

## **Attachment 1**

# **Corporate Environmental Action Plan 2021 Progress Report**

## **Water Conservation**

Objective W1: Reduce Town-owned facility water consumption.

Objective W2: Reduce the uncontrolled and inadequately controlled storm water areas with respect to both quality and quantity by following recommendations of the Town's Comprehensive Storm water Management Master Plan.

- Town Operations installed an in-ground holding tank at library square to harvest and repurpose greywater, generated from splashpad usage, as a resource for irrigation for landscape and vegetation (W1);
- Town Operations changed 315 water meters in 2021 as part of its water loss reduction strategy (W1);
- Applied low impact development techniques during construction of the 2021 road reconstruction projects (bio-swales and enhanced oil/grit separator) (S1 and W2);
- Replaced sanitary laterals as part of its water loss reduction strategy (W1).

## **Sustainable Urban Development**

Objective S1: Foster a sustainable green development and alternate methods of transportation to improve the quality of life of Aurora's residents and Town staff.

- To promote sustainable transportation for Town staff, the Town participated in the Annual Smart Commute Designation Award, maintaining Gold Standard status since 2012 (S1);
- Implementation of LEED Gold certified design features on Town-owned facilities during construction of the 2021 construction projects (water conservation low-flow hands-free plumbing fixtures; daylighting; high efficiency water fixtures and HVAC units; thermal comfort and control systems; LIDs; drought resistant plantings; and rainwater harvest designs) (W1, S1, and C3).

## **Waste Reduction and Diversion**

Objective D1: Implement sustainable construction practices to reduce waste, incorporate sustainable design and reclaim or recycle materials.

Objective D2: Reduce waste going to landfill disposal.

- Included recycled concrete material as a provisional item as part of 2021 road reconstruction project procurement to encourage sustainable construction and building practices for Town infrastructure (D1);
- Integrated energy and waste reducing methodological practices as part of 2021 infrastructure maintenance and monitoring projects (integration of on-site helical piles, repurposing of topsoil stockpiles, and integration of web-based infrastructure maintenance and monitoring applications) (D1, D2, and C3);
- Integrated CB shields as part of 2021 storm pond reconstruction project (W2 and D1);
- As part of the Town's Waste Reduction Strategies, the Town has set 2018 as a base year for tracking Community-level waste diversion rates (D2):
  - 2018: 65%
  - 2019: 65%
  - 2020: 64%
  - 2021: 66%;
- Council approved the Bag Tag Program, which aims to educate residents on proper waste disposal practices and increase Town-wide waste diversion rates (D2);
- Increased the number of multi-residential buildings within the Town's recycling program (D2).

## **Biodiversity and Natural Heritage**

Objective B1: Enrich Aurora's ecology by protecting and preserving biodiversity.

- Planted 1,900 trees and shrubs on Aurora lands (B1);
- As part of Aurora's ecological enrichment strategy, a thirteenth partnership was established in 2021 with the Adopt a Park Program and Partnership development (Herb McKenzie Park) (B1);
- Maintained the partnership with York Region for invasive species control where Phragmites, Garlic Mustard, Giant Hog Weed, and European Buckthorn were targeted on regional frontage adjacent to Aurora parkland. Arboretum continued work on Phragmites control (B1).

## Climate Change and Energy

Objective C1: Prepare a Climate Change Adaptation Plan.

Objective C2: Implement the Provincial Climate Change Plan Actions.

Objective C3: Reduce the Town's greenhouse gas emissions by Town staff and at Town facilities. \* Actions pulled from the Provincial Climate Change Plan.

- As part of Aurora's climate change adaptation initiatives, the Town had the kick-off to their Climate Change Adaptation Plan and Green Development Standard in 2021 (C1);
- Integrated Aurora's "Every Second Counts" public education campaign in 2021, as part of the Council-approved Anti-Idling Policy, which aims to limit idling from residents, businesses, and Town staff (C3);
- Council approved the Town's first Green Fleet Action Plan and Electric Vehicle Charging Station Policy, which aims to electrify the Town's corporate fleet to produce zero emissions by 2051 (C3);
- As part of Aurora's commitment to the Provincial Climate Action Plan, the Town had partnered with IVY Charge and installed eight (8) dual head level 2 chargers at Town-owned facilities; with proposed actions on installing two (2) additional dual head chargers as part of the Library Square Project (C3);
- Continued energy use tracking at Town Facilities (C3):
  - 2018: 23,180,806 equivalent kilowatt-hours (Benchmark)
  - 2019: 24,641,678 equivalent kilowatt-hours (~0.1% more than benchmark)
  - 2020: 19,860,541 equivalent kilowatt-hours (~14.3% less than benchmark)
  - 2021: 19,828,350 equivalent kilowatt-hours (~14.5% less than benchmark);
- Council approved \$50,000 for the implementation of energy efficient measures within Town-owned facilities, as part of effort to reduce corporate emissions (C3);
- Acquisition and implementation of energy efficient infrastructure within Town-owned facilities (energy management software, LEDs, light control and occupancy systems, building automation system) (C3);
- Generated 613,727 kilowatt-hours of electricity from Town solar rooftop systems (C3);

- Continue monthly Building Performance meetings with Facility staff and Energy and Climate Change Analyst, to discuss ongoing energy projects, operational changes, energy consumption, trends, best practices for energy conservation, new technologies, utility incentives etc. (C3);
- Continued investigation of new technology to improve energy efficiency at SARC using the Building Automation System innovation (C3);
- Performed a natural gas use audit under Enbridge's "Run it Right" program, which served to implement low-cost energy conservation measures and operational changes, resulting to annual GHG emission reductions of 5% and annual operational costs of \$3,700 at Town-owned facilities (C3);
- Integration of operational changes at Town-owned facilities, in effort to reduce energy consumption during COVID 19 shutdown, resulted to an estimated energy cost avoidance of \$488,000 (~23% energy avoidance) in 2021.

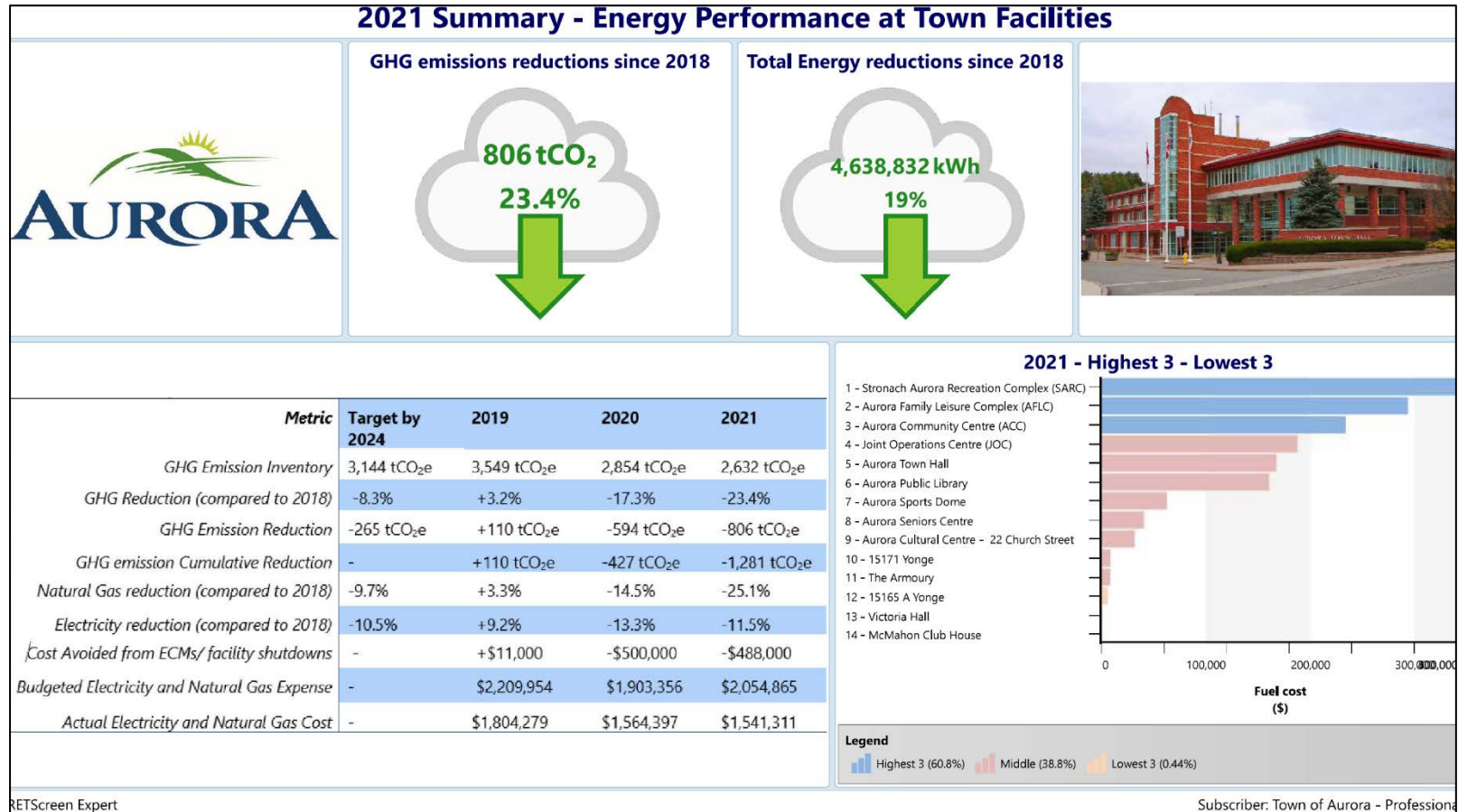
## **Environmental Awareness**

Objective A1: Encourage the stewardship of Aurora's natural resources and advance green initiatives by promoting community involvement.

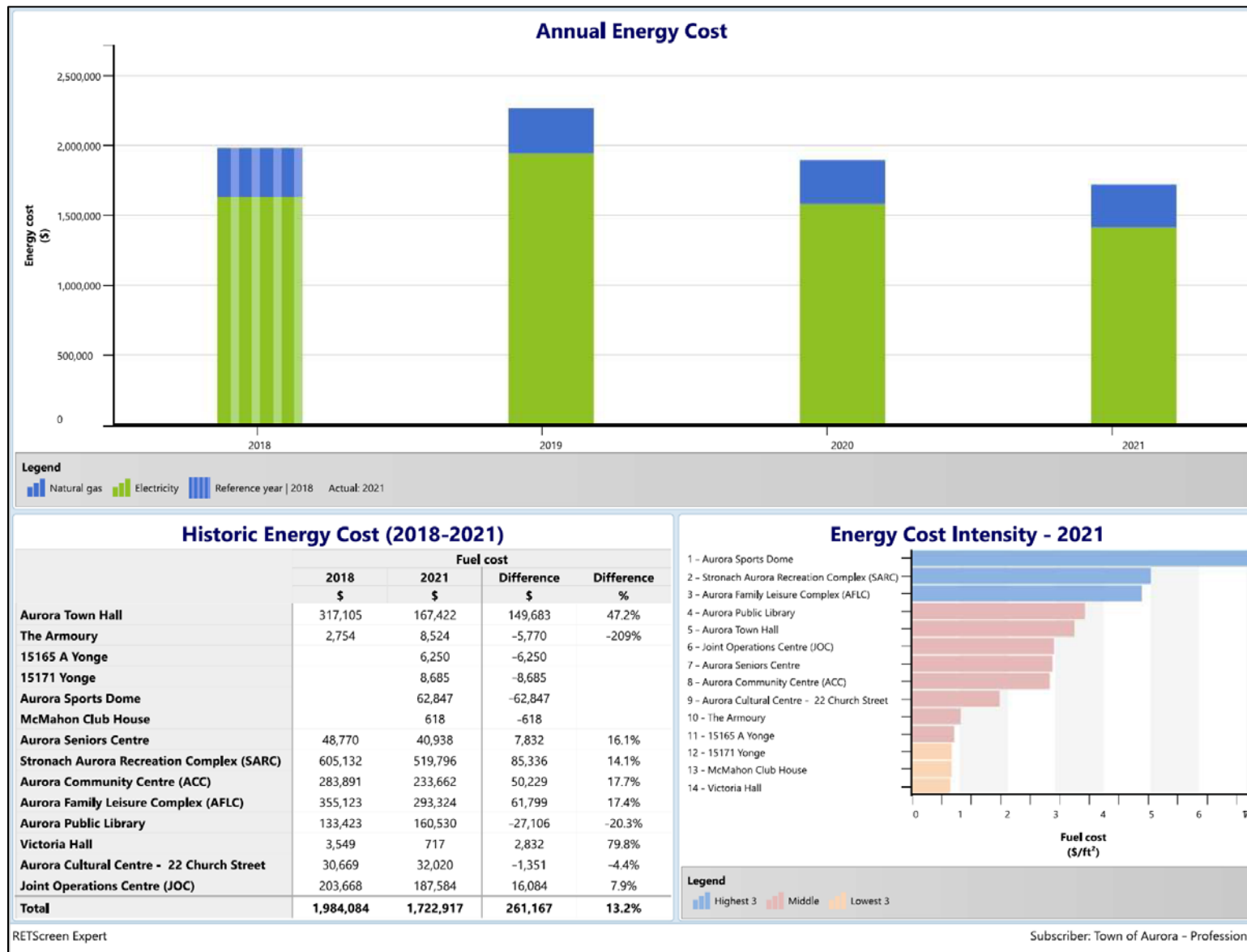
- Continued efforts on updating the Town of Aurora website, providing the community up-to-date information on the Town's climate change initiatives and plans (A1);
- Integration of Every Second Counts Town Anti-Idling education campaign, which served as an education tool regarding the impacts of vehicle idling whilst promoting anti-idling methodologies (A1);
- Integration of two (2) Community Environmental awareness GO Green Challenges, which served to promote and encourage environmental awareness initiatives at home (A1);
- Developed an enhanced Lymantria Dispar Dispar (LDD) strategy that includes monitoring, robust communication plan, burlap kits, and watering and injection treatments of select prominent trees (A1 and B1).

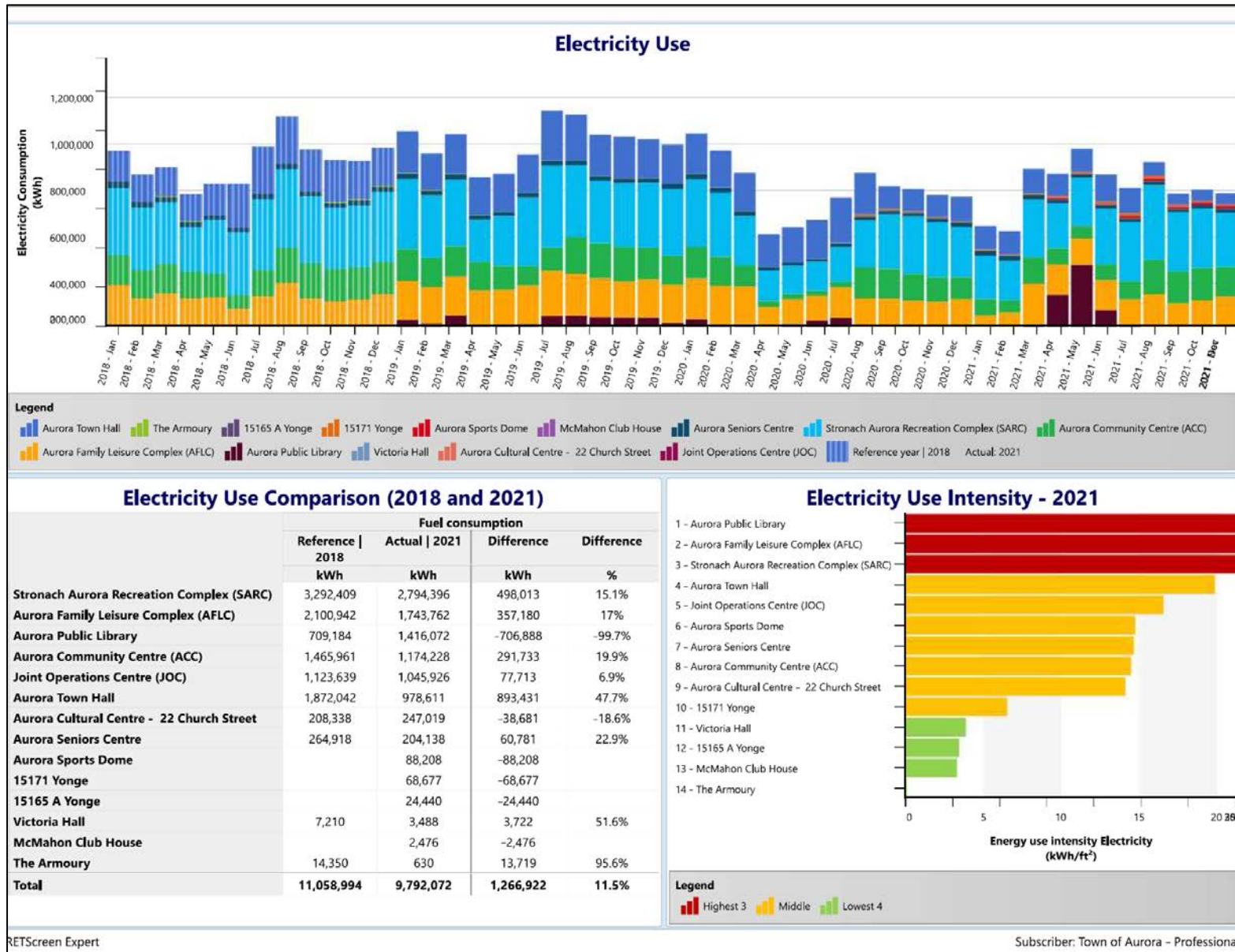
## ANNEX 1

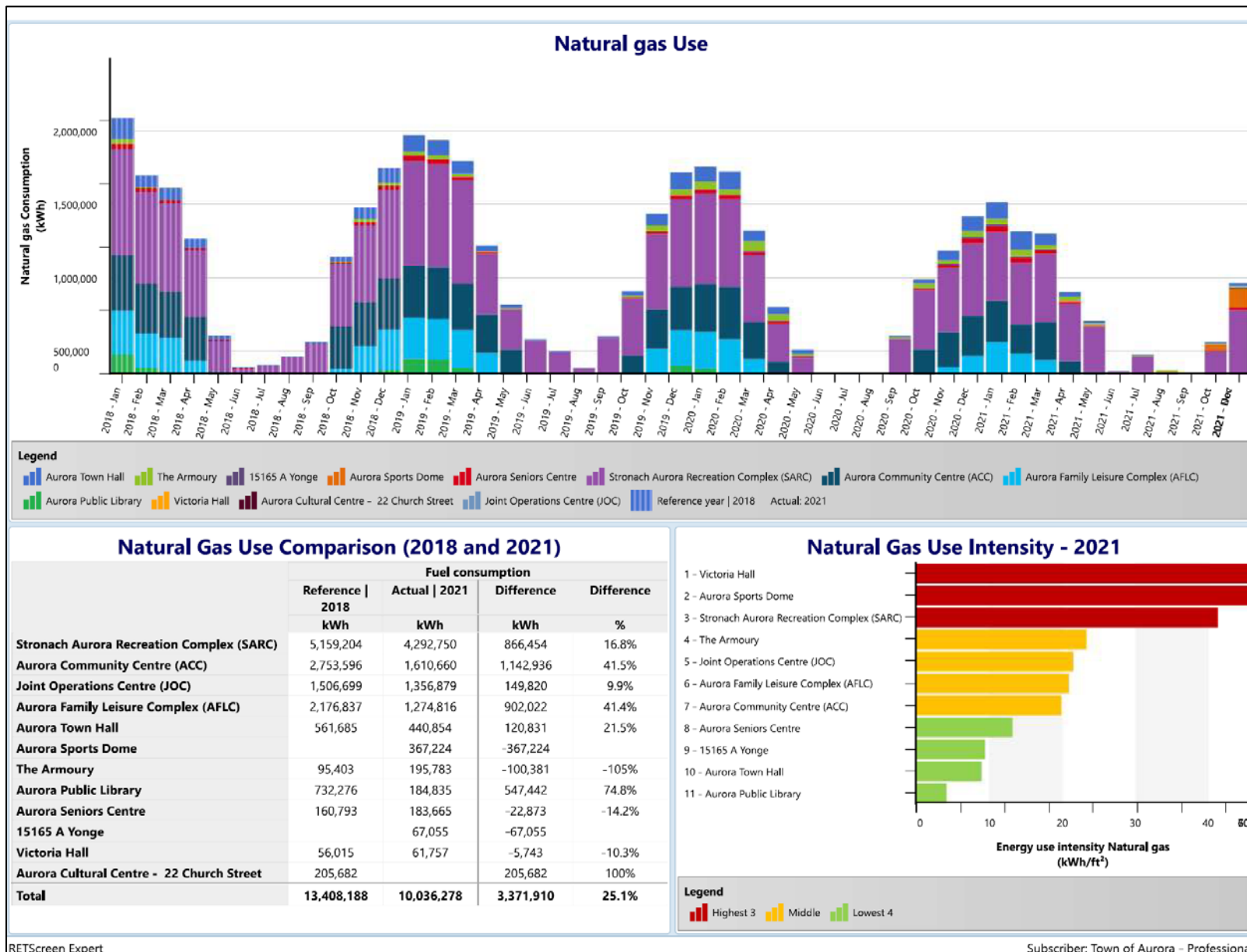
### 2021 Building Energy Performance at Town Facilities

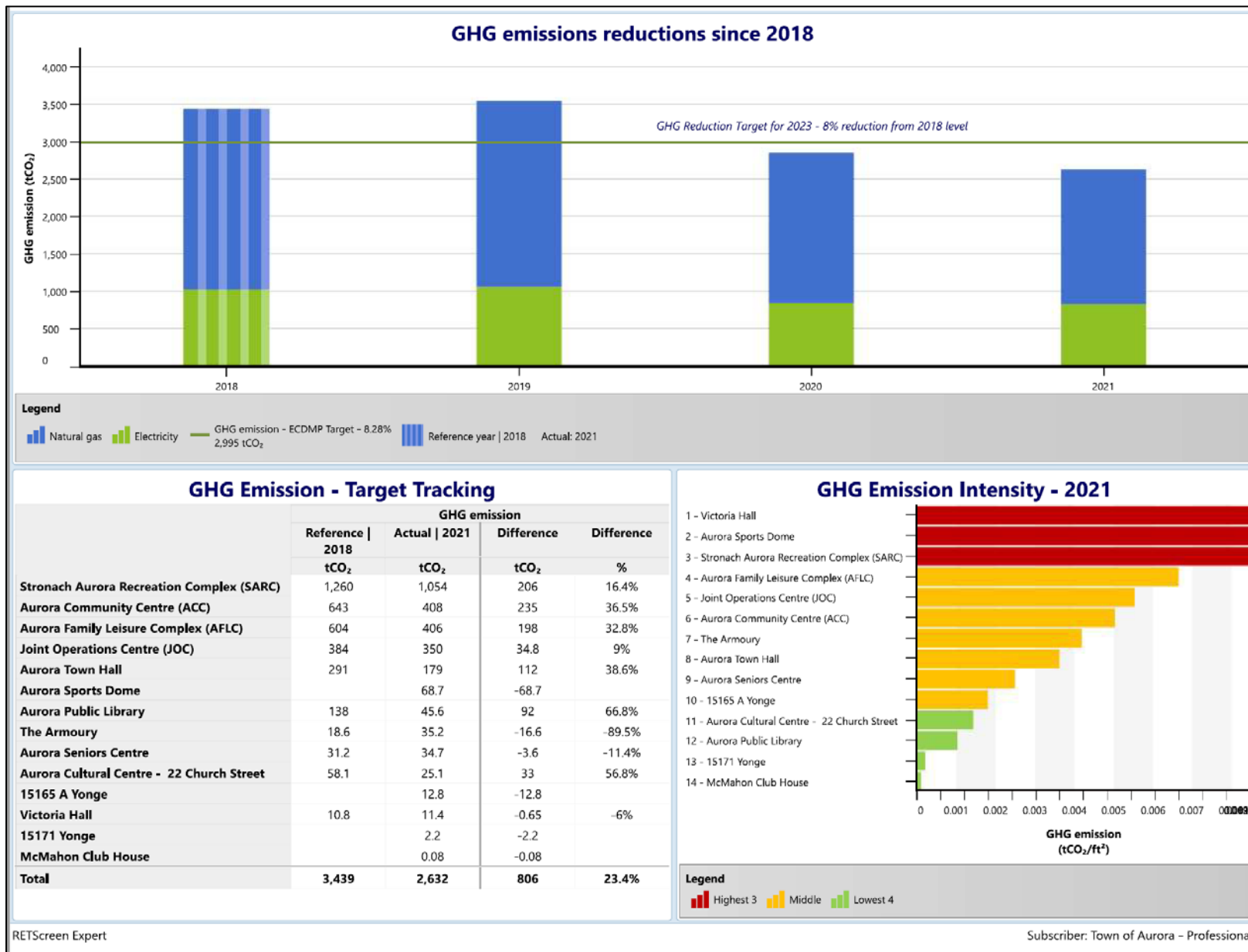




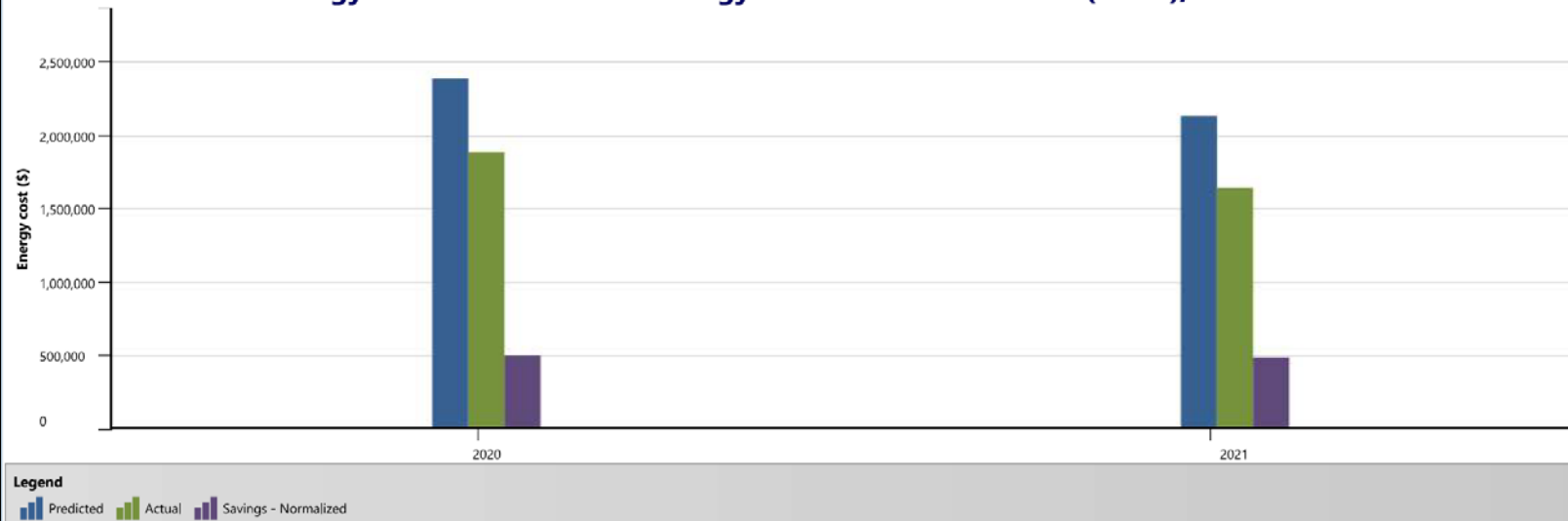








## Energy Cost Avoided due to Energy Conservation Measures (ECMs)/ closures



### Energy Cost Avoided due to ECMs/ closures

	Fuel cost			
	Predicted \$	Actual \$	Savings (Normalized) \$	Savings (Normalized) %
2020	2,389,087	1,885,918	503,169	21.1%
2021	2,133,195	1,644,516	488,679	22.9%

### List of ECMs Completed since 2019

- Council approved \$50,000 for the implementation of energy efficiency measures at Town facilities (2020).
- Town acquired an energy management software to track energy use, analyze trends, estimate energy savings from energy projects, and track GHG emissions (2019).
- Historic energy consumption from Town Facilities were acquired from utility companies for software input (2019-2020).
- Monthly Building Performance meeting with Facility staff and Energy and Climate Change Analyst, to discuss ongoing energy projects, operational changes, energy consumption, trends, best practices for energy conservation, new technologies, utility incentives etc. (ongoing since 2020)
- Integrated energy efficiency and waste disposal wording/ requirements in Facilities' procurement documents (2020).
- Investigated a new technology for improving energy efficiency at SARC using the Building Automation System (2020-2021).
- Completed LED lighting retrofits at Senior Centre, SARC and Town Hall (2021).
- Completed Light controls installation (motion sensors, occupancy sensors) at Town Hall (1st and 2nd floor), planning 3rd floor (2021).
- Performed an energy audit under Enbridge's Run it Right program at Town Hall and JOC, received \$9,000 from Enbridge to implement low cost energy conservation measures, reducing GHG emissions by 5% per year and around \$3,700 per year in operational costs (2021).
- 9 dual head electric vehicle charging stations installed at Town Hall, SARC, JOC, ACC, Armoury, AFLC, under the Ontario-wide Ivy Network, with funding from NRCAN (2021).
- Due to COVID 19, facilities made operational changes to reduce energy consumption during shutdowns, avoiding an estimate of \$488,000 in energy costs (23% avoided energy use in 2021).
- Town solar panels generated 663,550 kWh of emission free electricity in 2021.