

**CITY OF GUSTAVUS, ALASKA  
PROJECT SCOPING and DEVELOPMENT FORM**

This form is to be used to document project planning and approval to assure that: project options are well-considered; the best option is put forward; initial and continuing costs and funding are addressed; and that Council approval has been given for implementation. Use this project scoping form with the Project Planning and Approval Process Flow Chart.

Answer the questions that pertain to your proposed project. Attach additional narrative pages if necessary. Type in the electronic form using as much space as you feel is necessary.

**Part 1. Project Identification**

Name of Project: **Heat Pump Installations for City Buildings**

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**Part 2. Project Scope** refers to a project's size, goals, and requirements. It identifies what the project is supposed to accomplish and the estimated budget (of time and money) necessary to achieve these goals. Changes in scope will need Council approval.

1. What is the project?
  - What are its goals and objectives?

**Goals:**

The primary goal is to reduce the City's carbon footprint by electrifying heating in city buildings using heat pump systems as the primary heating energy means. The secondary goal is to reduce reliance on expensive heating oil for existing heaters.

City building heat will be sourced primarily from the local Falls Creek hydroelectric power facility. The oil-fired heating system will be maintained as a back up for very cold weather.

**Objectives:**

Likely buildings to have heat pump systems installed are:

City Hall.	One heat pump with two or three discharge units & UV air cleaner.
Fire Hall.	One heat pump with two discharge units.
DRC Office.	One heat pump with one discharge unit
Old PO Bldg.	One heat pump with one discharge unit.
Community Chest:	One heat pump with one discharge unit.

- Who/what will be aided by this project? Who are the targeted stakeholders/customers? The global climate will benefit from the reduction of carbon emissions and the city budget will benefit because electric costs are less volatile than fossil fuel costs. Through this project, the City will demonstrate its commitment to our vision as a distinctive

community that prospers while and by protecting its natural resources. The project will increase utilization of electric power from the Falls Creek Hydroelectric facility, which will contribute to lower unit power prices for community consumers as more kilowatt-hours are sold from the fixed cost facility.

- Is a preliminary survey necessary to identify the number of potential customers/users? How will you design and conduct the survey?  
No survey is needed. The project managers will identify buildings and scope systems for those facilities
- What is NOT covered by this project? What are its boundaries?  
The project addresses only heating systems. It does not address ventilation upgrades in City buildings. The Gustavus Public Library is not included in this project because the City is considering an addition to the library and could address a heat pump system as part of that project.

2. Why is the project needed?

- What community problem, need, or opportunity will it address?  
The project addresses three needs: 1) to be a responsible organization that reduces its carbon emission impact on the planet; 2) to stabilize energy costs in a volatile geo-political environment with wildly varying fossil fuel prices; 3) to increase utilization of the Falls Creek Hydroelectric Facility and the kilowatt-hours delivered to customers, which will help lower the cost per kilowatt-hour ultimately to all customers.
- What health, safety, environmental, compliance, infrastructure, or economic problems or opportunities does it address?  
The project will improve City infrastructure by converting buildings to modern alternative energy heating source—our community hydroelectric facility. By increasing use of electric power demand, the City will help address the high cost per kilowatt-hour that currently results from low sales compared to the fixed cost of the facility.

The project will also qualify for a \$500 incentive payment from our utility, Alaska Power and Telephone (Alaska Power Company) for each system installed in a building.  
(Confirmed by Jason Custer of APC, 4/21/22)

- 3. Where did the idea for this project originate? (Public comments, Council direction, committee work?)  
The Mayor originated the idea.

4. Is this project part of a larger plan? (For example, the Gustavus Community Strategic Plan, or committee Annual Work Plan?)  
No

5. What is your timeline for project planning?

- By when do you hope to implement the project?  
This will depend on grant funding availability.
- Will the planning or final project occur in phases or stages?  
This may occur in stages depending on funding. Buildings would be done in priority.

6. What is your budget for the planning process? Will you be using a consultant? Planning will be done by the project managers at no cost to the city. However, grant application by the grant writer is estimated at \$7071.

7. What is your rough estimate of the total cost of the planning and final product? At the least, please list cost categories. See Part 4. (Ques. 4-8) and Part 5 (Budget) for guidance.

City Hall.	One large heat pump with three discharge units	
	UV filters and associated equipment :	\$ 13,000
Fire Hall.	One large heat pump with two discharge units:	\$ 13,000
DRC Office.	One heat pump with one discharge unit:	\$ 6,500
Old PO Bldg.	One heat pump with one discharge unit:	\$ 6,500
Community Chest:	One heat pump with one discharge unit:	\$ 6,500
Subtotal:		\$45,500
Contingency:	Possible additional electrical requirements:	\$ 4,500
<b>Total Cost:</b>		<b>\$50,000</b>

### **Parts 3., 4., 5., 6. Project Investigation and Development**

Parts 3.-6. refer to social, environmental, and financial impacts of various options. These questions will help you document your consideration of alternatives and your choice of the option providing the best value for the community. Your goal is to generate alternatives and make a recommendation from among them. Return to Part 3., "Summary" after applying Parts 4.-6.

#### **Summary:**

1. What alternative approaches or solutions were considered? Make a business case for your top two or three options by discussing how effectively each would fulfill the project goals, and by comparing the economic, social, and environmental costs vs. benefits of each one.

No alternative approaches were identified.

2. What solution was chosen as the best and why is it the best?

Heat pumps are the modern method of electrifying heating systems to reduce carbon emissions and air pollution that are characteristic of fossil-fueled heating systems.

3. Identify your funding source(s).

We are applying for grants to fund the project. Potential funding sources include an Endowment Fund grant and capital funding from the City savings.

## Part 4. Environmental, Social, Financial Impacts

### 1. Project Impacts Checklist

Will this project affect:	No	Yes (+/-)	Maybe
<b>Environmental quality?</b> (+ = impact is beneficial; - = harmful)			
• Climate change		+	
• Streams/groundwater quality	X		
• Air quality		+	
• Soils/land quality		+	
• Fish/wildlife habitat, populations	X		
• Plant Resources (timber, firewood, berries, etc.)	X		
• Invasive or pest species	X		
• Natural beauty of landscape or neighborhoods	X		
• Neighborhood character	X		
• Noise or other environmental impacts	X		
• Environmental sustainability		+	
• Hazardous substances use	X		
• Community waste stream	X		
• Light pollution at night	X		
<b>Recreational opportunities?</b>			
• Public land use and access	X		
• Trails/waterways	X		
• Parks	X		
• Public assembly/activities	X		
<b>Education/training/knowledge &amp; skill development?</b>			+
<b>Public safety?</b>	X		
<b>Public health?</b>	X		
<b>Medical services?</b>	X		
<b>Emergency response?</b>	X		
<b>Economic performance &amp; sustainability?</b>			
• Employment of residents			
o Short-term (i.e. construction)		+	
o Long-term (operating and maintenance)	X		
• Cost of living reduction			+
• Return on investment			+
• Visitor opportunities/impressions/stays/purchases		+	
• Competitive business environment		+	
• Support for existing businesses		+/-	
• New business opportunities			+
• Economic sustainability		+	
• Attractiveness of City to new residents/businesses		+	

<b>City government performance?</b>			
• Infrastructure quality/effectiveness/reach (more people)		+	
• Existing services	X		
• New services	X		
• Cost of City services		+	
• Tax income to City	X		
<b>Transportation?</b>			
• Air	X		
• Water	X		
• Roads	X		
<b>Communications?</b>			
• Internet	X		
• Phone	X		
• TV/radio	X		
<b>Other? (type in)</b>			

2. How does this project provide benefits or add value in multiple areas? (E.g., benefits both to the environment and to business performance.)  
The project will reduce the City's impact on global climate. It will benefit the reputation of the City of Gustavus as an environmentally distinctive community and government. It will reduce City dependence on fossil fuel, which is increasingly expensive and volatile in price. Increasing City purchase of electric energy will increase kilowatt-hour sales by the utility, which ultimately supports a lower base rate for the power from the fixed cost Falls Creek Hydroelectric Facility.
3. Are other projects related to or dependent on this project?
- Is this project dependent on other activities or actions?  
No
  - If yes, describe projects, action or activities specifying phases where appropriate.
4. Will the project require additional infrastructure, activity, or staffing outside the immediate department or activity? (e.g., will the construction of a new facility require additional roads or road maintenance or more internal City staffing?)  
No
5. What regulatory permits will be required and how will they be obtained?  
None
6. What are the estimated initial (e.g., construction or purchase) and continuing operational costs of the project?

Initial Cost:

Operating Cost: Heat pumps are nearly maintenance free. The city will purchase more electricity, the cost of which is offset by not buying heating oil.

7. Is an engineering design or construction estimate necessary?

No engineering design work is required. These systems are standard, manufactured units that can be installed by skilled trade workers.

8. Will operation of the project generate any revenue for the City such as sales, user fees, or new taxes? If so, how will the new revenue be collected?

No

## Part 5. Project Budget

### Proposed Budget Line Items

Construction project Budget estimate	Cost	Operational budget estimate (annual)	Cost
Administrative	\$0	Personnel	\$0
Project management	\$0	Benefits	\$0
Land, structures, ROW, easements	\$0	Training	\$0
Engineering work	\$0	Travel	\$0
Permitting, inspection		Equipment	\$0
Site work	\$0	Contractual	\$0
Construction	\$45,500	Supplies	\$0
Waste disposal	\$0	Utilities	\$0
Equipment	\$	Insurance	\$0
Freight	\$0	Repair & maintenance	\$
Contingencies	\$4,500	Other (list)	\$0
Other (list)	\$	Other (list)	\$0
Other (list)		Total direct costs	\$
		Indirect costs	\$
		Income (fees, taxes)	\$
		Balance: costs-income	

Updated Latest Estimate Budget Line Items if Changed Date: \_\_\_\_\_

Construction project Budget estimate	Cost	Operational budget estimate (annual)	Cost
Administrative	\$	Personnel	\$
Project management	\$	Benefits	\$
Land, structures, ROW, easements	\$	Training	\$
Engineering work	\$	Travel	\$
Permitting; inspection		Equipment	\$
Site work	\$	Contractual	\$
Demolition and construction	\$	Supplies	\$
Waste disposal	\$	Utilities	\$
Equipment	\$	Insurance	\$
Freight	\$	Repair & maintenance	\$
Contingencies	\$	Other (list)	\$
Other (list)	\$	Total direct costs	
		Indirect costs	
		Income (fees, taxes)	\$
		Balance: costs-income	\$

#### **Part 6. Jobs and Training (required by some granting agencies)**

1. What service jobs will be needed for operation and maintenance?  
Operation and maintenance are relatively cost-free.
2. How many full-time, permanent jobs will this project create or retain?  
0 Create/retain in 1-3 years  
0 Create/retain in 3-5 years
3. What training is necessary to prepare local residents for jobs on this project?  
 None
4. How many local businesses will be affected by this project and how?  
 Two local businesses likely: Mechanical and Electrical contractors

#### **Part 7. Business Plan (Upon Council request)**

Upon Council request, please prepare a business plan for the operating phase of your leading option(s). Plans will differ according to the nature of the project.

There are a number of good Internet sites that will assist you in developing a business plan. One example (12/2010): is [http://www.va-interactive.com/inbusiness/editorial/bizdev/ibt/business\\_plan.html](http://www.va-interactive.com/inbusiness/editorial/bizdev/ibt/business_plan.html)

Basic components of a business plan:

- The Product/Service
- The Market
- The Marketing Plan
- The Competition
- Operations
- The Management Team
- Personnel

## **Part 8. Record of Project Planning and Development Meetings**

1. Please document the manner in which public input was received.
  - Public comment on agenda item at committee or Council meeting
  - Special public hearing
  - Dates and attendance for the above.
  - Written comment from the public (please attach)
2. Please use the following chart to document committee meetings, Council reports, and so on. Did the committee make recommendations or requests? Did the Council make requests of the committee?

### **Meeting Record**

Event (Meeting of committee, Council report, public hearing, etc.)	Date	Agenda Posted (date)	Minutes or record attached? (yes/no)	Outcome Rec to Council, requested action of Council, etc.	No. of attendees
M. Taylor and D. Weikle	4/19/22	N/A	N/A	Initial discussion	2

## **Part 9. Feedback to the Council**

With the understanding that this form must be adapted to a variety of projects, please provide feedback on how the form worked for your committee. Thank you for your suggestions.