

**2. 2019 – 2022 CITY OF OTTAWA ENERGY CONSERVATION AND DEMAND
MANAGEMENT PLAN**

**PLAN DE CONSERVATION DE L'ÉNERGIE ET DE GESTION DE LA
DEMANDE DE LA VILLE D'OTTAWA 2019-2022**

COMMITTEE RECOMMENDATIONS

That Council:

1. Receive the City's 2019-2022 Energy Conservation and Demand Management Plan as attached in Document 1; and
2. Approve an average 8-year payback for energy reduction investments, to allow for an expansion of the energy reduction program and more comprehensive building upgrades.

RECOMMANDATIONS DU COMITÉ

Que le Conseil :

1. prenne connaissance du Plan de conservation de l'énergie et de gestion de la demande de la Ville d'Ottawa 2019-2022 qui figure dans le document 1 ci-joint;
2. approuve un délai d'amortissement moyen de 8 années pour les investissements faits dans le cadre de la réduction de la consommation d'énergie afin que le Programme de réduction de la consommation d'énergie soit élargi et que les rénovations des bâtiments soient plus complètes.

DOCUMENTATION / DOCUMENTATION

1. General Manager's Report, Recreation, Cultural and Facility Services, dated 5 June 2019 (ACS2019-RCF-GEN-0005).

Rapport du Directeur générale, Direction générale des loisirs, de la culture et des installations, daté le 5 juin 2019 (ACS2019-RCF-GEN-0005).

2. Extract of Draft Minute, 18 June 2019.

Éxtrait de l'ébauche du procès-verbal, le 18 juin 2019.

**STANDING COMMITTEE ON
ENVIRONMENTAL PROTECTION,
WATER AND WASTE MANAGEMENT**

48

**COMITÉ PERMANENT DE LA
PROTECTION DE
L'ENVIRONNEMENT, DE L'EAU ET DE
LA GESTION DES DÉCHETS**

**REPORT 3
26 JUNE 2019**

**RAPPORT 3
LE 26 JUIN 2019**

**Report to
Rapport au:**

**Standing Committee on Environmental Protection, Water and Waste Management
Comité permanent de la protection de l'environnement, de l'eau et de la gestion
des déchets**

18 June 2019 / 18 juin 2019

**and Council
et au Conseil**

26 June 2019 / 26 juin 2019

**Submitted on June 5, 2019
Soumis le 5 juin 2019**

**Submitted by
Soumis par:**

**Dan Chenier, General Manager, Recreation, Cultural and Facility Services /
directeur générale, Direction générale des loisirs, de la culture et des installations**

Contact Person

Personne ressource:

**Léo Morissette, Director, Facility Operations, Recreation, Cultural and Facility
Services / directeur, Exploitation de l'installation, Direction générale des loisirs,
de la culture et des installations**

613-580-2424 x 23148, Leo.Morissette@ottawa.ca

Ward: CITY WIDE / À L'ÉCHELLE DE LA VILLE File Number: ACS2019-RCF-GEN-0005

**SUBJECT: 2019 – 2022 City of Ottawa Energy Conservation and Demand
Management Plan**

**OBJET: Plan de conservation de l'énergie et de gestion de la demande de la
Ville d'Ottawa 2019-2022**

**REPORT 3
26 JUNE 2019**

REPORT RECOMMENDATIONS

That the Standing Committee on Environmental Protection, Water and Waste Management recommend that Council:

- 1. Receive the City's 2019-2022 Energy Conservation and Demand Management Plan as attached in Document 1; and**
- 2. Approve an average 8-year payback for energy reduction investments, to allow for an expansion of the energy reduction program and more comprehensive building upgrades.**

RECOMMANDATIONS DU RAPPORT

Que le Comité permanent de la protection de l'environnement, de l'eau et de la gestion des déchets recommande au Conseil :

- 1. de prendre connaissance du Plan de conservation de l'énergie et de gestion de la demande de la Ville d'Ottawa 2019-2022 qui figure dans le document 1 ci-joint;**
- 2. d'approuver un délai d'amortissement moyen de 8 années pour les investissements faits dans le cadre de la réduction de la consommation d'énergie afin que le Programme de réduction de la consommation d'énergie soit élargi et que les rénovations des bâtiments soient plus complètes.**

BACKGROUND

The City of Ottawa is committed to energy management and the reduction of its carbon footprint as a key component of its operations. Since amalgamation, the City has provided leadership in energy conservation and demand management.

In 2010, Council approved the five-year Smart Energy Program as part of the Service Ottawa initiative. This included an investment of \$14 million over five years and leveraged the energy management expertise of the City's Building Engineering and Energy Management unit to define and implement various energy conservation

measures. The goal of the project was to reduce the City's overall environmental footprint while also reducing utility costs.

The program realized \$2 million in annual energy savings and exceeded its mandated five-year simple payback objective.

In 2009, the Province of Ontario implemented the Green Energy Act, that included a requirement for municipalities to develop energy conservation and demand management plans (CDMP). Under the associated 2011 regulations, municipalities were required to develop energy CDMPs every five years, at minimum. The CDMPs are to publicly convey information about how the municipality is conserving energy.

In May 2014, Council approved the 2014-2019 Energy Management and Investment Strategy. This strategy included a \$1 million annual investment to implement capital energy reduction retrofits to deliver on an aggressive 5.5-year simple pay back on investments through energy cost reductions. The report also presented the Energy Conservation and Demand Management Plan 2015, the City's first CDMP, which highlighted past accomplishments with respect to energy management and outlined the City's updated energy conservation plan.

The City falls under the requirements of the 2018 Broader Public Sector energy reporting regulation that requires it to publish an updated five-year Conservation and Demand Management Plan (CDMP) prior to July 1, 2019.

DISCUSSION

Since the adoption of its 2015 Energy Conservation Plan, the City has made great strides in the implementation of capital projects to reduce energy consumption and the environmental impact of City facilities.

There have been 35,700 of 58,000 streetlights converted to LED, producing an energy savings of 64%, with expected savings to settle around 50% to 65%. Heating and ventilation improvements have been completed at City Water Purification Plants resulting in a combined estimated annual electricity savings of almost 35,000 kWh. \$50,000 was invested into 25 splash pads with the highest water consumption levels, resulting in a 22% reduction in water use and annual savings of \$147,000. The

development of a Building Automation System (BAS) Integration platform has allowed for a greater degree of control of energy use and avoided unnecessary energy use and utility costs. Conservation initiatives created an estimated cumulative annual utility savings of approximately 5.9 million kWh of electricity, 297,909 m³ of natural gas and 48,662 m³ of water.

The City's 2019 - 2022 CDMP builds on the 2015 plan and provides a multi-year roadmap for the responsible implementation of improvements to its infrastructure and facilities to optimize energy use and reduce the City's environmental footprint. The following highlights some of the planned initiatives in the 2019-2022 CDMP:

- The City will continue to replace old lighting technology with LEDs for street lighting and for its buildings and lands, to expand on the current BAS Integrator program, to initiate a retro-commissioning program targeting existing facilities, and to explore new and emerging technologies, along with innovative uses for existing technologies.
- Additional lighting conversions will be undertaken at more than 50 of the City's drinking water and wastewater pumping stations. The estimated total annual energy savings are over 70,000 kWh.
- The City has an aggressive plan to investigate and pursue all energy conservation incentive funding from external sources and to apply all secured funding back into additional projects to further the reduction of energy usage and greenhouse gas emissions.
- The Energy Evolution Plan – Phase 1, outlines the City's target of a community wide GHG emission reduction of 80% by 2050. Phase 2 of the Energy Evolution Plan is expected to be completed in Q4 2019. It is anticipated that the report will suggest building energy conservation to be a key component of the plan to achieve the targeted emissions reduction. This could include deep retrofits of municipal buildings.

In the past, converting electricity use to natural gas has been an effective measure in reducing energy usage and cost as natural gas costs about 80% less per unit of energy than electricity. At the end of 2018, it cost over five times as much for a unit of electrical energy as an equivalent unit of natural gas. Concentrating on these conversions allowed the City to overachieve on the aggressive 5.5-year simple payback approved by

Council as part of the 2015 Plan. Many of these quick payback conversion opportunities have been implemented and staff are recommending a longer payback period for some projects as part of the new Plan.

In 2016 Council approved a target of reducing GHG emissions in the municipality by 80% from 2012 levels by 2050. To meet these targets, staff are recommending proceeding with initiatives that include more of a focus on the reduction of GHG emissions rather than the energy cost reductions that were the cornerstone of the first Plan. This will require an increase in the expected payback period from 5.5-years to an average 8-year payback.

By making GHG emissions reduction a focused part of the mandate, along with the 8-year payback, the City will direct more capital towards more comprehensive projects including, mechanical retrofits, expanding the BAS Integrator program, comprehensive building upgrades, exploring a retro-commissioning program targeting existing facilities and reinvesting incentives from projects into developing or funding further energy projects, programs or initiatives. This increased payback period will allow for a significant expansion of the program and enable the City to target more robust energy and financial savings targets.

RURAL IMPLICATIONS

There are no specific rural implications associated the recommendations within this report.

CONSULTATION

There has been no public consultation for this report.

The Recreation, Cultural and Facility Services Department consulted with the Transportation Services Department, the Public Works and Environmental Services Department and the Planning, Infrastructure and Economic Development Department in the creation of this report and the 2019 - 2022 Energy Conservation and Demand Management Plan.

LEGAL IMPLICATIONS

There are no legal impediments to Committee and Council's approval of the recommendations of this report.

ASSET MANAGEMENT IMPLICATIONS

The implementation of the CAM program results in timely decisions that minimize lifecycle costs and ensure the long-term affordability of assets. To fulfill its obligation to deliver quality services to the community, the City must ensure that assets supporting City services are managed in a way that balances service levels, risk and affordability. The implementation of capital projects to reduce energy consumption and the environmental impact of City facilities through the City's 2019-2022 Energy Conservation and Demand Management Plan not only ensures long-term affordability but delivers quality and environmentally conscious services to the community.

RISK MANAGEMENT IMPLICATIONS

There are no risks associated with the recommendations of this report.

FINANCIAL IMPLICATIONS

Funding for the 2019 implementation of the CDMP is within the departments existing budget and subject to Council approval of the 2020 Draft Operating and Capital Budget.

ACCESSIBILITY IMPACTS

The Integrated Accessibility Standards Regulations will be considered through the planning and implementation phase of any built environmental related measures.

ENVIRONMENTAL IMPLICATIONS

The recommendations contained in this report will contribute to the City's overall environmental sustainability and will curtail the City's energy consumption.

TERM OF COUNCIL PRIORITIES

Strategic Priority – Sustainable Environmental Services (ES) - To provide sustainable environmental services that balance protection of our natural resources and support the

**REPORT 3
26 JUNE 2019**

planned growth of the city with the duty to ensure fiscal sustainability and meet legislative requirements in the delivery of municipal services.

Strategic Objective: ES2 – Reduce long-term costs through planned investment and staging of diversion and conservation strategies.

SUPPORTING DOCUMENTATION

Document 1 – 2019 – 2022 City of Ottawa Energy Conservation and Demand Management Plan (*Distributed separately and held on file with the City Clerk*)

DISPOSITION

The Recreation, Cultural and Facility Services Department will implement the average 8-year payback period in accordance with the recommendations outlined within the report.

Note: the Financial Implications section of this report was corrected pursuant to Schedule C, Subsection 36 of the Delegation of Authority By-law 2018-397.