

**DATE:** February 20, 2018

**TO:** Board of Trustees

**FROM:** Darrel Robertson, Superintendent of Schools

**SUBJECT:** District Solar Strategy

**ORIGINATOR:** Dr. Lorne Parker, Assistant Superintendent, Infrastructure

**RESOURCE STAFF:** Darryl Kaminski, Maegan Lukian, Rory Mauricio, Garry Padlewski, Christopher Wright

**REFERENCE:**

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**ISSUE**

In alignment with the Provincial focus on sustainable infrastructure and renewable energy, Edmonton Public Schools is proposing a strategic, achievable approach to installing roof-top solar arrays on District facilities.

**BACKGROUND**

Since 2012, the District Energy and Environment Strategy has been in place to support and advance the District's 2010 Environmental Policy. Through the EnviroMatters Office within the Infrastructure Department, the District Energy and Environment Strategy provides programming opportunities for students, leads District environmental initiatives, and guides facility design efforts that promote energy efficiency and sustainability.

The Government of Alberta established the Climate Leadership Plan following recommendations made by the Climate Change Advisory Panel in 2015. Central to the Climate Leadership Plan is a focus on the use of renewable energy and a carbon levy – the proceeds from which are intended to support energy efficiency initiatives. The Government of Alberta is aiming to have 30 per cent of the province's electrical energy needs generated from renewable sources by 2030. This initiative, known as "30 by '30" will require large commercial initiatives in order to be realized.

In alignment with the Government of Alberta's Climate Leadership Plan, the District has an opportunity to advance our focus on sustainable energy practices through the installation of roof-top solar arrays on a number of schools. A 2017 feasibility study commissioned by administration suggests that installing roof-top arrays on approximately 25 per cent of our schools will generate in excess of 40 per cent of the District's electricity needs. Administration has developed a multi-year strategic plan to address upgrades to roof structures and install solar arrays on 52 schools across the District.

**CURRENT SITUATION**

Recently, six individual school construction and modernization projects have received additional funding for the installation of solar arrays during construction. Each school receives a separate grant of \$750,000 in order to fund the design and installation of solar.

A strategic solar installation program will allow the District to be more intentional and efficient in the design and installation of solar arrays on schools. Embedded in the Government of Alberta's 2017-2020 provincial budget is a total of approximately \$5.4 billion in support for the Climate Leadership Plan, with over \$1.8 Billion identified in support for 'green infrastructure' and projects related to energy efficiency. Access to a portion of these funds will be instrumental in a successful District Solar Strategy.

The District's annual electrical utility costs are approximately \$8 million. Full implementation of the District solar strategy is projected to reduce electricity utility costs by approximately 40 percent. Given that Plant Operation and Maintenance (PO&M) costs for the District exceed annual PO&M funding, any savings on electrical utility costs will allow funds to be re-directed back into the District.

### **KEY POINTS**

A retro-fit installation of solar arrays on select school roof-tops will confirm the District's leadership role in energy awareness and environmental literacy for generations. Solar arrays will place the Province's Climate Leadership Plan in the heart of Edmonton communities.

- Students benefit from curricular ties, enhanced environmental literacy, and project-based learning opportunities.
- Communities are able to experience the Government's Climate Leadership Plan in action.
- The District is able to realize solar project cost efficiencies by allocating funds based on project needs, rather than utilizing lump-sum blanket funds on a per-school basis.
- Carbon levy proceeds are targeted for re-investment in energy efficiency initiatives. Approximately \$5.4 billion is identified in the 2017-2020 provincial budget in support of the Government of Alberta's Climate Leadership Plan.
- Provincial education funds are currently utilized to offset the District's PO&M costs. Financial efficiencies will be re-directed back into the District as a result of the Solar Strategy.
- Through the development of an environmental dashboard, the District can demonstrate transparency and accountability in its efforts to track reductions in our carbon footprint, providing additional opportunities for students to be directly involved in the initiative.

### **ATTACHMENTS and APPENDICES**

N/A

CW:kk