



Governance and Priorities Committee Report

Date: January 10, 2014 **From:** Steve Young
Subject: Grant request to achieve GHG and energy savings through Solar Rooftop Mapping

Executive Summary

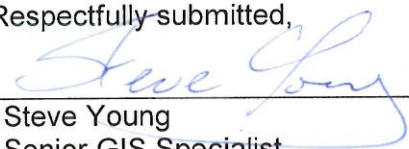
The City of Victoria has the opportunity to support a climate action initiative in our community by awarding a grant to the University of Victoria (UVIC) of \$10,000. Staff propose this grant be funded from the Climate Action Reserve Fund (CARF). The City's contribution will account for approximately one third of the UVIC solar rooftop mapping scholarship.

The scholarship will bring a number of benefits to the City of Victoria and our community. The primary outcome will be a map hosted on VicMap illustrating the solar energy available on each building rooftop within the City. With this map, homeowners and businesses will be better able to assess solar opportunities for their property and calculate the potential energy cost savings and other climate change resiliency benefits of installing solar energy systems. It is anticipated that this map will stimulate the industry for solar technologies by reducing some uncertainty and perceived investment risk in solar energy. Further, with some additional analysis by City staff, a detailed understanding of the solar energy potential of the city's buildings, blocks and neighbourhoods will be obtained to guide decision making by planners, engineers and investors in the field.


Recommendation:

That Council approve the release of a maximum of \$10,000 from the Climate Action Reserve Fund for the purposing of awarding a grant to the University of Victoria to create a one-time solar rooftop mapping scholarship.


Respectfully submitted,


Steve Young
Senior GIS Specialist

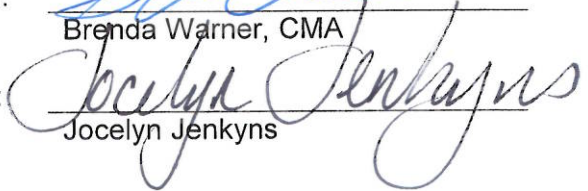

Dwayne Kalynchuk, P. Eng.
Director of Engineering & Public Works


Lucas Pitts, P.Eng.
Manager of Support Services

Report reviewed and endorsed by the Director of Finance:


Brenda Warner, CMA

Report accepted and recommended by the City Manager:


Jocelyn Jenkyns

Purpose:

The purpose of this report is to request a grant of up to a maximum of \$10,000 be awarded to the University of Victoria (Uvic) for a solar rooftop mapping scholarship and be funded from the City's Climate Action Reserve Fund (CARF).

Background:

In February 2010, Council approved an amendment (Bylaw No.10-035) to the City Reserve Fund Bylaw for the creation of the Climate Action Reserve Fund (CARF). The purpose of the CARF is to fund mitigation and adaptation strategies that reduce energy consumption and greenhouse gas (GHG) emissions.

This fund is established to help the City achieve its corporate commitment to become carbon neutral in municipal operations by 2012 and the target of achieving 33% greenhouse gas (GHG) reductions in the community by 2020.

The solar rooftop mapping scholarship aligns with the fund's purpose as it will support GHG reductions by encouraging property owners to switch from oil, gas and conventional electrical power sources to solar heating and power.

The scholarship will deliver to the City a map layer that describes the solar irradiance – the quantity of sunlight – hitting the rooftops of the city. Through publishing on VicMap, the map will be available to citizens to support their renewable energy and cost-saving goals. The scholarship will build on similar community solar energy mapping initiatives that have been conducted for the District of North Vancouver (in partnership with UBC), City of Prince George (in partnership with NRCAN) and for Metro Vancouver by UBC.

In partnering with UVIC this initiative supports the Protocol of Cooperation established in 2011 to further both parties' sustainability objectives. This grant and partnering arrangement with UVIC provides the City with an affordable service for a valuable end product that can be shared with the community which delivers on the objectives of the Victoria Sustainability Framework and the specific greenhouse gas reductions strategies of the Community Energy and Emissions Plan. In turn, UVIC students are able to enhance their education with applied research and develop a specialty in the clean energy economy.

Technological development is driving down the cost of solar electrical energy generation, at the same time BC Hydro rates are increasing. Grid parity, when solar generation cost equals the cost of electricity from the grid, is forecast in 10-15 years (study conducted prior to the announced 28% BC Hydro rate increase). The increasing return on investment of solar hot water technology, supported by incentive programs, such as the proposed expansion of Solar Colwood, further encourage adoption of solar energy generation technologies in Victoria.

Issues & Analysis:

Reaching the City's community commitment to achieve a 33% greenhouse gas reduction by 2020 requires a multi-faceted approach. Supporting the adoption of solar energy is one component towards reaching the community GHG reduction target.

Solar irradiance varies for every size shape and location of roof. Uncertainty around energy capture can inhibit investment potential. Mapping the solar irradiance of the City's rooftops, removes some uncertainty and reduces investment risk in solar energy. It is anticipated this will

stimulate investment in the city and support local solar installation companies through identifying buildings, blocks and neighbourhoods with high solar irradiance.

NSERC, in recognition that municipalities have adopted a leading role in solar rooftop mapping has approved the City of Victoria as a suitable partner in this project. Municipalities are not typically eligible as partners for NSERC, so the approval opens opportunities for additional future federal funding in this area for the City and other municipalities.

Options & Impacts:

Option 1: Approve the release of a maximum of \$10,000 from the CARF in 2014. With this contribution, the UVIC scholarship proceeds and the City obtains solar irradiance and rooftop mapping for the community.

Option 2: Do not approve the request to release up to a maximum of \$10,000 from the CARF. The above-noted benefits would not be realized in this scenario, and Federal funding, UVIC support and NSERC partnership will be foregone.

Conclusion:

Staff recommends that City Council approve Option 1.

Recommendation:

Council approve the release of a maximum of \$10,000 from the Climate Action Reserve Fund in 2014 for the purposing of awarding a grant to University of Victoria to create one-time solar rooftop mapping scholarship.

Appendices:

Irradiance Project Outline

University of Victoria and City of Victoria Protocol of Cooperation