

Renewable Energy Strategy Update

ISSUE

The City of Saskatoon (City) has committed to a target of 80% reduction in corporate and community greenhouse gas (GHG) emissions by 2050. The Low Emissions Community (LEC) Plan outlines actions to achieve this target including increasing solar and renewable energy generation throughout Saskatoon.

During the 2019 Business and Budget Deliberations, City Council approved funding for an Integrated Solar and Renewable Energy Strategy with the purpose of identifying and prioritizing renewable energy opportunities for the community and corporation in order to implement actions from the LEC Plan. In parallel, a discussion on the appropriate net metering rate for solar power generation by residents has been ongoing, including a report to City Council in November of 2019. At that meeting, City Council requested further information to better understand the implications of changing the net metering program to match that of SaskPower.

A comprehensive review of renewable energy options, including net metering, is needed to address outstanding resolutions related to solar energy opportunities and to outline a prioritized plan to meet the LEC actions and targets.

BACKGROUND

At its meeting held on November 20, 2017, City Council considered the Facilitating Solar Energy Opportunities in Saskatoon report and resolved, in part:

- “1. That Administration report back in 2018 on developing solar projects on civic lands, buildings and city-owned properties, such as rights-of-way and under-utilized sites; and
2. That Administration report back in 2018 on addressing barriers to solar uptake and facilitating solar opportunities including: green revolving funds, lack of protection for solar access, insufficient rooftop strength, building permits, virtual metering and policy implications.”

At its meeting held on November 6, 2018, the Standing Policy Committee on Environment, Utilities and Corporate Services, considered the following recommendations from the Solar Opportunities – Protecting Solar Access report:

- “1. That Administration investigate the potential to establish a municipal authority to grant or facilitate the negotiation of solar easements; and
2. That Administration investigate the implications of using zoning for developments with favourable conditions for solar energy generation as a method for protecting solar access.”

The Committee resolved:

“That consideration of this matter be deferred until further reporting on Solar Opportunities is before the Standing Policy Committee on Environment, Utilities & Corporate Services no later than July 2019.”

At its meeting held on November 4, 2019, the Standing Policy Committee on Environment, Utilities and Corporate Services considered the Changes to Net Metering and Small Power Producer Programs report and resolved:

- “1. That the matter be referred back to the Administration to report more information specifically including feedback from stakeholders as well as an assessment of the GHG and LEC Plan related impacts of the proposed change as well as consider opportunities for financial impact equity; and
2. That the Administration report on business models in place in other jurisdictions and any consideration of the benefits of solar in terms of time and day power production and lower maintenance costs and medium to long term risks of batter technology affecting SaskPower revenues.”

At its meeting held on November 18, 2019, City Council also considered the Changes to Net Metering and Small Power Producer Programs report and resolved:

“That when any changes are made to go-forward rates, customers with approved applications be considered existing net metering customers for the purposes of grandfathering.”

At its Preliminary Business Plan and Budget meeting in November 2019, City Council approved \$180,000 in capital funding for the Integrated Solar/Renewable Energy Strategy project (#2650).

CURRENT STATUS

The LEC Plan identifies 40 actions that, if fully implemented, will allow the City to meet its GHG reduction targets. The LEC actions are built on the “reduce, improve, switch” philosophy, and 12 of these actions are related to switching from use of non-renewable energy to renewable and clean energy generation. Cumulatively, for both the corporation and the community, the LEC Plan targets 25MW of renewable energy production by 2026, progressing to 75 MW by 2030 and 595 MW by 2050. The first renewable energy milestone target is for the corporation to increase its production to 25 MW by 2026. The full list of actions and their milestone targets from the LEC Plan are available in Appendix 1 - Renewable Energy LEC Targets.

Community solar energy installations are tracked through the City’s Environmental Dashboard. As of the end of 2019, the cumulative solar energy installation in Saskatoon, for both Saskatoon Light & Power and SaskPower districts, totalled 2.67 MW.

Since the LEC Plan was presented, the following proposed actions have started to be addressed by the corporation and the community:

- *LEC Action 30: Install a 1 MW capacity solar system on Parcel M or similar land area by 2022.* City Council allocated \$500,000 to the Utility Solar Scale Solar Energy Project Implementation of Parcel M during the 2020/2021 Budget deliberations. The contract for the feasibility study for this project has been awarded to a consultant, and completion of the study is scheduled for the end of the year. The current plan is to have the facility operable in 2022.
- *LEC Action 3: Install a CHP facility at St. Paul's Hospital.* On September 30, 2019, City Council approved an internal Green Loan of up to \$944,600 for the St. Paul's Hospital Combined Heat and Power (CHP) project. The CHP estimated total project cost is \$3,079,200, of which \$1,190,038 is approved for funding under the Low Carbon Economy Fund.
- *LEC Action 34: Install new solar photovoltaic (PV) utility-scale facilities within or adjacent to city boundaries.* While this is not a City led project, CNH Industrial has partnered with Saskatchewan Environmental Society (SES) Solar Co-op and are now selling shares for the installation of approximately 1200 solar panels which will contribute to the power needed on the CNH Industrial site on 71st Street in Saskatoon.

Net Metering

SaskPower revised their Net Metering Program in November of 2019 with an energy credit established at \$0.075 / kWh. Saskatoon Light & Power continues to provide a Net Metering energy credit rate equal to the electricity rate for service, which in 2019 for a typical residential service was \$0.14228 per kilowatt-hour (kWh). Previous reporting identified a 50% annual growth for the net metering program over the past five years, with a total of 231 applicants by November 2019. However, since the beginning of 2020 and the removal of the potential for a provincial solar rebate, there has only been two Net Metering applications.

DISCUSSION/ANALYSIS

Renewable Energy Strategy

The Administration has begun work on the Renewable Energy Strategy. This work will inventory and analyze the solar and renewable energy options in Saskatoon and prioritize them based on viability, state of readiness, cost, and GHG reduction impact. The Strategy will compare financial, environmental, and social impacts for each option, and their prioritization will be informed by engagement with stakeholders and the community as well as a full assessment of co-benefits.

The following renewable energy opportunities will be analyzed:

- Installation of solar PV systems on municipal buildings;
- Programs to incentivise residential solar PV installations and remove barriers including net metering and rebates, support for builders, use of solar easements, review (and potential reassessment) of requirements (i.e. rooftop strength), and ensuring solar access in new neighbourhoods;

- Installation of solar PV utility-scale facilities on under-utilized sites within or adjacent to city boundaries either in SaskPower or Saskatoon Light & Power jurisdiction;
- Encouragement of commercial projects, including private solar farms, looking at both large and small projects; and
- Other renewable or alternative energy options, including biomass, nuclear, wind, and hydro.

Net Metering

Saskatoon Light & Power has developed a tool to analyze multiple net metering options that includes the per-customer financial impacts over 25 years to both the City and the customer, with preliminary results in Appendix 2 - Net Metering Option Analysis. The Administration will explore the implications of these further and in comparison to other opportunities through the Strategy development.

Consultation and Engagement

After researching the renewable energy opportunities, options will be refined and enhanced through engagement with a broad cross-section of stakeholders including those previously engaged in LEC discussions, subject matter experts, key stakeholders such as SaskPower and Saskatoon Light & Power, energy consumers/prospective program users, and the public. The community engagement is anticipated to involve:

- Identifying which opportunities work best in Saskatoon and in which context or by what audience;
- Exploring ways to enhance benefits and mitigate barriers;
- Further coordination to align with community and exploration of possible partnerships; and
- Prioritizing opportunities and identifying red flags.

Timeline

From now until Q1 2021, the Strategy's options will be researched and identified for development of preliminary business cases for the 2022-2023 budget. In Q1-Q2 2021, community engagement will occur, alongside the analysis of options. Once engagement results are incorporated, the final deliverable of this project will be a strategy based on the fully-developed business cases, including opportunities, constraints, triple bottom line implications, \$/tonne of CO_{2e} reduction forecasts, and how stakeholders might benefit or participate.

FINANCIAL IMPLICATIONS

The allocated capital funding for this project will cover all anticipated costs for the Strategy's development. It is intended that the Strategy act as a roadmap of possible actions, and implementation of initiatives would be brought to City Council on a case-by-case basis.

OTHER IMPLICATIONS

There are no privacy, legal, social, or environmental implications identified for this report.

NEXT STEPS

The Final Strategy is anticipated to be presented to the Standing Policy Committee on Environment, Utilities, and Corporate Services in Q3, 2021, in advance of the Business Planning and Budget Deliberations. The Strategy will include research and analysis, engagement results, and a prioritized plan.

APPENDICES

1. Renewable Energy LEC Targets
2. Net Metering Option Analysis

Report Approval

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