and high costs of logistics and delivery of materials.

### Transformative Impact

The energy efficiency measures proposed here will have significant positive impact in the participating villages. The notable positive impacts include saved fuel, saved money, more investment in educating Village youth, and reduced GHG emissions. It is estimated that the energy efficiency retrofits proposed to be implemented with this requested funding will result in savings of over 8,172 MTCO<sub>2e</sub>. It should be noted that in most of the communities, the Village school is the single largest and most important building in the community. It is a source of jobs, cultural knowledge transfer, a place where the community gathers, often the only place for indoor group physical activities such as basketball, perhaps the only building with running water, and a place where dreams are made and realized.

The last several years have seen drastic reductions in services and accompanying dynamism of many communities because of budget cuts and inability to simply stay open after school hours for gatherings and other activities. The current state fiscal environment is such that some schools in the region and elsewhere have resorted to only staying open for four days a week or shortening the school year and increasing class size because of loss of teachers. Reducing the amount of money required to meet the school's energy needs through improved efficiency and conservation is not just good business but an important step toward GHG emissions reductions and village survival. Further, without adequate teacher housing, the School District is unable to hire and support the most essential component of our education delivery: the teachers themselves. Improving the housing facilities with energy efficiency and weatherization measures will both save money and demonstrate the District's commitment to providing

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quality education and supporting our staff. Without these amenities, we will be further challenged in appealing to high caliber teachers and providing the education that our students need.

The energy efficiency approach proposed here is the first part of a larger strategy that includes energy conservation and renewable energy as detailed in the Bristol Bay Native Association Regional PCAP. By reducing demand first, this transformative initiative will both directly and immediately reduce GHG emissions as well as facilitate the transition to meeting more of the overall energy consumption with renewable energy generation because the overall demand will be reduced. The process proposed here—beginning with energy audits to prioritize the most cost-effective and impactful measures—will ensure prudent use of public funds and leverage energy building science for the maximum GHG emissions reductions.

### Section 2: Impact of GHG Reduction Measures

Together, the proposed measures will result in over 9,143 MT of GHG emissions reductions for a cost of \$583.56/MT. The assumptions are described in additional detail in the technical appendices. In general, these assumptions represent conservative estimates of potential energy savings and cost of implementation. Additionally, the calculations make use of publicly available and verified data to establish actual energy consumption and the resulting emissions reductions impacts.

	2025-2030	2030-2050	2025-2050		
	<b>Short Term Emissions Reductions (MT)</b>	<b>Long Term Emissions Reductions (MT)</b>	<b>Total Emissions Reduction (MT)</b>	<b>Capital Cost</b>	<b>Capital Cost/MT</b>
<b>Measure 1: Community Facilities EE - Schools and District Office</b>	1,212	6,868	8,080	\$4,078,037	\$ 504.71
<b>Measure 2: Residential EE - Teacher Housing Units</b>	159.45	903.56	1,063	\$1,257,436	\$ 1,182.90
<b>Total</b>	<b>1,065</b>	<b>7,772</b>	<b>9,143</b>	<b>\$5,335,474</b>	<b>\$ 583.56</b>

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The following table represents reductions of specific types of GHG emissions due to the proposed measures. Additional details on the sources and methods for these factors can be found in the appendices.

		Reduced Emissions - EPA Factors (kg/gal)				
		C02	NH4	N20	NOx	Total
<b>Emissions Measures</b>	<b>Annual Reduced diesel (g)</b>	10.21	0.41	0.08	0.00515	10.71
<b>Measure 1: Community Facilities EE - Schools and District Office</b>	39,596	403.54	16.20	3.16	0.20	423.30
<b>Measure 2: Residential EE - Teacher Housing Units</b>	5,218	53.18	2.14	0.42	0.03	55.78
<b>Total</b>	<b>44,813.97</b>	<b>456.72</b>	<b>18.34</b>	<b>3.58</b>	<b>0.23</b>	<b>479.09</b>

### Magnitude of GHG Reductions from 2025 through 2030

The proposed measures are anticipated to have the following short-term emissions impacts. These numbers are further detailed in the technical appendices. These emissions consider a project completion date of early 2028 for both Measure 1 and Measure 2. Both Measures are anticipated to have a twenty-year design life.

<b>Emissions Measures</b>	<b>Near Term - 2025-2030 GHG Reductions (MTCO2e)</b>
<b>Measure 1: Community Facilities EE - Schools and District Office</b>	1,212
<b>Measure 2: Residential EE - Teacher Housing Units</b>	159.45
<b>Total</b>	<b>1,371.45</b>

### Magnitude of GHG Reductions from 2025 through 2050

The proposed measures are anticipated to have the following long-term emissions impacts. These numbers are further detailed in the technical appendices. These emissions consider a project completion date of early 2028 for both Measure 1 and Measure 2. Both Measures are anticipated to have a twenty-year design life, resulting in only 17 years worth of project emissions reductions in the

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Long term time frame. It is recommended that near the end of the useful life of the implemented retrofits that the process of auditing and identifying additional measures be completed again.

Emissions Measures	Long Term 2030 - 2050 GHG Reductions (MTCO <sub>2</sub> e)
Measure 1: Community Facilities EE - Schools and District Office	6,868
Measure 2: Residential EE - Teacher Housing Units	903.56
Total	7,772

### Cost Effectiveness of GHG Reductions

The proposed project represents the incredibly high capitals costs of working in remote and rural Alaska.

The following numbers represent the emissions per capital cost aspects for each Measure:

Emissions Measures	Total Emissions Reductions	Total Capital Cost	Capital Cost / Emissions Reductions (MT)
Measure 1: Community Facilities EE - Schools and District Office	8,080	\$ 4,078,037	\$ 504.71
Measure 2: Residential EE - Teacher Housing Units	1,063	\$ 1,257,436	\$ 1,182.90
Total	8,172	5,335,474	\$ 583.56

### Documentation of GHG Reduction Assumptions

Detailed descriptions of reduction assumptions are provided in the technical appendices. Estimates for potential energy reductions were based upon extensive data from AHFC on energy efficiency and weatherization programs in rural Alaska, for both housing and community facilities. Costs identified were both specific to school facilities, developed through previous energy auditing efforts and average cost of implementation as reported by AHFC.

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

### Expected Outputs and Outcomes

#### Anticipated Outputs

- **Communities Served:** 14 communities
- **Energy Audits conducted:** 43
- **Schools Upgraded:** 13
- **Housing Units Retrofitted:** 29
- **Jobs Created:** This project will create 10 Full Time seasonal jobs during construction season and provide .15 FTE of directly funded positions at the Lake and Peninsula Borough and School District during the course of the project

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### Anticipated Outcomes

- **Reduced Diesel Fuel Use** - diesel fuel consumption will be reduced by 44,814 gallons/year, and 896,280 gallons over the 20-year project life
- **Reduced Diesel fuel use required for electricity generation**
- **Reduced Diesel fuel storage requirements**
- **Career and job training opportunities for local youth** Created- 10 seasonal FTEs during 18 months of construction over 2 years, 2 permanent FTE O&M positions
- **Greenhouse Gas Emission Reductions** – reduction of 457.15 metric tons of CO<sub>2</sub> annually and 9,143 metric tons over the 20-year project life.
- **Improved Indoor Air Quality**
- **Reduction in cumulative metric tons of GHG emissions from 2025 through 2030:**

The project is not anticipated to complete construction until 2027. Annual Emissions reduction are estimated at 457.15 MT/year. Over a three-year period 1212 MT is estimated to be offset by the project.
- **Reduction in cumulative metric tons of GHG emissions from 2025 through 2050:**

The project is anticipated to offset 9,143 MT over the period of 2025 through 2050. This is based upon an annual emissions reduction of 457.15 /MT year multiplied by 20 years.

### Performance Measures and Plan

Lake and Peninsula Borough will manage the project and keep track of several key performance measures to ensure project progress and success during the course of the project.

#### Schedule Performance:

The Borough will measure the progress of the project against the originally proposed schedule. The Borough and the School District will keep track of progress towards completion of the key tasks identified in the implementation timeline throughout the entire project. If the project falls behind schedule, the Borough and the School District will cooperate to identify opportunities to expedite key tasks or adjust the project schedule as necessary to achieve success.

#### Budget Performance:

The Borough and the School District will work together to track budget performance throughout the project. Budget performance will be tracked by evaluating actual expenditures as compared to the budget estimates prepared at the beginning of the project. This will include comparing the actual versus budgeted costs of key tasks such as conducting energy audits, implementing retrofits, and internal staff expenses. These evaluations will include not only performance by key task, but be tracked by individual facilities participation in the project.

#### Quality Performance:

Once measures are completed, LPSD and LPB will, on a monthly basis, maintain records of kWh of electricity used in its retrofitted schools, main office and teacher housing units to ensure that the avoided emissions continue to be monitored and realized on an annual basis.

### c. Authorities, Implementation Timeline, and Milestones

The Lake and Peninsula Borough will be responsible for oversight of fulfilling grant funding requirements including providing reporting progress to the EPA, while the Lake and Peninsula School District will be responsible for implementing 100% of the proposed energy saving / GHG reducing



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measures. The Lake and Peninsula Borough is the primary funder (after the State of Alaska) of the Lake and Peninsula School District and the School District owns all property and facilities to be retrofitting under the proposed project. As building owner and the local government, both entities have the authority to implement the proposed scope of work.

The Lake and Peninsula Borough and Lake and Peninsula School District have the authority to carry out each measure, as Building Owners per the PCAP authorities, legal requirements, and the documented support of eligible entities. The LPB and LPSD are CPRG coalition partners and have provided letters of commitment to Lake and Peninsula Borough to carry out all provisions detailed in this proposal as the entity responsible for grant implementation.

Competitively selected contractors will be responsible for design and construction activities; however, the specific entities will not be known until the procurement process is completed during the course of the project.

The timeline below provides guidance for both Measure 1: Building Energy Efficiency for 14 School Facilities and Measure 2: Building Energy Efficiency for 29 residential teacher housing units all owned by the Lake and Peninsula School District. The Implementation steps and procedures for both measures are nearly identical and are envisioned to occur concurrently by community by the same contractor(s) for project efficiency.

### Measure Implementation Timeline

#### Measure 1: Community Facilities – Schools and District Office

**Performance Period:** September 2024 – August 2028

**Task 1.0:** Project Start-Up (September 2024 – February 2025)

**Task Details:** This project planning task includes RFP development, contract procurement, stakeholder engagement, and other critical tasks.

**Subtask 1.1:** Procurement

**Subtask Details:** Negotiate with EPA for award allocation, develop Subaward agreement with Lake and Peninsula School District, develop RFP for Owner's Representative, develop RFP for securing energy auditing services

**Deliverables:** Subaward to LPSD, Contract with Energy Auditing Services

**Subtask 1.2:** Community Engagement

**Subtask Details:** Provide updates on the project to the Lake and Peninsula School Board, Lake and Peninsula Borough Assembly, and provide notice to Tribal Administrators and Community meetings in each community.

**Deliverables:** Minutes from School Board and Assembly Meetings

**Task 2.0:** Conduct Energy Audits (March 2025 – February 2026)

**Task Details:** This task focuses on completing energy auditing of all school facilities and the district office

**Subtask 2.1:** Conduct Site Visits to all fourteen communities; conduct field assessment of each facility

**Subtask Details:** Energy auditors will evaluate each facility to establish updated baseline energy use and identify potential energy efficiency retrofits

**Deliverables:** Trip Report – 14 Facilities

**Subtask 2.2:** Complete AKWarm Energy Modeling

**Subtask Details:** Develop AKWarm Energy Model for each facility

**Deliverables:** 14 AKWarm software files

## **Project Workplan – GHG Reductions for the Lake and Peninsula School District**

### **Subtask 2.3: Energy Audit Reports**

**Subtask Details:** Energy Auditors will generate reports identifying existing building conditions, identify opportunities for improvements, estimate costs of energy efficiency retrofit opportunities and potential energy savings.

### **Task 3.0: Complete Energy Efficiency Retrofits (March 2026 – March 2028)**

**Task Details:** This task focuses on implementation of recommended energy efficiency retrofits in each facility

#### **Subtask 3.1 RFP – Energy Retrofits Contractor(s)**

**Subtask Details:** Conduct Procurement actions to secure qualified contractors to implement energy audit recommendation

**Deliverables:** Contract(s) – Energy Retrofit Contractors selected

#### **Subtask 3.2: Procure Materials**

**Subtask Details:** Energy retrofit contractors will procure all necessary materials and equipment and have them mobilized to each respective project site

**Deliverables:** Bill of Materials and Freight Manifest

#### **Subtask 3.3: Implement Retrofit Upgrades**

**Subtask Details:** Energy retrofit contractors will implement retrofits to each facility over the course of two years once procurement actions have been completed

**Deliverables:** Bi-weekly construction reports

#### **Subtask 3.4: Inspection and Closeout**

**Subtask Details:** Substantial completion inspection and punch list, address punch list items, troubleshooting, operator training

**Deliverables:** Final inspection reports for 14 facilities

## **Measure 2: Residential Energy Efficiency – Teacher Housing**

**Performance Period:** September 2024 – August 2028

### **Task 1.0: Project Start-Up (September 2024 – February 2025)**

**Task Details:** The project planning task includes RFP development, contract procurement, stakeholder engagement, and other critical tasks. These tasks will align and be shared with Measure 1.

#### **Subtask 1.1: Procurement**

**Subtask Details:** Negotiate with EPA for award allocation, develop Subaward agreement with Lake and Peninsula School District, develop RFP for Owner's Representative, develop RFP for securing energy auditing services

**Deliverables:** Subaward to LPSD, Contract with Energy Auditing Services

#### **Subtask 1.2: Community Engagement**

**Subtask Details:** Provide updates on the project to the Lake and Peninsula School Board, Lake and Peninsula Borough Assembly Meeting, and provide notice to Administrators and Community meetings in each community.

**Deliverables:** Minutes from School Board and Assembly Meetings

### **Task 2.0: Conduct Energy Audits (March 2025 – February 2026)**

**Task Details:** This task focuses on completing energy auditing of all 29 teacher housing units in the school district spread across 13 communities plus the School District office in another community. These tasks will align and be shared with Measure 1.

**Subtask 2.1:** Conduct Site Visits to all fourteen communities conduct field assessment of each housing unit and School District office

## **Project Workplan – GHG Reductions for the Lake and Peninsula School District**

**Subtask Details:** Energy auditors will evaluate each facility to establish updated baseline energy use and identify potential energy efficiency retrofits. These tasks will align and be shared with Measure 1.

**Deliverables:** Trip Report – 14 trips to evaluate 29 facilities

**Subtask 2.2:** Complete AKWarm Energy Modeling

**Subtask Details:** Develop AKWarm Energy Model for each housing unit

**Deliverables:** 29 AKWarm software files

**Subtask 2.3:** Energy Audit Reports

**Subtask Details:** Energy Auditors will generate reports identifying existing building conditions, identify opportunities for improvements, estimate costs of energy efficiency retrofit opportunities and potential energy savings

**Task 3.0:** Complete Energy Efficiency Retrofits (March 2026 – March 2028)

**Task Details:** This task focuses on implementation of recommended energy efficiency retrofits in each housing unit

**Subtask 3.1 RFP – Energy Retrofits Contractor(s)**

**Subtask Details:** Conduct Procurement actions to secure qualified contractors to implement energy audit recommendation

**Deliverables:** Contract(s) – Energy Retrofit Contractors selected

**Subtask 3.2:** Procure Materials

**Subtask Details:** Energy retrofit contractors will procure all necessary materials and equipment and have them mobilized to each respective project site

**Deliverables:** Bill of Materials and Freight Manifest

**Subtask 3.3:** Implement Retrofit Upgrades

**Subtask Details:** Energy retrofit contractors will implement retrofits to each facility over the course of two years once procurement actions have been completed

**Deliverables:** Bi-weekly construction reports

**Subtask 3.4:** Inspection and Closeout

**Subtask Details:** Substantial completion inspection and punch list, address punch list items, troubleshooting, operator training

**Deliverables:** Final inspection reports for 29 facilities

## Project Workplan – GHG Reductions for the Lake and Peninsula School District

### Implementation Milestones and Schedule

Lake and Peninsula Borough Implementation Milestones and Schedule																	
Project Tasks		2025				2026				2027				2028			
Years		2025				2026				2027				2028			
Quarters		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Residential Energy Efficiency Retrofits</b>																	
Procurement - Owner's Rep, Energy Auditors																	
Community Engagement																	
Conduct Energy Audit Site Visits																	
Complete AKWarm Energy Modeling																	
Complete Energy Audit Reports																	
Procure Energy Retrofit Contractors																	
Procure Materials																	
Implement Retrofit Upgrades																	
Inspection and Closeout																	
<b>Community Building Energy Efficiency Retrofits</b>																	
Procurement - Owner's Rep, Energy Auditors																	
Community Engagement																	
Conduct Energy Audit Site Visits																	
Complete AKWarm Energy Modeling																	
Complete Energy Audit Reports																	
Procure Energy Retrofit Contractors																	
Procure Materials																	
Implement Retrofit Upgrades																	
Inspection and Closeout																	

### Section 4: Low-Income and Disadvantaged Communities

#### Community Benefits

The proposed energy efficiency retrofits are expected to produce about 10 jobs and save 8,172 MTCO<sub>2</sub>e over the project life. The proposed project and associated benefits are targeting an extremely disadvantaged region that is characterized by a population that is majority indigenous (almost 61% Alaska Native/American Indian according to the US Census) and in the 79<sup>th</sup> percentile nationally for low income and in the 95<sup>th</sup> percentile for unemployment according to the Climate and Economic Justice Screening Tool <https://screeningtool.geoplatform.gov/en/#5.82/59.85/-155.319>. This is very notable because our region supports a historically lucrative commercial fishing industry and in the past, income levels were distorted statistically because a few people made large amounts of money in this industry and it skewed the overall averages. However, in the last several years we have experienced significant decline in the industry and the impacts continue to sweep across our communities and region. Unfortunately we expect this low income percentage to continue to increase over time as the commercial fishery continues to be impacted by climate change and shifting global markets.

It should also be noted when viewing this proposal that energy costs are ranked in the 99<sup>th</sup> percentile nationally according to the same Climate and Economic Justice Screening Tool, which takes into account average annual energy costs divided by household income. In other words, our region is extremely energy burdened; energy efficiency upgrades for our schools and teacher housing and School District support building is the first line of defense and will immediately provide direct and indirect community benefits ranging from jobs to reduced costs to improved educational opportunities for our youth and the entire community in each village.

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As discussed above, these benefits are not just economic, although those will be very welcomed. Importantly, the community benefits that will accrue from this project are centered around the very survival of our communities. In rural Alaska, the school is the center of the community and if a school population drops below 10 students, the state no longer funds the school. Some of our communities are struggling with this threshold. If and when state funding for the school is lost, it portends the decline and potential dissolution of the entire village since the school provides the majority of the jobs, is the largest energy consumer so it supports the local electric utility and fuel distribution network, and provides the space for cultural sharing events. Further, by being a positive role model in terms of promoting and demonstrating energy efficiency for our primary buildings and for teacher housing, we are “walking the walk” and showing our students and the broader community how to improve our energy security and overall economic situation. This effort aligns with past initiatives led by the Lake and Peninsula Borough that include developing woody biomass heating programs across the region that have displaced tens of thousands of gallons of diesel heating fuel, promoting hydropower and wind and solar energy in numerous villages, and close collaboration with the School District for other educational and energy related demonstrations.

### Community Engagement

This project has been designed with significant collaboration among stakeholders and future anticipated engagement. Specifically, the Lake and Peninsula Borough and the Lake and Peninsula School District have defined their energy needs, GHG emissions, and subsequent request via this proposal through the Bristol Bay Native Association PCAP process, which quantifies the opportunity and benefits of this project. LPB, LPSD, and BBNA, along with all the participating communities have identified energy efficiency upgrades for the Borough’s schools, teacher housing, and School District support building to be of highest priority.

If funded, the project team, led by LPB and LPSD staff, will meet with all the participating communities, develop local hiring priorities within the constraints of local, state, and federal regulations, and widely publish the workplan and proposed timing of activities. Because of the extreme seasonal nature of employment and the commercial and subsistence fishing harvest across the region, work activities will have to be carefully timed and scheduled to not interfere with these traditional and commercial pursuits that are concentrated in small but intense periods of activity and slightly differ across communities depending on when harvesting opportunities are available.

LPB and LPSD staff will attend City and Tribal Council meetings as needed. The Borough will also post all project-related information on its website and target social media for each individual community as these have become vital tools in the community communication fabric. There will be a local committee established to review technical proposals and scheduling for the energy efficiency upgrades construction work. As well, selected contractors will be required to comply with all local hiring requirements and participate in cultural awareness activities along with providing on-the-job training where appropriate to share the skills and knowledge with the local communities.

Regionally, the project progress will be reported on at the LPB Assembly meetings monthly by LPB staff for full transparency and monitoring by all the elected Representatives of the Borough. Since each participating community in the project has a Representative at the Borough Assembly, this will serve as an additional level of transparency and accountability and allow the Representative to report back to his/her community as well as provide a channel of feedback from the participating communities back up



## Project Workplan – GHG Reductions for the Lake and Peninsula School District

to the full Assembly and Borough staff. At the end of the project, we will conduct a survey in the participating communities to evaluate project delivery efficiency and effectiveness along with performance evaluation of the actual energy efficiency upgrades. This will take the form of a questionnaire that is sent out electronically to each community's leadership and citizens and then compiled in a database for presentation and distribution at a Borough Assembly meeting and shared with the School District and other stakeholders.

### 5. Job Quality

The jobs that will emerge from this project have been carefully considered and are delineated in the BBNA Tribal PCAP and presented below. Note that we include jobs and workforce development issues related to both Building Energy Efficiency Retrofits and High Penetration Renewable Energy Integration because these activities build upon each other and have some synergies in terms of skills, job qualities, and benefits. Specifically, the energy efficiency jobs that would emerge from this proposed project include technical work such related to engineering, building science, permitting, project management, and analysis, as well as construction cost estimating, logistics, and actual construction. These are all relatively high paying jobs that would elevate the median and average income across the region and from wherever the labor originates. There are also numerous other jobs that are less highly skilled and less high paying but still high quality jobs that provide opportunity for future elevation of skills and wages. These include basic construction, labor, and physical implementation activities such as moving equipment and materials around within a village, project and site preparation and clean-up, and basic construction manual labor. As mentioned above, the local school is the major energy consumer in the community so there will be impacts and related job quality in the local utility, with a well operating school positively impacting the opportunities for high penetration renewable energy projects for the community's future.

Priority Project Category	Required Workforce Competencies	Potential Training & Development Needs	Potential Partnerships & Collaborations	Est. Time Needed to Develop Local Labor
<b>Building Energy Efficiency Retrofits</b>	Basic knowledge of weatherization techniques and materials. Skills in air sealing and insulation to improve building envelope efficiency. Competency in installing setback thermostats and other basic energy-saving controls. Ability to retrofit lighting to more efficient options, such as LED. Familiarity with the use of basic hand and	Hands-on training programs in weatherization and air sealing techniques. Workshops on the installation of setback thermostats and basic electrical safety. Practical sessions on efficient lighting retrofitting, including safe handling and disposal of old fixtures.	Partnerships with energy efficiency organizations for the provision of up-to-date training materials and best practices. (RurAL CAP, ANTHC, Housing Authority) Community workshops on energy-saving practices and safe installation procedures. Cooperative programs with local trade schools or adult education	Basic competency in tool use and safety: 1-2 months. Proficiency in basic retrofitting tasks like weatherization and thermostat installation: 2-4 months. Training and application of energy-efficient lighting retrofitting: 1-2 months.

## Project Workplan – GHG Reductions for the Lake and Peninsula School District

	power tools safely and effectively.	Basic tool safety and operation courses, including measures to prevent workplace injuries.	centers offering entry-level courses in home retrofitting and energy efficiency.	
<b>High Penetration Renewable Energy Integration</b>	Renewable Energy Systems Knowledge: Fundamental understanding of renewable energy technologies, such as solar and wind power systems.	Educational courses on the principles of renewable energy and high-penetration systems.	Collaborations with renewable energy firms and educational institutions for curriculum development and guest lectures.	3-6 months for foundational knowledge.
<b>High Penetration Renewable Energy Integration</b>	Technical Installation Skills: Ability to install high-penetration renewable energy systems, including solar panels and wind turbines.	Vocational training in the mechanical and electrical aspects of installing renewable energy systems.	Partnerships with technical and trade schools for hands-on installation training programs.	6-12 months for basic to intermediate installation skills.
<b>High Penetration Renewable Energy Integration</b>	System Integration and Interconnection: Skills in integrating renewable energy systems with existing power grids and infrastructure.	Workshops on grid interconnection standards, smart grid technologies, and distributed energy resource management.	Joint programs with energy utility companies to provide training on grid integration and smart grid technologies.	1-2 years for advanced integration skills and grid interconnection proficiency.
<b>High Penetration Renewable Energy Integration</b>	Energy System Monitoring: Competency in the use of monitoring equipment to ensure system performance and reliability.	Training in data analysis and the use of software tools for monitoring renewable energy system performance.	Alliances with software and analytics companies specializing in energy system monitoring solutions.	6-12 months for effective system monitoring and data analysis skills.
<b>High Penetration Renewable Energy Integration</b>	Maintenance and Troubleshooting: Knowledge of maintenance procedures for renewable energy installations and the ability to troubleshoot common issues.	Regular upskilling sessions on maintaining renewable energy equipment and diagnosing technical faults.	Cooperative agreements with equipment manufacturers or specialized contractors for ongoing technical support and training.	Ongoing, with initial training taking 3-6 months and periodic updates as technology advances.

## **Project Workplan – GHG Reductions for the Lake and Peninsula School District**

### Section 6. Programmatic Capability and Past Performance

#### Past Performance and Reporting Requirements

The Lake and Peninsula Borough has received \$10's of millions in grant funding from a variety of agencies over the past fifteen years. The below specific opportunities are recently received grant funds from federal agencies. For each award, a brief scope description, status of the progress on expenditure of the funds, key contact information for granting officers, and grant reporting history is provided below.

1. Pacific State Marine Fisheries Council (PSMFC) – 23-059G- \$299,274.

These funds were secured by the Borough for the purposes of developing and supporting fisheries infrastructure in the Chignik fishery. Funding to date has gone towards the purchase of equipment to support the local fisheries and design of a waterline upgrade to the dock.

Contact: Brian Bissell– 503-585-3100 – [bbissell@psmfc.org](mailto:bbissell@psmfc.org)

This project is in active status and significant progress has been made. The Lake and Peninsula Borough continues to oversee the design work for the water line. All quarterly reports have been submitted and accepted.

2. Denali Commission – 1464 – \$959,600.

This funding source provided funds to complete design and engineering work for multi-modal barge landing and waterfront infrastructure on Lake Iliamna to replace an ice damaged structure.

Contact: Nikki Navio – 907-271-1413 – [nnavio@denali.gov](mailto:nnavio@denali.gov)

Design and engineering are currently underway and the submission of the project to the DOT Port Infrastructure Development Program is slated for late April 2024. All required quarterly reports have been submitted and the LPB has been reimbursed for expenses incurred.

3. USDA – AK0050-B84 - \$785,000.

This funding program through the USDA provided funds to support development and integration of wind power for the Borough community of Kokhanok. Work on switchgear to integrate the wind turbine, purchase of boilers and final integration of the system.

Contact: Vieda White – 202-720-7757 – [vieda.white@usa.gov](mailto:vieda.white@usa.gov)

The grant is nearing the end of its terms and all reports and reimbursements have been submitted. LPB staff, contractors and other involved personnel are pushing the project towards completion, currently conducting commissioning and grant closeout activities.

#### c. Staff Expertise

##### Lake and Peninsula Borough, Relevant Experience:

The Borough has managed and participated in financing multiple capital projects throughout the region. The largest recent project directly managed by the Borough was the design and construction of the Ferry Dock in Chignik Bay, a \$13MM complex project completed in 2017. Further projects in Chignik Bay included a dredging and harbor improvement project at the Chignik Boat Harbor (\$6MM) completed in 2012. The Borough has also overseen design and construction of barge landings for multiple communities in Lake Iliamna (\$2MM), and a high-penetration hydroelectric project in Chignik Lagoon (\$5MM), completed in 2015, and many other capital projects in the region.

## Project Workplan – GHG Reductions for the Lake and Peninsula School District

**Jordan Keeler**, LPB Projects Manager, will serve as Project Manager for the CPRG and be the Borough's main point of contact for the project. Jordan will act as the primary liaison with LPSD, provide grant oversight, perform design reviews, and closely coordinate with Tim McDermott, LPSD's Facilities and Maintenance Director, throughout the project. Jordan has over a decade of experience managing capital projects in rural Alaska, including the Chignik Inner Harbor Floats, Sand Point City Hall Rehabilitation, Sand Point Travel Lift, and has extensive experience in permitting at the state and local levels.

**Nathan Hill**, Borough Manager - Nathan has a bachelor's degree in Education and has worked as the Lake and Peninsula Borough Manager for nine years and on the planning commission for three years. Nathan has extensive project management and construction experience including projects such as waterfront construction, community building construction, and alternative energy project construction. Nathan will be available to assist Jordan in his administrative project management role as needed and will ensure transparent communication with and reporting to the Borough Assembly.

**Mark Stahl**, Borough Finance Officer, has been working in finance and accounting for over 30 years. Mark will manage the finance and accounting to track all grant related expenditures and prepare financial reports for the EPA CPRG reporting and reimbursement requests. Mark has been responsible for administering FEMA, USAID, UN, ECHO, EU, and USDA grants, including bookkeeping, vendor payments, monthly and quarterly grant financial reporting, and final review and financial reporting.

### Lake and Peninsula School District, Relevant Experience:

**Tim McDermott**, LPSD Facilities and Maintenance Director, has overseen capital projects and general maintenance for the School District for over a decade overseeing and coordinating maintenance activities as well as capital project upgrades across the district. Tim will provide project management for the project for the School District, conducting procurement activities to secure qualified contractors and overseeing the activities of selected contractors.

**Damian Hill**, LPSD Maintenance Manager, has extensive technical experience with facility maintenance and has been with the School District for several years. Mr. Hill is an AHERA certified building inspection and Management Planner. Mr. Hill will coordinate with local school facility maintenance staff to incorporate retrofits into maintenance and operations practices for each school.

**Kasie Luke**, LPSD Superintendent of Schools has been the Superintendent of LPSD for several years after having previously served as a school administrator, principal and teacher. Ms. Luke will provide general oversight for district staff, provide review of contracts and provide public reporting on project progress to the School Board.

**Laura Hylton**, LPSD Director of Business Services has been at the LPSD serving in a lead financial position for over two decades performing accounting and financial management for the School District. Laura will develop financial reports and maintain and track invoices and expenses for the duration of the project.



## Project Workplan – GHG Reductions for the Lake and Peninsula School District

### Section 7 Budget

The Lake and Peninsula Borough is seeking \$5,335,473 to complete energy audits and energy efficiency retrofits for most major facilities of the Lake and Peninsula School District. The project will implement significant emissions reduction measures in 13 K-12 school facilities across the district, 29 teacher housing units, and the school district office building. The below budget breaks out direct expenses of the Borough to complete the project over the four-year proposed implementation timeline.

BUDGET BY YEAR						
	CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	TOTAL
	<b>Personnel</b>					
	Borough Projects Manager	\$4,000	\$4,120	\$4,244	\$4,371	\$16,735
	<b>TOTAL PERSONNEL</b>	<b>\$4,000</b>	<b>\$4,120</b>	<b>\$4,244</b>	<b>\$4,371</b>	<b>\$16,735</b>
	<b>Fringe Benefits</b>					
	Borough Projects Manager	\$1,800	\$1,854	\$1,910	\$1,967	\$7,531
	<b>TOTAL FRINGE BENEFITS</b>	<b>\$1,800</b>	<b>\$1,854</b>	<b>\$1,910</b>	<b>\$1,967</b>	<b>\$7,531</b>
	<b>Travel</b>					
	<b>TOTAL TRAVEL</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$0</b>
	<b>Equipment</b>					
	<b>TOTAL EQUIPMENT</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
	<b>Supplies</b>					
	<b>TOTAL SUPPLIES</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
	<b>Contractual</b>					
	Subaward - LPSD	\$167,384	\$1,937,082	\$1,600,202	\$1,601,614	\$5,306,282
	<b>TOTAL CONTRACTUAL</b>	<b>\$167,384</b>	<b>\$1,937,082</b>	<b>\$1,600,202</b>	<b>\$1,601,614</b>	<b>\$5,306,282</b>
	<b>Other</b>					
	<b>TOTAL OTHER</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
	<b>TOTAL DIRECT</b>	<b>\$173,184</b>	<b>\$1,943,056</b>	<b>\$1,606,355</b>	<b>\$1,607,952</b>	<b>\$5,330,547</b>
	<b>Indirect Costs</b>					
	Federal de minimis	\$3,080	\$597	\$615	\$634	\$4,927
	<b>TOTAL INDIRECT</b>	<b>\$3,080</b>	<b>\$597</b>	<b>\$615</b>	<b>\$634</b>	<b>\$4,927</b>
	<b>TOTAL FUNDING</b>	<b>\$176,264</b>	<b>\$1,943,653</b>	<b>\$1,606,971</b>	<b>\$1,608,586</b>	<b>\$5,335,473</b>

## Project Workplan – GHG Reductions for the Lake and Peninsula School District

The below table provides additional details on implementation of the proposed measures with the Lake and Peninsula School District. Additional details can be found in the Budget Narrative and Budget Table submitted in conjunction with the project. Budgets for implementation of reductions measures were developed from previous energy audits adjusted for inflation and statewide data on average costs of implementing energy efficiency projects in remote rural Alaskan communities.

LPSP Subaward BUDGET BY YEAR						
	CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	TOTAL
	TOTAL PERSONNEL	\$29,879	\$30,775	\$31,698	\$32,649	\$125,000
	TOTAL FRINGE BENEFITS	\$11,908	\$12,266	\$12,634	\$13,013	\$49,821
	TOTAL TRAVEL	\$7,500	\$7,500	\$7,500	\$7,500	\$30,000
	TOTAL EQUIPMENT		\$0	\$0	\$0	\$0
	TOTAL SUPPLIES	\$0	\$0	\$0	\$0	\$0
	TOTAL CONTRACTUAL	\$115,066	\$1,883,433	\$1,545,183	\$1,545,183	\$5,088,864
	TOTAL OTHER	\$0	\$0	\$0	\$0	\$0
	TOTAL DIRECT	\$164,353	\$1,933,973	\$1,597,015	\$1,598,345	\$5,293,685
	TOTAL INDIRECT	\$3,031	\$3,108	\$3,188	\$3,269	\$ 12,597
	TOTAL FUNDING	\$167,384	\$1,937,082	\$1,600,202	\$1,601,614	\$5,306,282