



Corporate Report

NO: R017

COUNCIL DATE: February 9, 2009

REGULAR COUNCIL

TO: Mayor & Council DATE: February 9, 2009
FROM: General Manager, Planning and Development FILE: 6950-30 (Sustainability Planning Initiatives)
SUBJECT: Community Action on Energy and Emissions (CAEE) Gold Award Program – Applications by the City of Surrey

RECOMMENDATION

The Planning and Development Department recommends that Council:

1. Receive this report as information;
2. Adopt the proposed resolution, attached as Appendix I to this report, in support of the City of Surrey's participation in the Province's Community Action on Energy and Emissions (CAEE) Gold program; and
3. Authorize staff to forward a copy of this report and the related Council resolution to the Fraser Basin Council as part of the City's grant application under the CAEE Gold program.

INTENT

The purpose of this report is to advise Council of the opportunity being made available through the Province's CAEE Gold program for advanced energy studies and to request that Council pass a resolution in support of the CAEE Gold program measures, which is a pre-requisite for participation in the program.

POLICY CONSIDERATIONS

The City's Sustainability Charter and Official Community Plan both support energy efficiency, use of alternative energy, community energy planning and the exploration of district heating systems within the City's urban centres. Both the City Centre and the Semiahmoo Town Centre Plan updates have identified the potential for district heating systems for reducing energy consumption and incorporating low-impact energy sources.

The reduction of energy use, particularly fossil fuel use, by land use, building, and transportation measures is also essential for addressing the Sustainability Charter's Climate Change policies and for meeting commitments under the BC Climate Action Charter, to which the City is a signatory.

BACKGROUND

Surrey has been actively promoting energy efficiency and alternative energy, including district-heating systems. Recent initiatives include the following background studies:

- **Integrated Energy Master Plan for the Semiahmoo Town Centre (2008)** - This study, in partnership with BC Hydro, was undertaken by Compass Resource Management and FVB Energy and includes an evaluation of district heating and alternative energy sources, including sewer heat recovery and geexchange energy. This study indicates that energy efficiency and a neighbourhood energy utility could be technically and financially feasible in the context of the Semiahmoo Town Centre.
- **Sewer Heat Recovery Feasibility Study (2008)** - This preliminary study, being conducted by Compass Resource Management with FVB Energy, has focused on the Semiahmoo Town Centre and the City Centre and documented technologies, and the potential for heat recovery from a number of sewer lines in close proximity to proposed high density development nodes.
- **Grandview Heights Geexchange Study (2007)** - In partnership with Geexchange BC, this project included a technical feasibility and costing study by Hemmera Consultants and a governance study by the Community Energy Association that supports the development of geexchange in this community.
- **Surrey Energy Efficiency Workshop (2007)** - Completed with financial assistance from Community Action on Energy and Emissions (CAEE) and in-kind support from major utilities, this workshop was coordinated by the Sheltair Group and gathered 80 representatives from government agencies, utilities and the development industry, to raise awareness in relation to energy efficiency.
- **Surrey City Centre Community Energy Plan (2007)** - This high level study, also supported by CAEE and completed by the Sheltair Group, provided an overview of the range of policy directions that could be considered for implementation in the City Centre as part of the Plan update. Measures included the consideration of district heating with energy-efficient, hydronic-ready buildings in high-density nodes.

With the completion of the Sustainability Charter and its Scope items on energy initiatives, it is an opportune time to apply the results of the above-referenced background studies and implement sustainability principles related to energy efficiency and alternative energy sources into community plans and development practices "on the ground".

DISCUSSION

The Province, with the administrative assistance of the Fraser Basin Council, has announced a new CAEE Gold grant program, for which previous participants of the CAEE program are eligible. A total of four \$50,000 grants are available for projects that incorporate measures identified in the CAEE Gold program. These measures include:

- Implementing policies that focus higher densities and residential intensification, including affordable multi-family housing units, within 400 metres of frequent public transit or 800 metres of a rapid transit station within the City Centre and designated Town Centres;
- Developing and implementing a community-based, clean energy resource to supply or offset the energy needs for one or more new developments;
- Developing and implementing a strategy to generate 10% of energy needs from community-based, high efficiency district energy systems, where these are shown to be feasible;
- Developing and implementing a strategy to generate 10% of future energy needs from renewable energy sources, such as geexchange and sewer heat recovery; and
- Implementing community-wide Transportation Demand Management plans for new neighbourhoods.

Two study proposals have been prepared by staff for consideration by the CAEE Gold program that are consistent with the City's policy objectives and CAEE Gold program measures, as described below:

1. ***Surrey City Centre District Heating/Sewer Heat Recovery Strategy***

The Surrey City Centre District Heating/Sewer Heat Recovery Strategy project will build upon a number of existing energy policies and preliminary, high-level background studies to develop a strategy to prepare Surrey's City Centre for a potential network of district heating systems designed for flexible energy sources, including renewables such as sewer heat recovery and geexchange heat.

While the timing for the implementation of district heating systems and alternative energy sources would be dependent on market conditions for development, the current slow down in development activity provides an excellent opportunity to create a strategy for anticipated future development. The deliverables of this study will include technical background papers, a policy framework for land use and buildings and direction for incorporating district heating systems and alternative energy sources into the City's infrastructure plans. The lessons learned from the study are expected to be readily transferrable to other Town Centres within the City and region.

The proposal is based on a recent conceptual sewer heat recovery study that reviewed a number of sites in the City Centre that are transit oriented, designated for high density mixed-use development and in close proximity to sewer heat sources. This preliminary study recommended that the City conduct additional research on district energy systems that represented nodes that could be developed within a 10 to 20 year timeframe and where sewer heat was available with other options for supplying heat to district energy systems. This approach would ensure the overall viability of the district energy systems.

The cost of this study would be \$75,000, which is proposed to be shared with BC Hydro and the CAEE Gold Award.

2. *The Surrey Integrated Design Process for Local Area Plans*

The Surrey Integrated Design Process for Local Area Plans project proposes to use the LEED-ND framework (Leadership in Energy and Environmental Design for Neighbourhood Development) to assist with the development of local area plans (e.g., Neighbourhood Concept Plans or town centre plans). It is intended that the CAEE funding would be applied to at least one of the City's local area plans being developed in 2009. LEED-ND was developed as a pilot program to extend the LEED rating system to include multi-building sites and neighbourhoods. There is a direct relationship between many of the CAEE Gold program objectives and the LEED-ND rating system, including sustainable land use, building, and transportation criteria.

In addition to the rating system, LEED supports an Integrated Design Process (IDP), or design workshop, from the outset to achieve a coordinated and effective design response involving all key stakeholders. The benefits of applying this system to the development of local area plans include:

- developing effective and sustainable neighbourhood plans;
- identifying innovative and cost effective sustainable features;
- providing a framework for community engagement; and
- providing a rating system that facilitates comparison with other local area plans within and outside of Surrey.

The use of LEED-ND will also help build knowledge of the LEED rating system for City staff, design consultants, developers and community groups, as well as providing a measurement tool that is consistent with the objectives of the City's Sustainability Charter, such as sustainable development checklists.

The cost of this study would be \$50,000, which would be covered by the CAEE Gold Award.

Either of these study proposals would significantly advance the likelihood of the City's progressive sustainable energy policies becoming a reality. In order to qualify for these grants, the City is required to present a resolution in support of the measures identified for the CAEE Gold program. The proposed resolution is attached as Appendix I to this report.

CONCLUSION

Partnerships with the Province and organizations such as the BC Hydro, the Community Energy Association, the Fraser Basin Council and Geoexchange BC have resulted in a number of foundation studies upon which the City has built a knowledge base related to energy efficiency and alternative energy sources. The CAEE Gold program presents an opportunity to build upon this knowledge and create frameworks for implementing sustainable community design and district-heating systems in the future based on renewable energy sources.

It is recommended that Council adopt the resolution attached as Appendix I to this report, and authorize staff to forward a copy of this report and the related Council resolution to the Fraser Basin Council as part of the City of Surrey's applications under the CAEE Gold Award program.

Jean Lamontagne
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Planning and Development

MA/kms/saw

Attachments:

Appendix I Resolution in Support of the City of Surrey's Community Action on Energy and Emissions (CAEE) Gold Application

**Resolution in Support of the City of Surrey's Community Action
on Energy and Emissions (CAEE) Gold Application**

WHEREAS the City of Surrey has applied for a grant from Community Action on Energy and Emissions (CAEE) for committing to conserving energy and reducing greenhouse gas and air quality emissions;

BE IT RESOLVED that the City of Surrey endorses the measures outlined in the CAEE grant application, including:

- Implementing policies that focus higher densities and residential intensification, including affordable multi-family housing units, within 400 metres of frequent public transit or 800 metres of a rapid transit station within the City Centre and designated Town Centres by 2010;
- Developing and implementing a community-based, clean energy resource to supply or offset the energy needs for one or more new building developments;
- Developing and implementing a strategy to generate 10% of energy needs from community based, high efficiency district energy systems, including nodes in the City Centre and Semiahmoo Town Centre, where these are shown to be feasible;
- Developing and implementing a strategy to generate 10% of future energy needs from renewable energy sources, such as geexchange and sewer heat recovery; and
- Implementing community-wide Transportation Demand Management plans for new neighbourhoods by 2010.