



# 5 Year Energy Conservation Plan

2020 Annual Report of Energy and Water Consumption and  
GHG Emissions

*June 1, 2020*

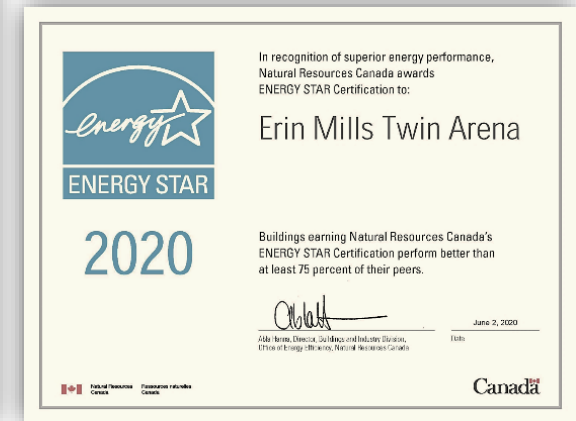
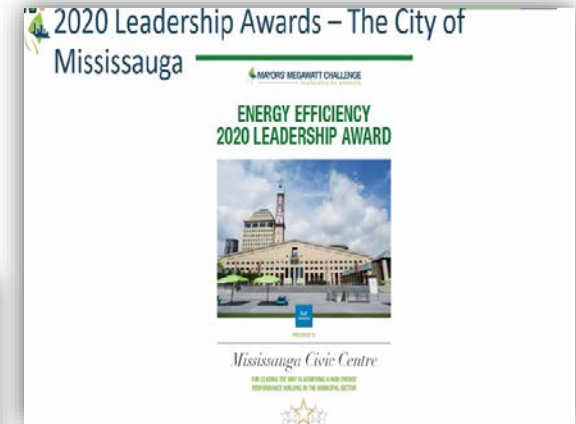
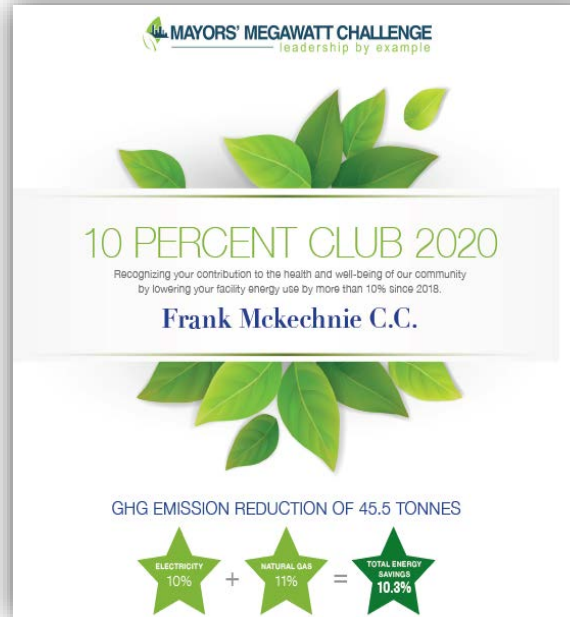
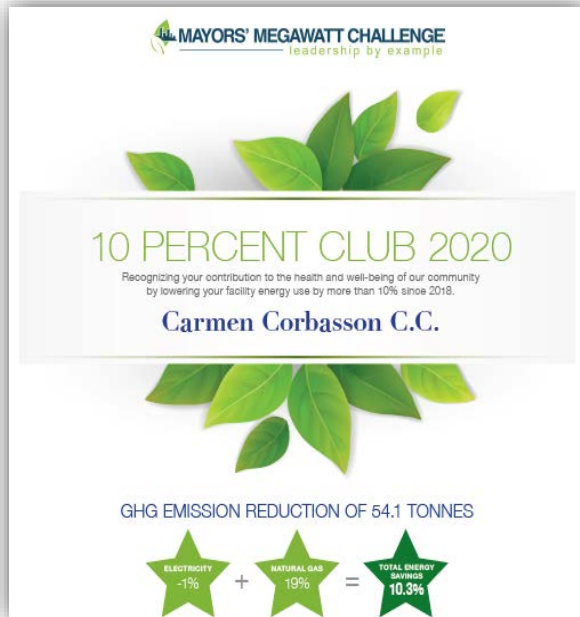
# Agenda

1. The Energy Management Team: Who we are...
2. The Current Energy Conservation Plan
3. Second Year Results: 2020
4. Energy Management Tools
5. Completed Initiatives in 2020
6. Partnering for Success



# 1. Energy Management Team: Who we Are...

*Building a sustainable future, making buildings more energy efficient and targeting high energy performance levels*



## 2. The Current Energy Conservation Plan

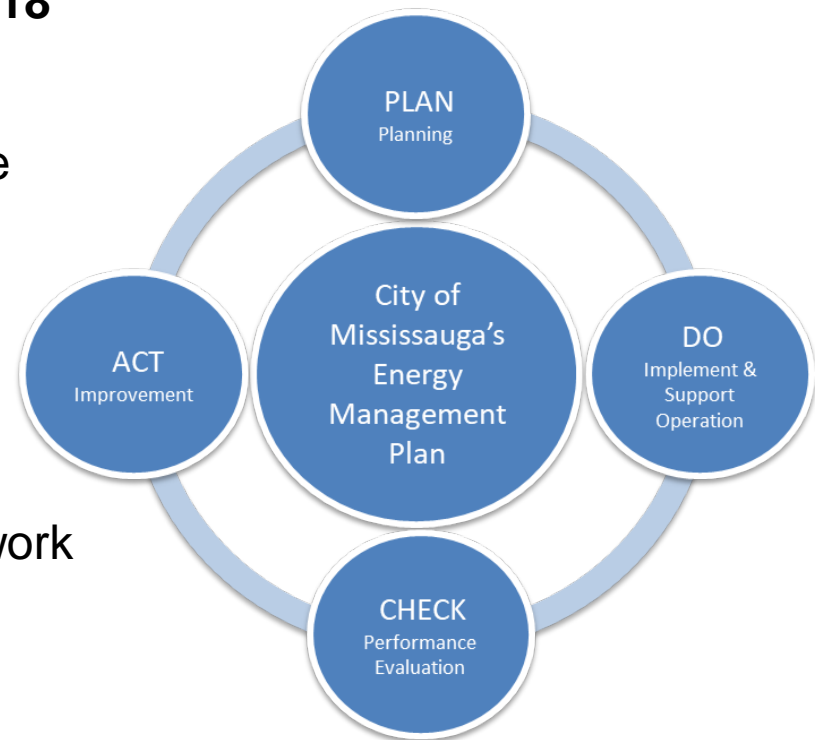
A requirement by **Ontario Regulation 507/18**  
(Electricity Act, 1998)

**Current Plan:** 2019-2023 (fourth plan since 2001)

**Target:** 1% reduction in Energy Use and Greenhouse Gas Emissions per year, over the next 5 years

**ISO 50001** Continual Improvement Framework

- Plan
- Do
- Check
- Act



## 2. The Current Energy Conservation Plan Cont.

The targets set by the plan are achieved through multiple streams:

- ✓ Implementation of **energy retrofit projects**
- ✓ **Operation optimization** through application of best practices and ongoing energy performance monitoring
- ✓ Selection of **energy efficient technology** for the lifecycle capital renewal projects

### 3. Second Year Results: 2020

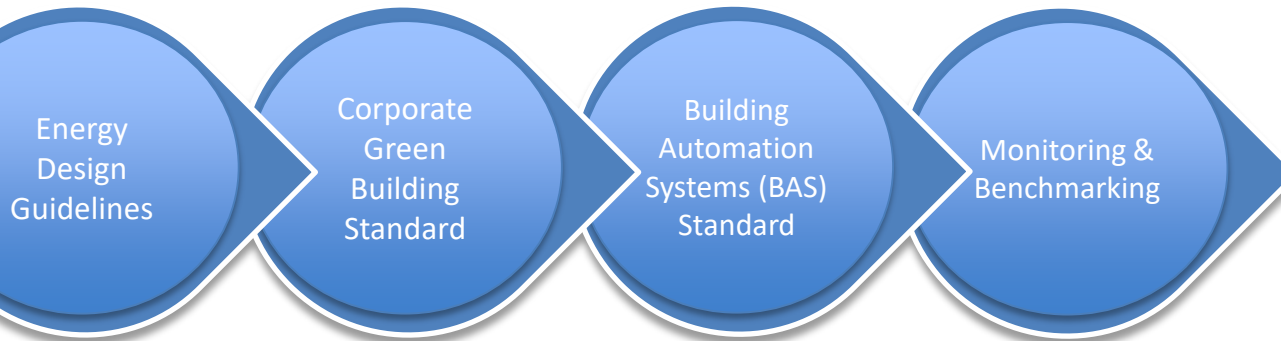
Adjusted Consumption	2018	2020	Change	Change (%)	Savings (\$)
Electricity (kWh)	89,168,966	74,774,364	-14,394,602	-16%	-2,345,285
Natural Gas (m <sup>3</sup> )	8,666,741	7,594,806	-1,071,935	-12%	-262,915
Water (m <sup>3</sup> )	1,197,820	1,028,695	-169,125	-14%	-344,382
GHG Emissions (kg of CO <sub>2</sub> )	18,974,706	16,530,235	-2,444,472	-13%	-

Note: Adjusted for differences in weather and facility occupancy

-2,952,582

Although the main driver for the significant savings was due to the building shutdowns during COVID-19, several measures and initiatives have been implemented to maximize the savings

## 4. Energy Management Tools



**Decrease in  
Energy, Water and  
GHG Emissions**



## 5. Completed Initiatives (Operation Optimization)

Due to **COVID-19**, conservations initiatives have been implemented to minimize energy and water consumption in the buildings

- Setback/shutdown of ice refrigeration plants and pools/arenas dehumidification equipment;
- Shutdown of all non-essential HVAC and lighting equipment;
- Draining of pools, therapy pools and hot tubs, and where possible, water temperature setbacks;
- Change in scheduling due to reduced occupancy lead to shutdown/setback to parts of the buildings not used



## 5. Completed Initiatives (Operation Optimization)

### Pool Energy Management Taskforce

- Optimize pool energy and water operation
- Socialize best practices
- Update standard operating procedures
- Implement improvements and achieve energy and operational savings

**Goal:** Improved pool environment and lower utility costs

Energy conservation initiatives completed:

- ✓ Make-up water management
- ✓ Optimization of the dehumidifiers
- ✓ Operation of pool heat recovery systems
- ✓ Air, water temperature and humidity set point optimization
- ✓ Pool drain heat recovery
- ✓ VFD for pool filtration pumps



## 5. Completed Initiatives (Energy Efficient Technology)

### Life Cycle Replacement Projects

- Malton CC RTU Replacement
- LAC Lighting Renewal
- Mechanical System Renewals at Iceland, Clarkson CC and Frank McKechnie CC
- Benares Estate RTU and Controls Upgrade



## 6. Partnering for Success



# Questions?



For any additional questions, please contact  
**Kristina Ramjattan** ext. 8856