

**To:** Chief Administrative Officer **Date:** June 20, 2022  
**From:** Gerald Schlesiger, Project Manager  
**Subject:** **District Energy System Grant Application to Canada Community Building Fund**

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### **Recommendation**

That Council endorse a submission to the Canada Community Building Fund for a \$75,000 grant to determine the viability of a District Energy System for the Waterfront Comprehensive Planning Area.

### **Purpose**

The purpose of this report is to receive Council's endorsement for submitting a grant application to the Canada Community Building Fund to investigate the viability of establishing a District Energy System for the Waterfront Comprehensive Planning Area. There is no matching funds requirement for this grant application.

### **Background**

During the preparation of the Waterfront Revitalization Master Plan (WRMP), a preliminary assessment was made concerning the ability to establish a District Energy System (DES) for the Waterfront. The assessment identified potential energy extraction sources that a DES could harness as part of a general concept without exploring into the viability of such a system. The objective of the early assessment was to indicate if district energy held the promise to reduce greenhouse gases thereby contributing to a more sustainable future. All indications show that a deeper assessment is warranted and should include an analysis of the load capacity, concept design, siting characteristics, and financial viability.

### **Discussion and Analysis**

The application to the Canada Community Building Fund would fund site assessment, conducting load analysis, exploring district energy options, preparing a concept design, and determining the financial viability of a DES. As the WRMP has identified land use designations and a phasing strategy, a preliminary assessment can be made on the load demands that would be placed on a DES as the WRMP unfolds. This will inform site requirements, the design strategy, the economic consequences and the contribution a DES would make to sustainability.

The WRMP covers all 296 acres of the Waterfront Comprehensive Planning Area. The WRMP identifies land uses and strategies to bring new life to Mission's Waterfront with a balance of residential, commercial and industrial uses, while protecting environmentally sensitive areas and improving sustainability. The achievement of having a Land Use Plan allows there to be an assessment of the energy load capacity that would be required to service the Waterfront, and the take-up rate that such a facility could expect as properties develop. It informs the rate at which energy demands are placed on the DES, and the customer characteristics that define

different user groups. The Land Use Plan facilitates the financial analysis on staging the capital investment and assessing the rate of returns as the Waterfront development progresses to its build out capacity.

The Study will consider three potential energy sources to serve the DES:

1. Heat recovery from the waters of the Fraser River;
2. Heat recovery from geothermal wells; and
3. Heat recovery from the recently built trunk sanitary sewer line.

Expectations are that heat recovery from the recently built sanitary sewer line holds the most promise. It utilizes a source that is already operational and the heat source will increase as Mission's population grows. Heat extraction from water sources such as the Fraser River are generally more efficient because water temperatures are more stable and do not fluctuate as much air temperatures over the course of the year. However, the regulatory regime maybe more complicated because of aquatic habitat. Geothermal sources occupy more land, but still have a relatively small footprint. All three energy sources have longevity in energy supply.

The work involves:

- a) Site Assessment
- b) Load Analysis
- c) Concept Design, and
- d) Financial Analysis

Communications will be required with the City of Abbotsford which operates the Joint Abbotsford Mission Environmental System wastewater treatment plant as well as local First Nations, and the Department of Fisheries and Oceans. The completion of the study will inform the next steps.

The anticipated cost of the study is estimated at \$75,000 with a window of 6 months to complete. Bids from qualified consultants are to follow the submission of the grant application.

### **Council Goals/Objectives**

Advancing the investigation into a DES is in keeping with the goals of the community to improve sustainability, reduce greenhouse gases, and build resiliency to climate change. A DES aligns with the values expressed in the City of Mission's updated Environmental Charter which is a 5-year climate and environmental action plan, and specifically proposes hiring a consultant to study district energy options.

### **Financial Implications**

The Canada Community Building Funds is a federal source of funding provided to provinces to support local governments with local infrastructure priorities. The requested \$75,000 in funding will allow the City to gain more certainty on the implementation of a DES for the Waterfront lands without any capital expenditures by the City.

### **Summary and Conclusion**

It is recommended that Council support the submission of a grant application to the Canada Community Building Fund for the purpose of further assessing the viability of establishing a

District Energy System in the Waterfront. This will provide clear support for a key action identified in the updated Environmental Charter and will accordingly support the sustainability of the development and of the community.

**Report Prepared by:** Gerald Schlesiger, Project Manager

**Reviewed by:** Stacey Crawford, Director of Economic Development

**Approved for Inclusion:** Barclay Pitkethly, Deputy Chief Administrative Officer