



City of Saint John Climate Change Action Plan Council Meeting November 25, 2024

Project Summary Presentation

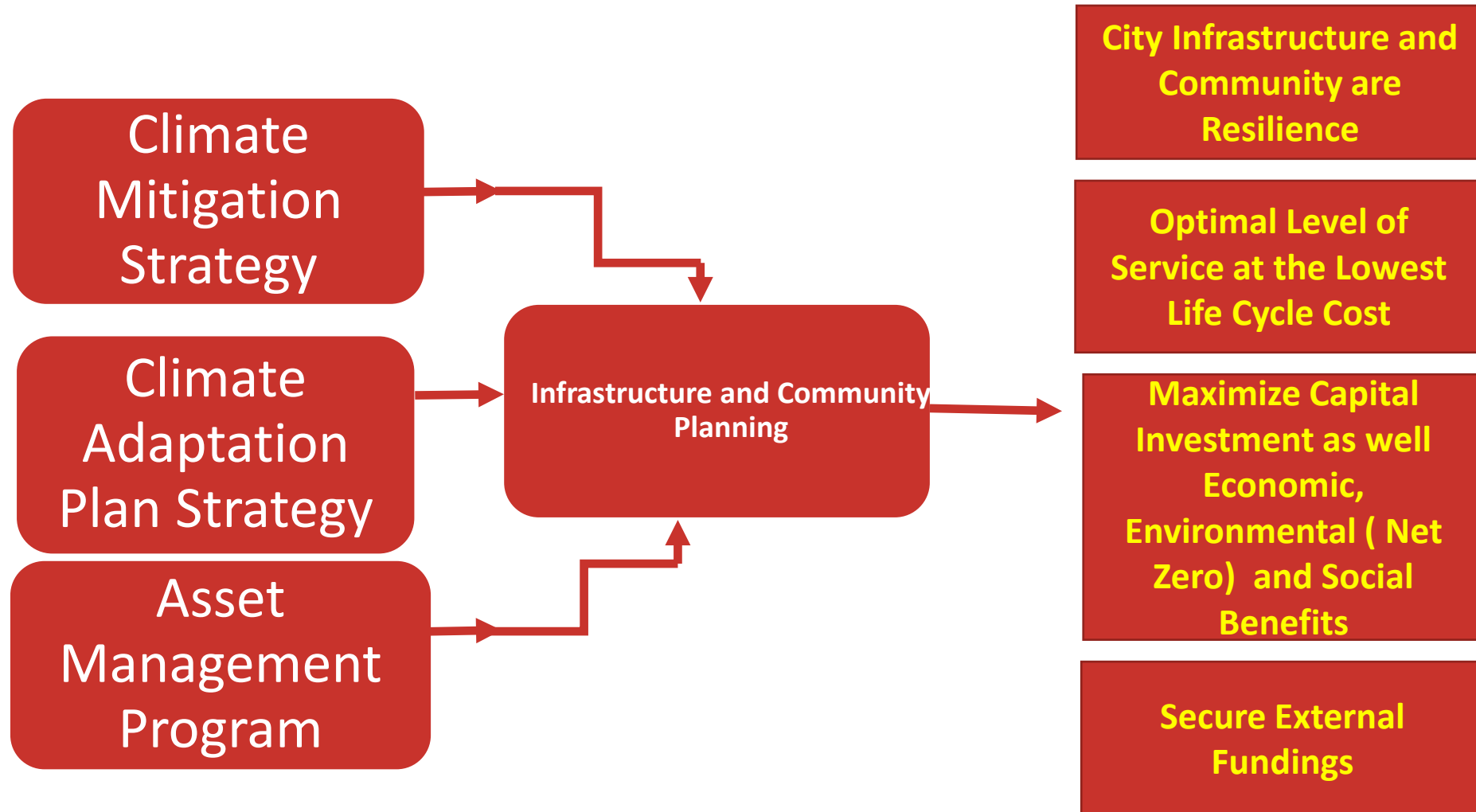


Climate Change Action Plan

- Climate Change Adaptation Strategy
- Climate Change Mitigation Strategy
 - Community GHG Action Plan
 - **GHG Reduction Target 9% by 2025 and 18 % by 2035**
 - **Net Zero by 2050 - ActSJ**
 - Corporate GHG Action Plan
 - GHG Reduction 30% by 2030 and carbon neutral by 2040
- Asset Management Program Strategy
- Approved By Council May 6, 2019, and January 8, 2024

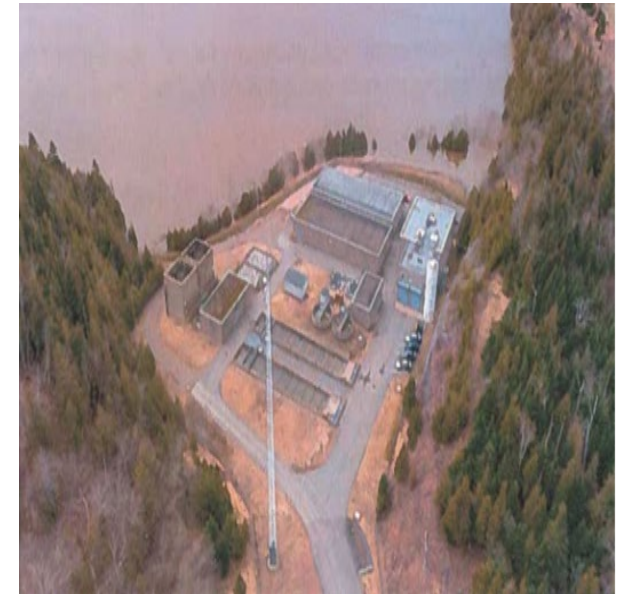


Climate Change Action Plan Objectives - Why?



Corporate GHG & Energy Action Plan Program

- Municipal Deep Energy Retrofit Program
 - Launched in 2019
 - Received approximately \$4.7 Million from LCEF, FCM, DMAF, NB Power
 - Municipal and Water Facilities including street Lights
 - Over 168 Facilities
 - On Going
- Corporate Transportation Low Carbon Migration Strategy



Municipal Buildings Deep Energy Retrofits

- Energy audits/BCA took place over 80% of the City's building portfolio
- Project roll-out during COVID-19 pandemic
- Update Asset Management Plan
- Decision Making Criteria
- Technologies introduced include:
 - LED lighting upgrades – Buildings & Street Lighting
 - Heat pump upgrades
 - Variable speed pumping opportunities
 - Controls upgrades
 - HVAC upgrades
 - Wastewater treatment plant upgrades

Municipal Buildings Deep Energy Retrofits

- Notable projects:
 - Lancaster Lagoon Variable Speed Blower Upgrades & Dissolved Oxygen Monitoring Controls
 - Existing 200hp blowers replaced with 150hp VSD blowers
 - Dissolved oxygen monitoring with continuous feedback into SCADA: allows for VSD controls of new blowers
 - 575,000 kWh saved annually (166 teCO₂)

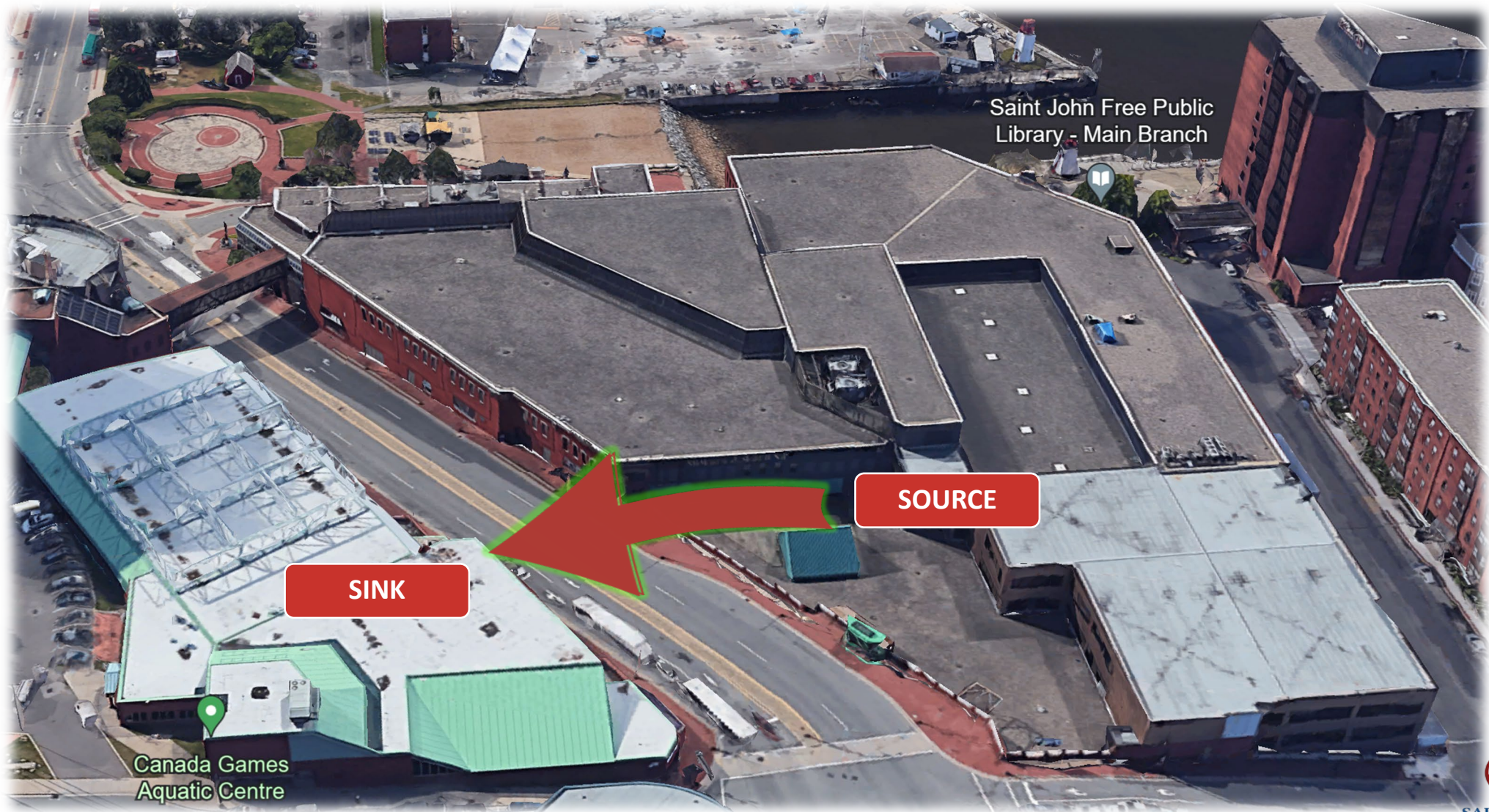


DES Current Project - Short Term Phase 1

- Project Completed in June 2024
- Heat Recovery Chillers Supply and Installation
- Upgrade the Isolation of Thermal Storage Cells
- Upgrade the Control System
- Connection to Hilton
- Thermal Connection to CGAC



DES Current Project - Short Term Phase 1



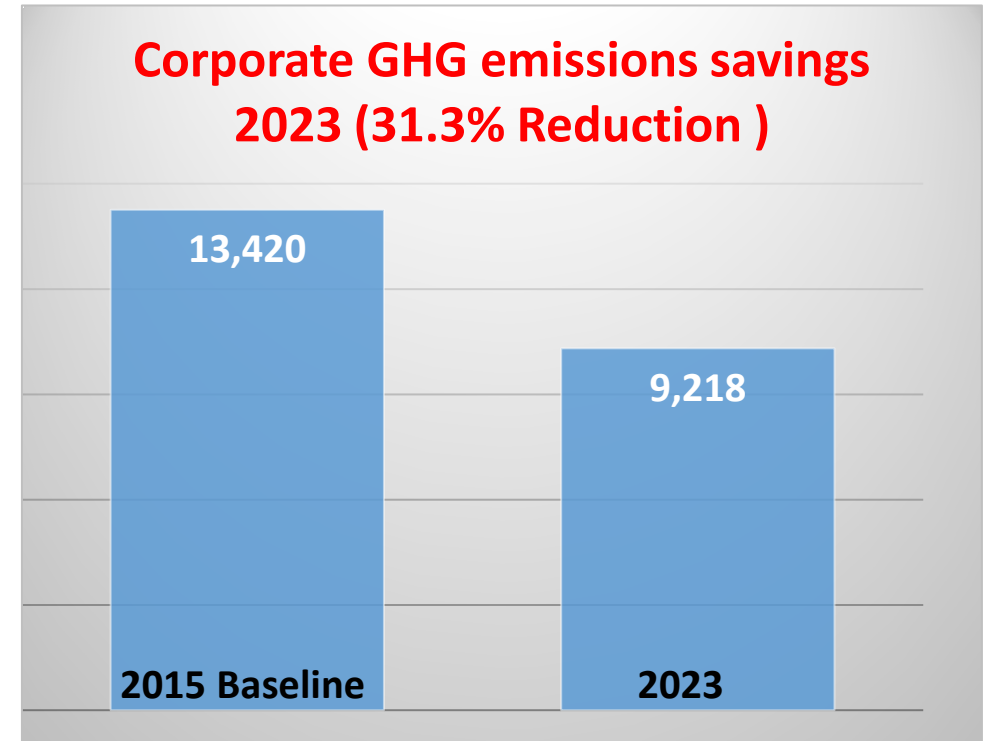
Environmental and Financial Analysis

DES Phase 1

- Total Cost \$2.4 Million
- Total Grant (LCEF,RDC,NB Power) \$1.9 Million
- City Capital Share \$488,000
- Total Savings **\$182,000**
 - Chillers Upgrades Saving 1.5 Million KWH or \$150,000 Total with \$92,000 to the City
 - Thermal Connect Saving \$90,601 **Current Saving (3.5 Month is \$30,000 and 90 tCO₂e)**
- Total GHG Emissions Saving **700 tCO₂e equivalent of 113 residential houses**
- Simple Payback **2.7 Year**
- Reduce City Capital \$1.7 Million
- Reduce Infrastructure Deficit over \$1 Million
- CGAC to be Carbon Neutral with 5 Years

MBDER: Current Progress

- Completed over 40 Projects
- Annual savings \$1.1 Million (2023)
- 4,202.3 eCO₂t
- Capital Investment over \$7 Million



Pilot Project - Transit

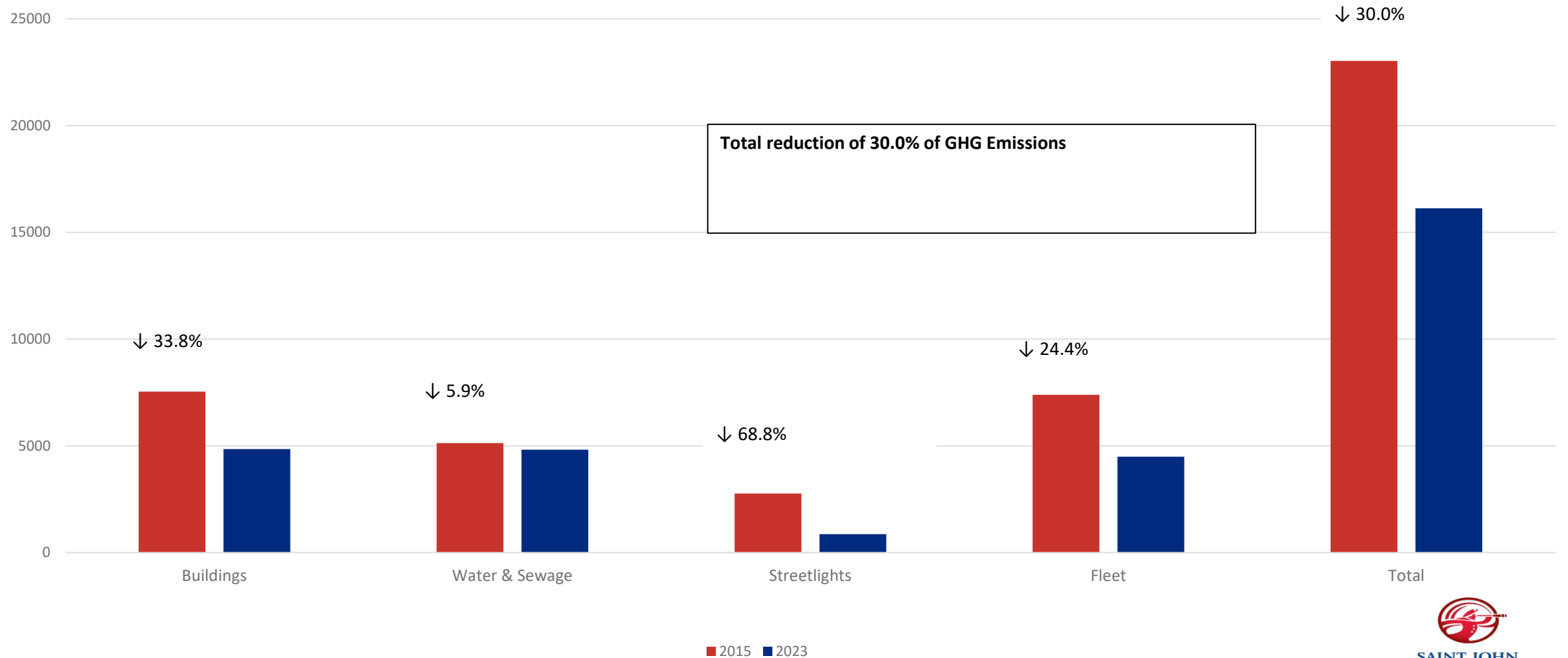
- Six Mini Karazan (e-Jest is a European-Style) Buses On Demand/Electric and One 44-foot Electric Bus
- Install 2 Level 3 Charges and six level 2 charges
- Install energy management software to collect data and monitor performance
- Pilot project for one year



OPERATIONAL ITEMS	BUSINESS AS USUAL (PRE-PILOT OPERATION)	PILOT PROJECT	SAVINGS
Maintenance Costs	\$119,085	\$38,033	(68%)
Energy Costs	\$42,092	\$5,495	(87%)
Green House Gases	117T	17T	(85%)

Corporate GHG Emissions Decarbonization Summary

Green House Gas Emissions 2015 and 2023



Corporate -Current and Future Initiatives (Five Years)

- Continue developing and implementing energy efficiency and renewal measures on the City's municipal and water/wastewater facilities.
- Net Zero- Saint John Multipurpose Recreational Facility.
- Implement Energy Star Labeling on municipal buildings.
- Purchase 6 - Karsan 20' eJest Buses ; 2 - Taubik Electric Bicycles
- Upcoming Purchases :2 - Kia Niro EV Wave+'s ; 1 - Karsan 20' eJest Buses
- Recommissioning and monitoring of the various building energy systems to maximize environmental and economic benefits.
- Decarbonize the City corporation thermal energy and fleet systems.
- Expand DES Phase 1.



Community GHG & Energy Action Strategy

- Reduce Community GHG Emission Target of 9% by 2025 and 18% by 2035, below 2015 levels.
- Play a leadership role to achieve community net zero by 2050.
- Foster shift toward carbon technologies.
- Develop collaboration between the various community stakeholders.
- Build awareness among energy investment and create a culture of energy conservation among residents, business, institutions, and industries.



Community- Initiatives and Actions (Since 2022)

- Council approved the Community GHG and Energy Action Plan or ActSJ in January 2024
 - Detailed Financial Implementation Framework, Carbon Budget, Tracking and Monitoring
- Completed the Burchill wind energy project which will generate 42 MW of wind energy Reductions of 43,680 tCO₂e, which is equivalent to 15% of the community's emissions from electrical power consumption
 - 7% reduction in Community GHG emissions
- Saint John Energy in cooperation with the City and other stakeholders
 - installed over 16 EV Chargers (Level 2 and 3) across the City.
 - Converted 49 oil or natural gas water heaters to Electric water heaters
 - Had 4 customers take advantage of our E-Bike financing program.
- Join the Building to Net Zero Cohort (City of Saint John, the City of Fredericton, and the Fundy Regional Service)
- 2023: 37% more waste was diverted from the landfill. Exceed the expectation of 15% (Double).
- Assist Circular Materials' goal of providing curbside recycling to tenants of larger apartment buildings.
- 600 M of bike lane, 477 M on harbour passage .

Community-Current and Future Initiatives (Five Years)

- Continue exploring opportunities for DES
- Continue working with Saint John Energy and other stakeholders regarding the installation of EV chargers including the required infrastructure as well as other energy initiatives such as Home Retrofit Program.
- Continue to seek and secure funding from others.
- Continue working to implement MoveSJ and the City's Transportation Plan to provide more access to infrastructure and programs each year to support the city's strategic goal of reaching 20% of commuter trips taken by sustainable transportation modes.
- Partner with the Province of New Brunswick to install bike and shared lanes on Main Street North and partner with the Federal government to install a new section of Harbour Passage (the Cove) in 2025."
- Saint John with will work collaboratively with Fredericton and Fundy Regional Service to outline a clear, shared pathway towards net-zero buildings that represents both urban and rural regions, where equity and affordability is top of mind.
- Report and track progress on ActSJ
- Establish a working group or steering committee to manage the implementation of ActSJ.

Climate Adaptation -Initiatives and Actions (Since 2022) and Benefits

- Secured over \$20 million from the various levels of government and other agencies to improve community and infrastructure resilience.
- 3 KM of Combined Sewer and Storm Separation
- Work underway (DMAF)
 - Courtenay Bay Causeway Raise
 - City of Saint John Wastewater Flood Protection Project
- Glen Falls School rain garden and infiltration trenches in 2022.
- Glen Road Park rain garden and drainage Completed in 2024 .
- Natural Asset Inventory
- Tree planting throughout the city . ACAP Saint John has planted thousands of trees.
- Living Coastal – coastal erosion study

Climate-Current and Future Initiatives (Five Years)

- Complete inventory of the City Natural Infrastructure Assets and integrate these assets into the asset management plan.
- Plant over 1000 trees in the urban area.
- Incorporate the Climate Change Adaptation Plan into the next iteration of the Municipal Plan or during the next comprehensive review.
- Continue the work toward the separation of the sanitary and storm sewer flow. Approximately 2 KM for 2025-2027
- Help identify infrastructure that are considered high risk to climate events and develop a mitigation strategy to minimize the risk.
- Continue working with ACAP toward the implementation of the proposed objectives of the Climate Change Adaptation Plan.
- Update Climate Adaptation Plan in 2026.
- Saint John Urban Heat Island (UHI) Vulnerability Assessment

Challenges and Risks

- Resources required to implement the climate change action items.
- Lack of collaboration or poor buy-in from the various community stakeholders.
- Lack of policies or regulations from the various levels of government.
- Not meeting the net-zero electricity grid in 2035.
- Lack of awareness or enthusiastic among residents, business, institutions, and industries regarding energy conservation and low carbon technologies.



Questions



THANK YOU!



SAINT JOHN