

OUR CITY. OUR FUTURE.



# Resilient St. John's Community Climate Plan

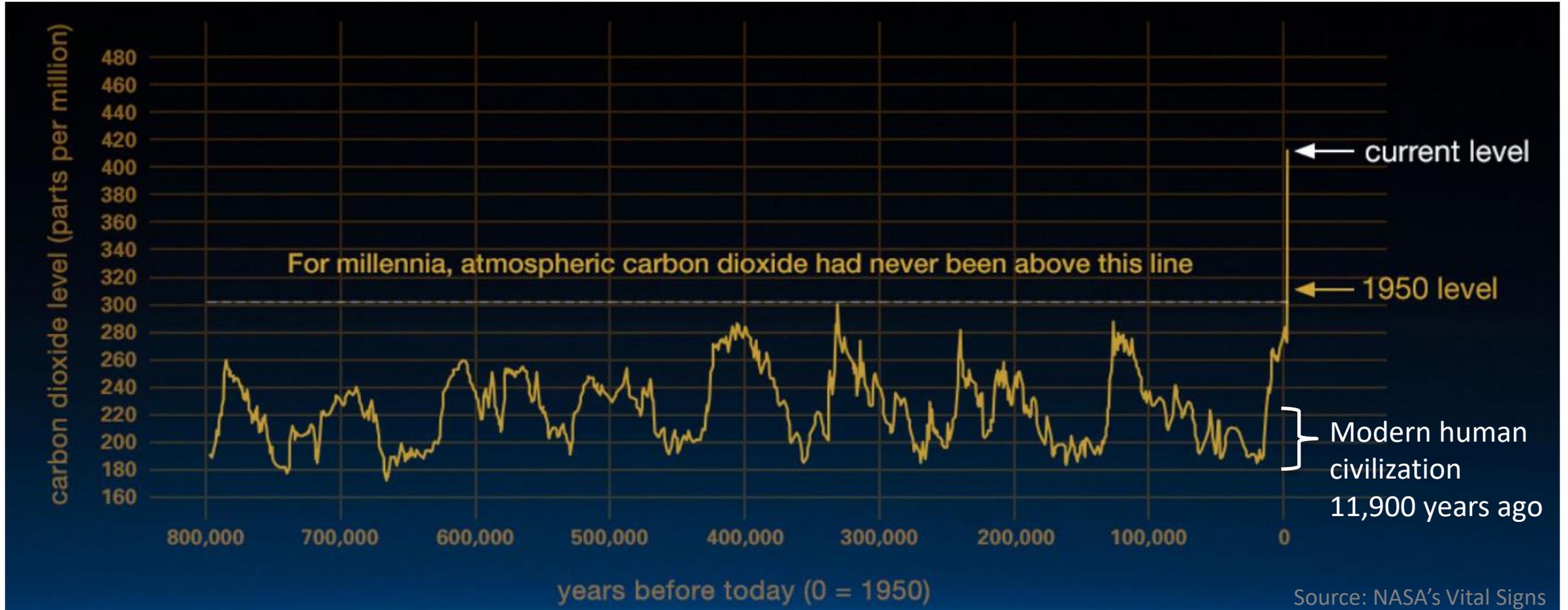


COTW Presentation to Council  
November 2021

**ST. JOHN'S**

# Global Climate Emergency

**The evidence is clear:** the main cause of climate change is burning fossil fuels such as oil, gas, and coal. When burnt, fossil fuels release carbon dioxide into the air, causing the planet to trap energy and heat up.

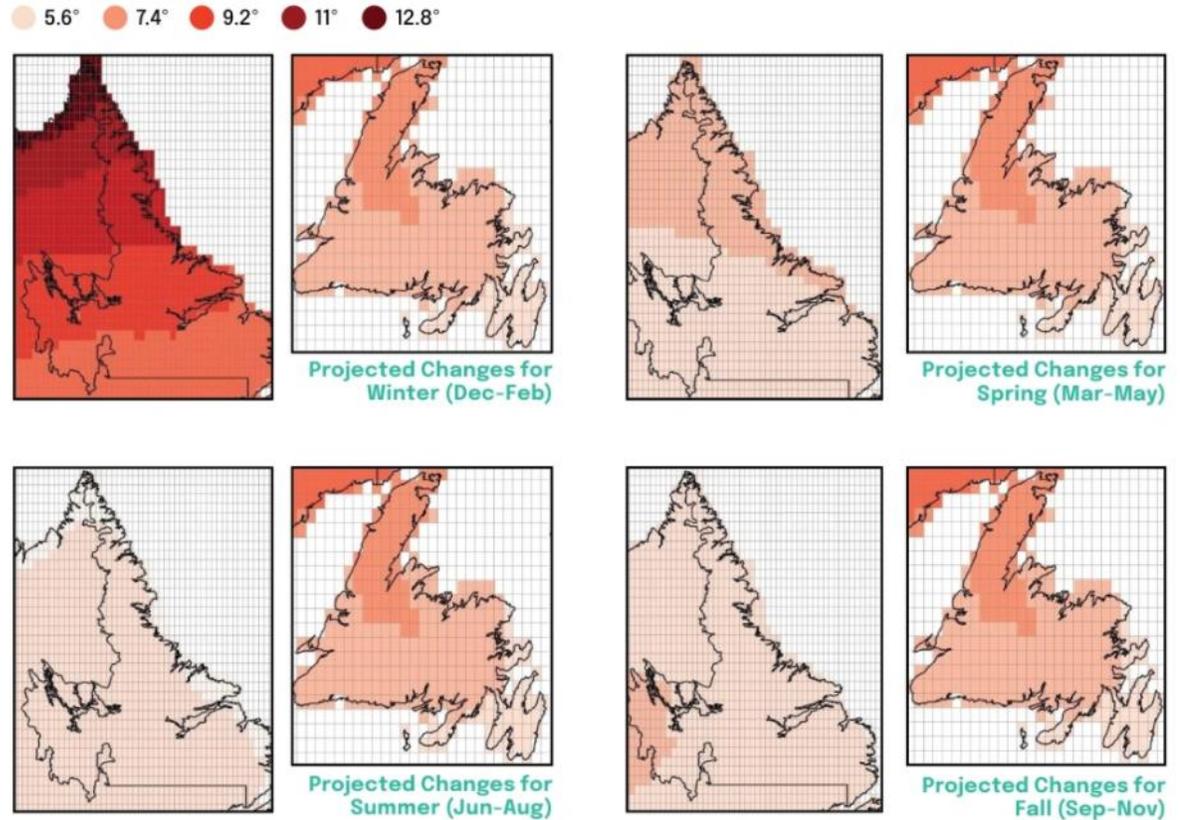


<b>CARBON DIOXIDE</b> ↑ 417 parts per million	<b>GLOBAL TEMPERATURE</b> ↑ 1.18 °C since 1880	<b>ARCTIC SEA ICE EXTENT</b> ↓ 13.0 percent per decade	<b>ICE SHEETS</b> ↓ 427 billion metric tons per year	<b>SEA LEVEL</b> ↑ 3.4 millimeters per year
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# St. John's Climate Emergency Declared November 2019

Affirmed a climate emergency for the purpose of deepening our commitment to protecting our community, economy, natural assets, and ecosystems from changes in climate.

- Set Climate Change as a Strategic Priority
- Directed staff to develop a Plan that:
  - Assesses climate risks
  - Greenhouse gas emissions reduction targets
  - Actions and strategies
  - Reporting systems
  - The identification of funding sources and collaboration opportunities



Projected Temperature Change, Late 21st Century (Average Daily)

Sources: Government of Newfoundland and Labrador, Memorial University

# Municipal Role in Climate Action

## Municipal Governments Have:

<b>Direct Control</b>	<b>Direct Influence</b>
<ul style="list-style-type: none"> <li>• Municipal Infrastructure</li> <li>• Buildings</li> <li>• Fleet</li> </ul>	<ul style="list-style-type: none"> <li>• Transportation network</li> <li>• Land use</li> </ul>
<b>Indirect Influence</b>	<b>Little Influence</b>
<ul style="list-style-type: none"> <li>• Transportation mode share</li> <li>• Residential and business energy efficiency</li> <li>• Food security</li> <li>• Sustainable consumption</li> </ul>	<ul style="list-style-type: none"> <li>• Heating and electrical utility</li> <li>• Vehicle standards</li> <li>• Industry energy efficiency</li> <li>• Air travel</li> </ul>

**Corporate  
Climate Plan**

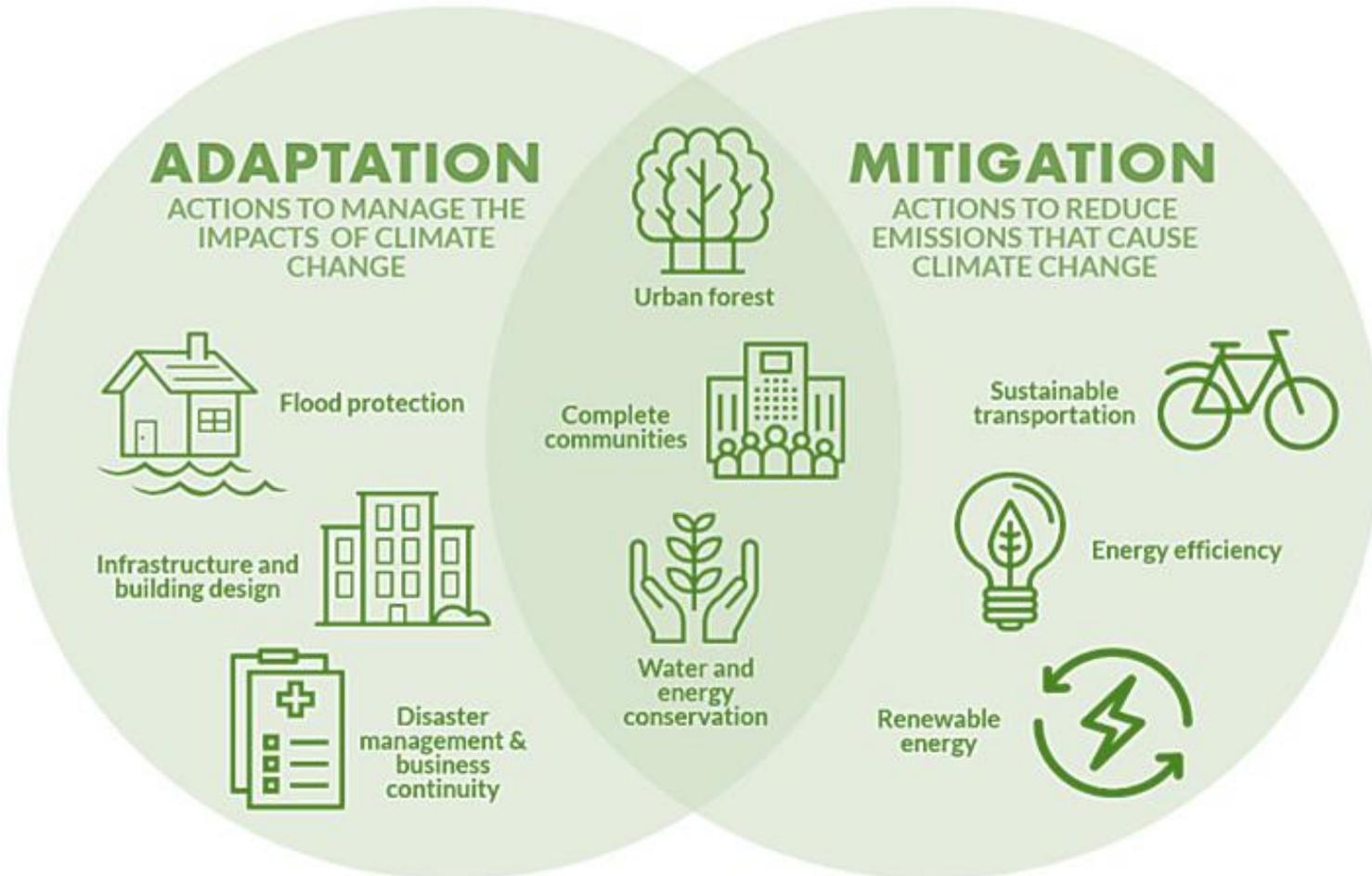
(Adopted May 2021)

**Resilient St. John's  
Community  
Climate Plan**

# Resilient **St. John's** Community Climate Plan



## Approach to “Low Carbon Resilience”



*Strategically aligning climate adaptation and emissions reduction can enhance the effectiveness of both strategies, avoid risks, and generate economic, ecological, and social benefits.*

# Changes in Climate in St. John's

Before a child born in 2021 becomes 30 years old..

## Temperature



Increase of  
2.7°C by 2050s  
4.6 °C by 2100



By 2100 maximum summer  
temperature of 30.4 °C



20% longer growing  
season by 2050s

From approx. May 20 – Oct 24  
To approx. May 11 – Nov 4



20% less demand for heating  
97% more demand for cooling



Warmer winter by 3.4 °C with  
25% less icing days by 2050s  
(icing days = days that don't go above 0 °C)



50 less days with frost  
(days with temperatures below zero)

## Precipitation



Little change in average  
annual rainfall 5% but  
change in seasonal patterns



Higher likelihood of intense  
storms and flooding

Summer 31% Fall 19% (90<sup>th</sup> PCTL)



Increased frequency of 7%  
dry days



Tropical storms are likely to  
be stronger and bring higher  
intensity rainfall



Wetter winter with 60% less  
snow depth by 2050s

## Sea Level Rise and Coastal Hazards



Increased ocean temperatures  
and coastal erosion

Sea level rise:

Up by 0.7 m by 2100

Up by 0.51 by 2080

Up by 0.24 by 2060

2010 baseline

(source: DFO's CAN-EWLAT tool)

# How Will Climate Change Impact St. John's?



**INFRASTRUCTURE**

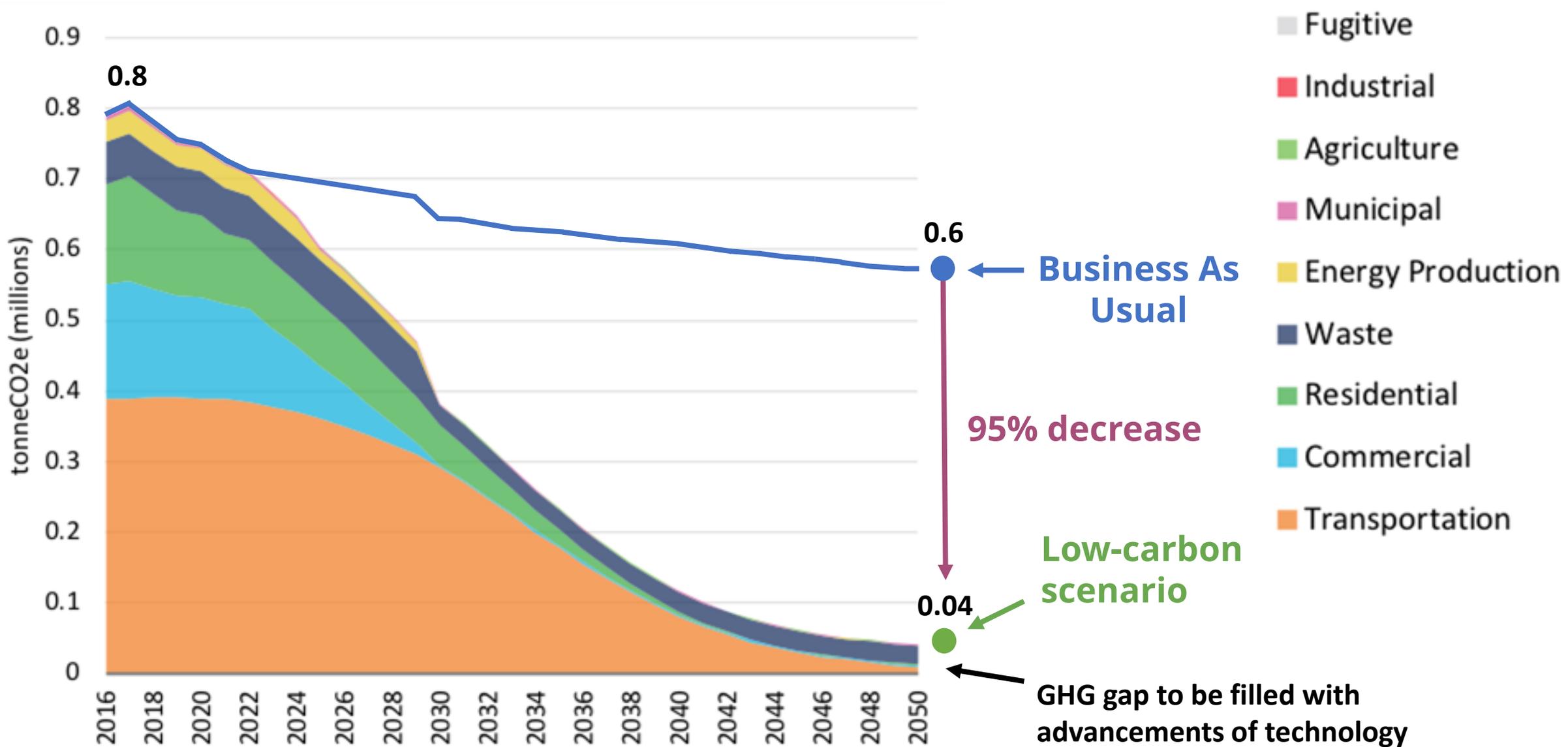


**SOCIOECONOMIC**



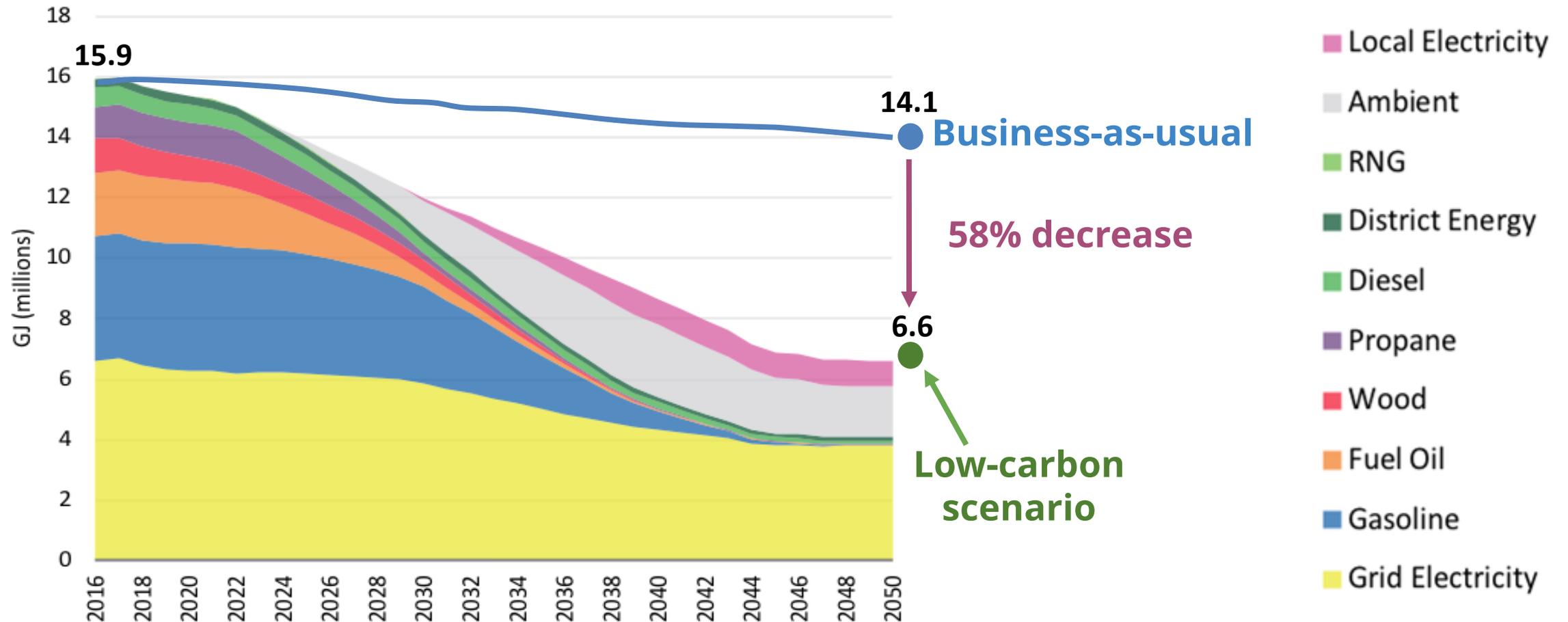
**ECOLOGICAL**

# St. John's Community Emissions



# Equitable Energy Transition

For this transition to be fair to our most vulnerable, aggressive energy efficiency must come together with the reduction in greenhouse gas emissions. This is presently possible with existing technologies.



# Resilient St. John's Themes

## Smart Growth

- As the City grows or re-develops communities are walkable, resilient to impacts, and prioritize energy efficiency and green space.

## Resilient Natural and Built Infrastructure

- Buildings and retrofitting, homes, and core infrastructure assets to ensure they are efficient, low-carbon and better able to withstand major weather events like storms, and flooding.

## Clean Transportation

- Walking, cycling, transit, and low-carbon vehicles are more accessible through the expansion of safe and efficient systems.

## Thriving Natural Environment and Agriculture

- Our natural resources and agriculture are protected, fostered, and enhanced to maximize carbon sequestration and resilience to impacts from extreme weather, invasive species, and pests.

## Disaster Resilience and Emergency Preparedness

- Key infrastructure assets and lifeline services are better able to withstand major weather events like storms and flooding.

# Proposed Immediate Priorities

**Governance and collaboration structures for implementation through ESEP and Council**

**Energy Performance Contract programming for energy efficiency and low-carbon city buildings**

**Program to improve household energy efficiency and climate risk protection**

**Plan for electrification of public transit and public charging network**

**Framework to Assess Risk and Protect Community Lifelines and Critical Infrastructure**

**Green Development Standard**

Resilient **St. John's**  
Community Climate Plan



# Examples of Momentum Actions ...



**Energy Opportunity  
Assessment and  
Energy Performance  
Contract**



**Funding for  
EV Charging  
Network**



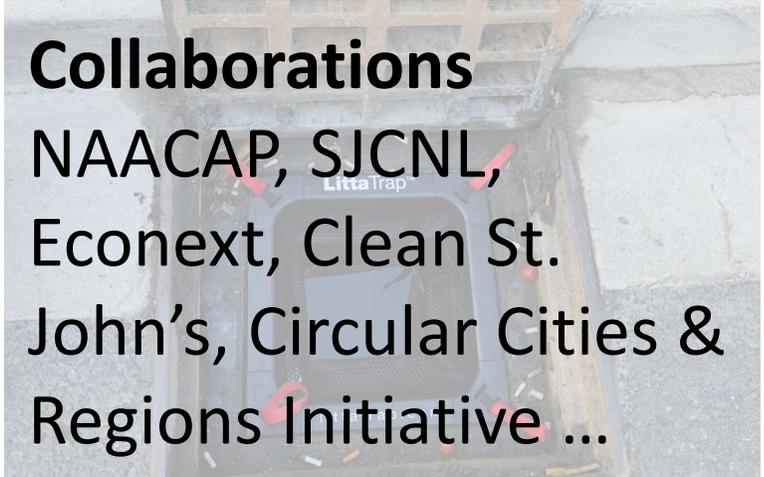
**Expansion of  
Landfill Gas  
Collection System**



**Naturalization  
on City Lands**



**Funding for  
Feasibility of  
Metrobus  
Electrification**



**Collaborations  
NAACAP, SJCNL,  
Econext, Clean St.  
John's, Circular Cities &  
Regions Initiative ...**

**... and ongoing corporate continuous improvement and capital upgrades  
incorporating climate change projections like Kenmount Road**

# Financial Analysis

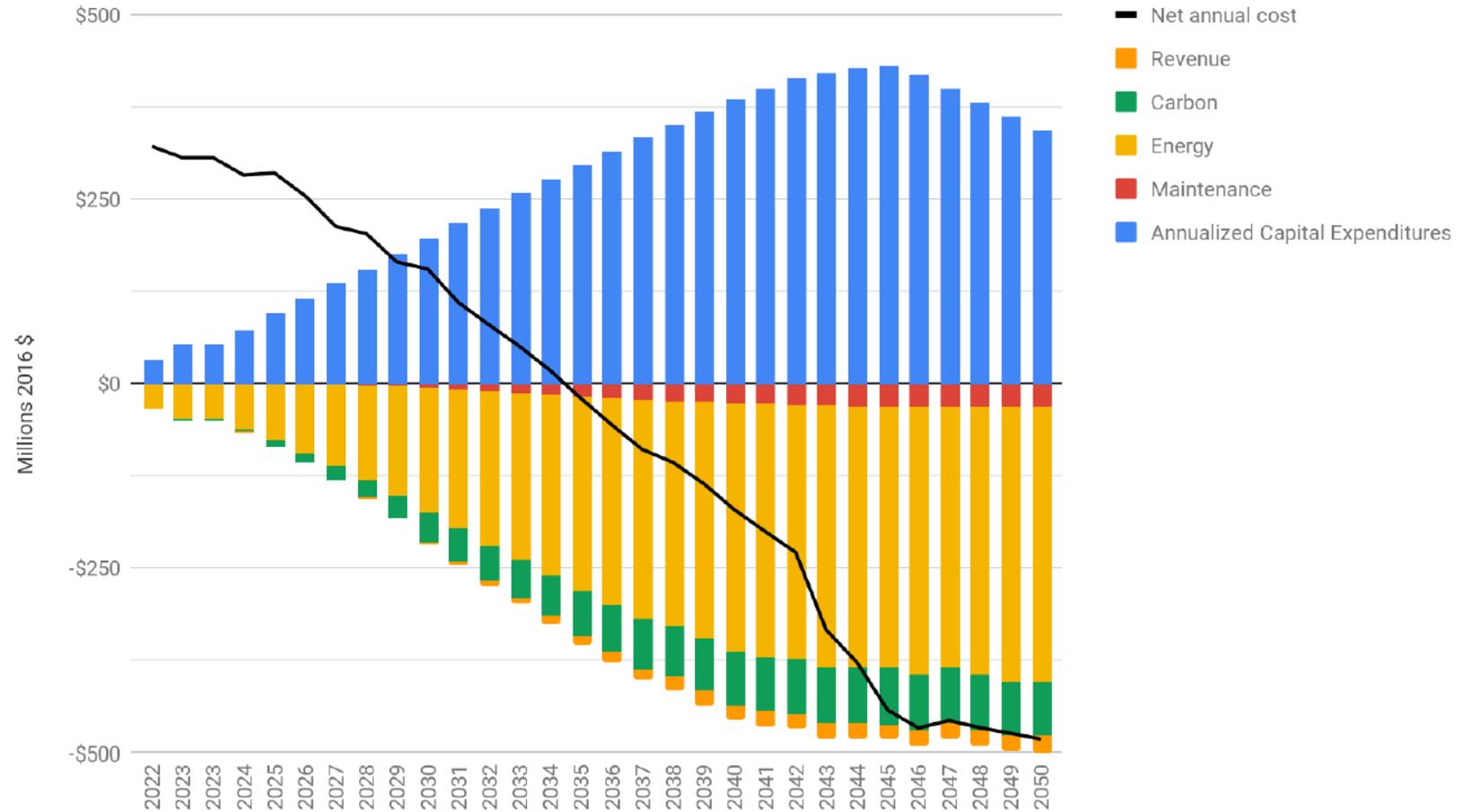
**The energy transition is a major investment opportunity for St. John's, one that can support a long-term recovery from COVID19 impacts.**

It is capital intensive, but pays for itself through:

- energy savings,
- carbon cost savings,
- reduced maintenance costs and revenue,
- and this is without including the value of the many social, public health and other collateral benefits.

**Capital and savings equal as early as 2024 and if not amortized before 2035**

Year-Over-Year Low-carbon Scenario Investment and Returns, with capex annualized



*Capital expenditures amortized over 25 years at 3%.  
Costs positive, revenue and savings negative.*

# Costs & benefits, in today's dollars

Net benefit:  
**\$5.4 billion**

**\$5.94 billion investment**  
\$205 million/year  
(6.7% of NL annual GDP)

**+50% decrease in household energy costs**

**1,800 jobs**

**190% ROI**

This Doesn't Even Include Co-benefits to...

**Public Safety**

Sustainable, livable & healthy communities

Biodiversity & Habitat

## Context

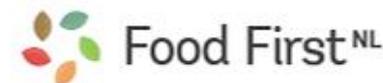
- City's operating budget: **\$312 million 2021**
- Newfoundland GDP: **\$30.5 billion 2018**

# We Need Support to Implement



Fisheries and Oceans  
Canada

Residents +  
Community  
Organizations



Canadian  
Home Builders'  
Association



Drive Electric NL



Newfoundland and Labrador  
Public Health Association  
Creating Healthier Communities ACROSS  
Newfoundland & Labrador



# Next Step: Public Consultation

Purpose: To share analysis and proposed actions, gather feedback and input about implementation considerations, partnership opportunities, and other perspectives.

## Engagement to date:

City Website and  
City Guide Articles

**848+** Unique  
Visitors Through  
EngageStJohns.ca

**77** Participants in  
polls

**7** Community  
members trained  
on DIY toolkit

**4496** Votes that  
informed action  
prioritization

**2** feedback forms  
from DIY  
Community  
Climate Workshops

**6** Multi-  
Stakeholder  
Sustainability Team  
Workshops

Council interviews  
& Media Coverage

OUR CITY. OUR FUTURE.



# Resilient St. John's Community Climate Plan



THANK YOU

ST. JOHN'S