

OUR CITY. OUR FUTURE.



Resilient St. John's Community Climate Plan

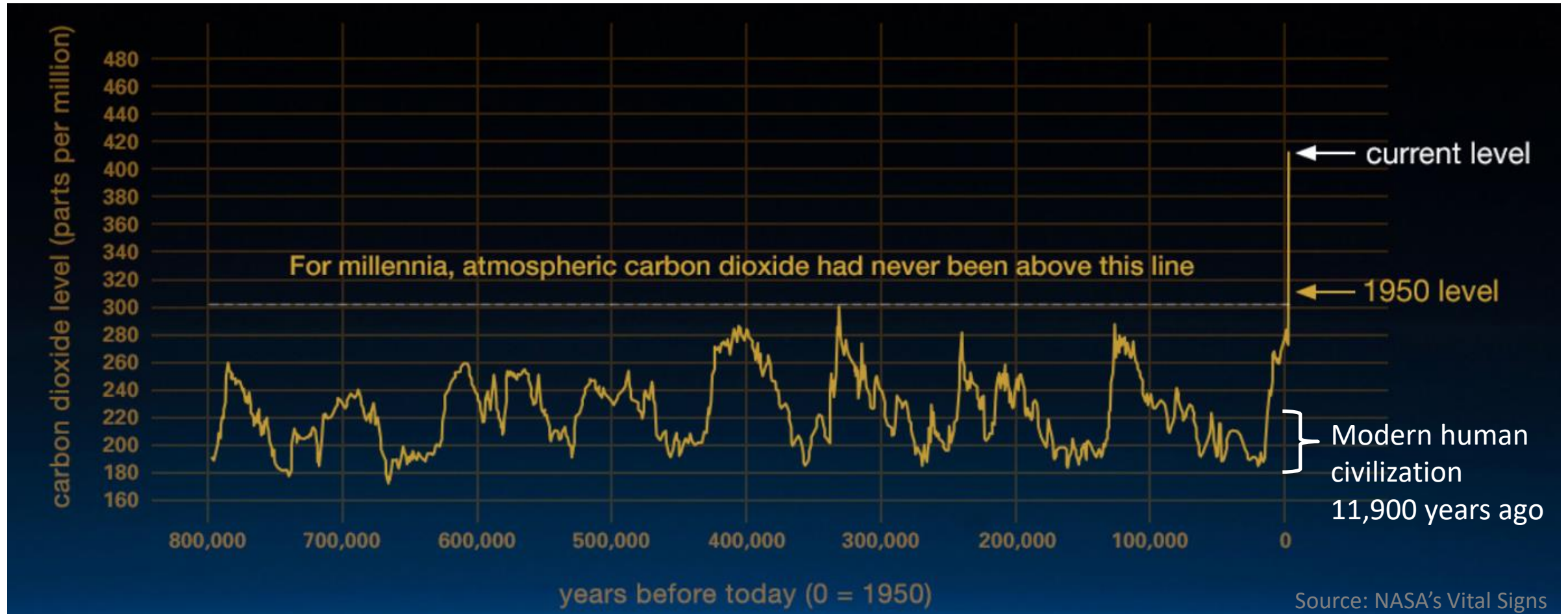


COTW Presentation to Council
November 2021

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.



CARBON DIOXIDE
↑ 417 parts per million

GLOBAL TEMPERATURE
↑ 1.18 °C since 1880

ARCTIC SEA ICE EXTENT
↓ 13.0 percent per decade

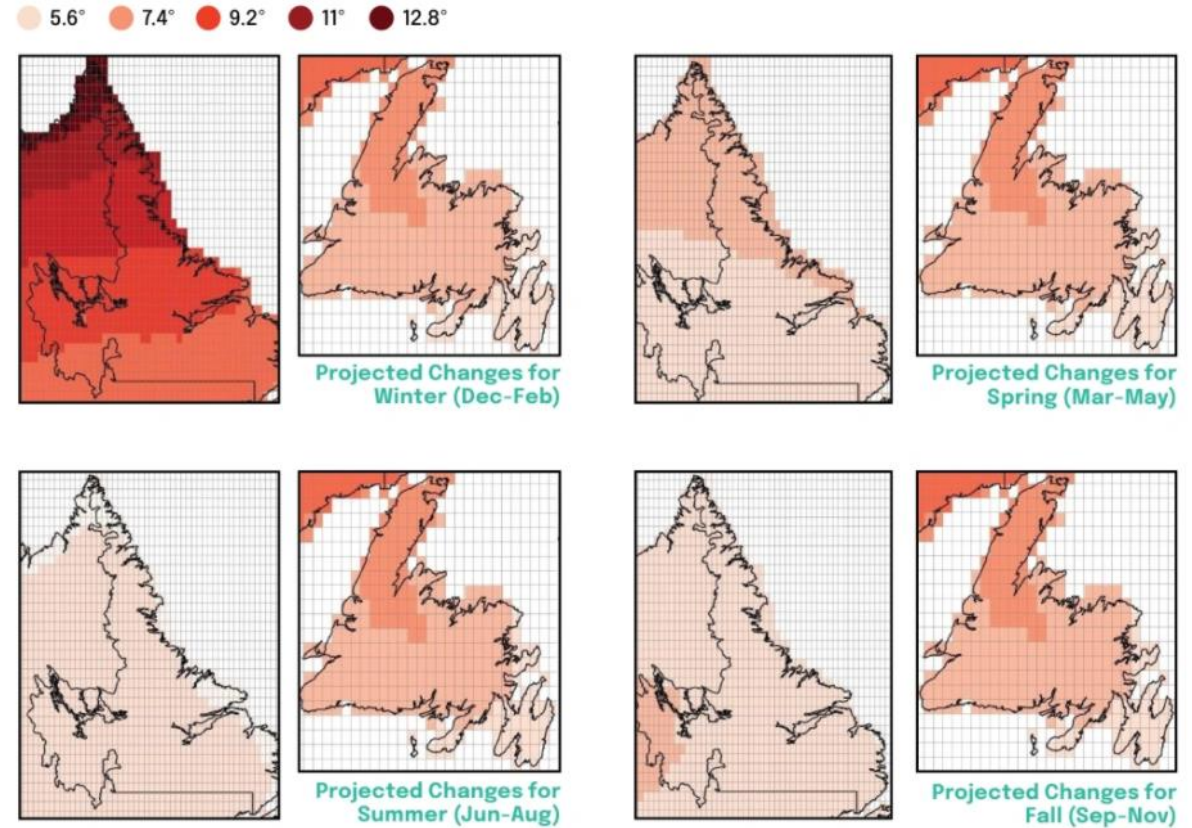
ICE SHEETS
↓ 427 billion metric tons per year

SEA LEVEL
↑ 3.4 millimeters per year

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:

Corporate Climate Plan

(Adopted May 2021)

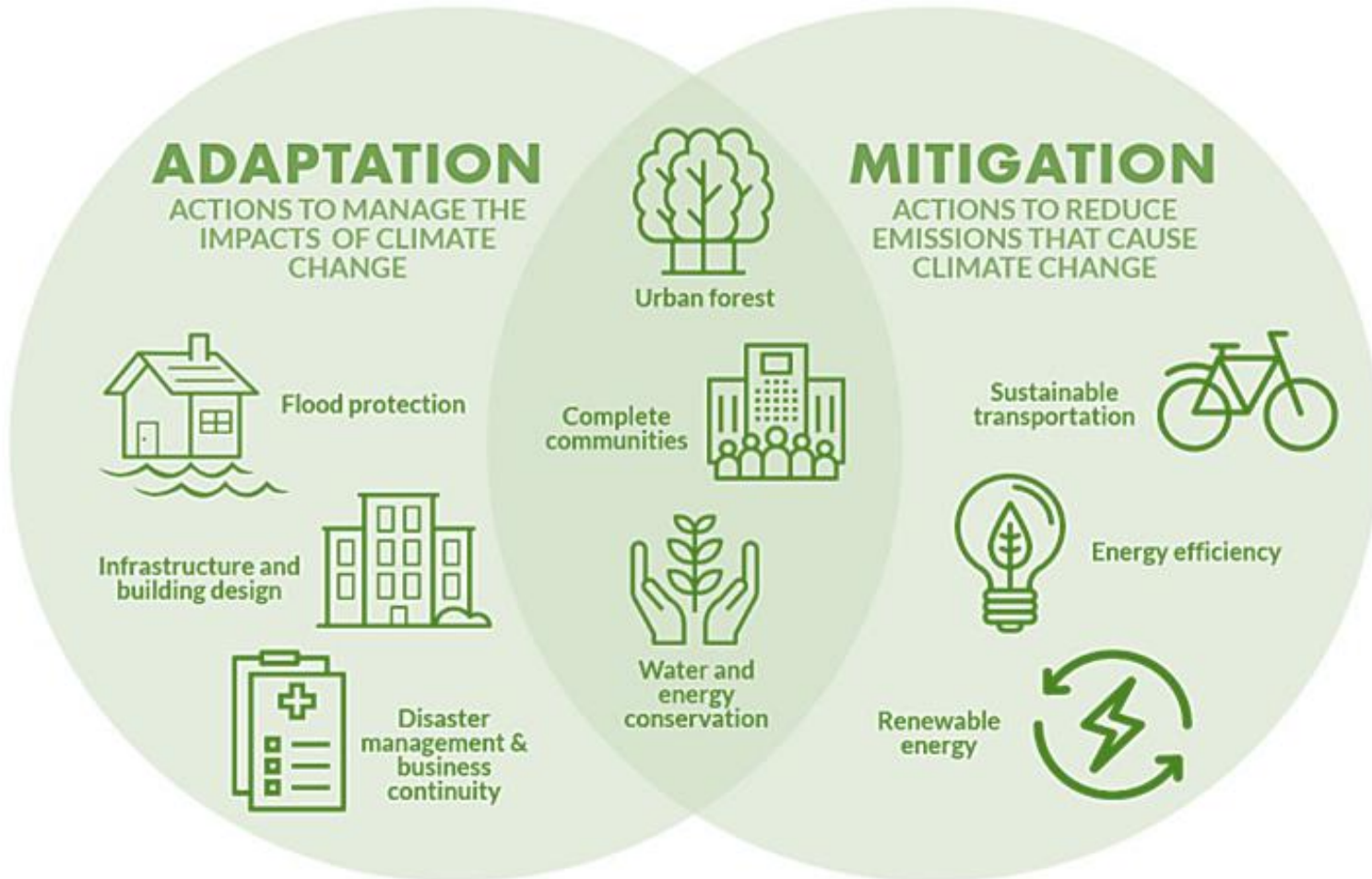
Direct Control	Direct Influence
<ul style="list-style-type: none">• Municipal Infrastructure• Buildings• Fleet	<ul style="list-style-type: none">• Transportation network• Land use
Indirect Influence	Little Influence
<ul style="list-style-type: none">• Transportation mode share• Residential and business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

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% (90th 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

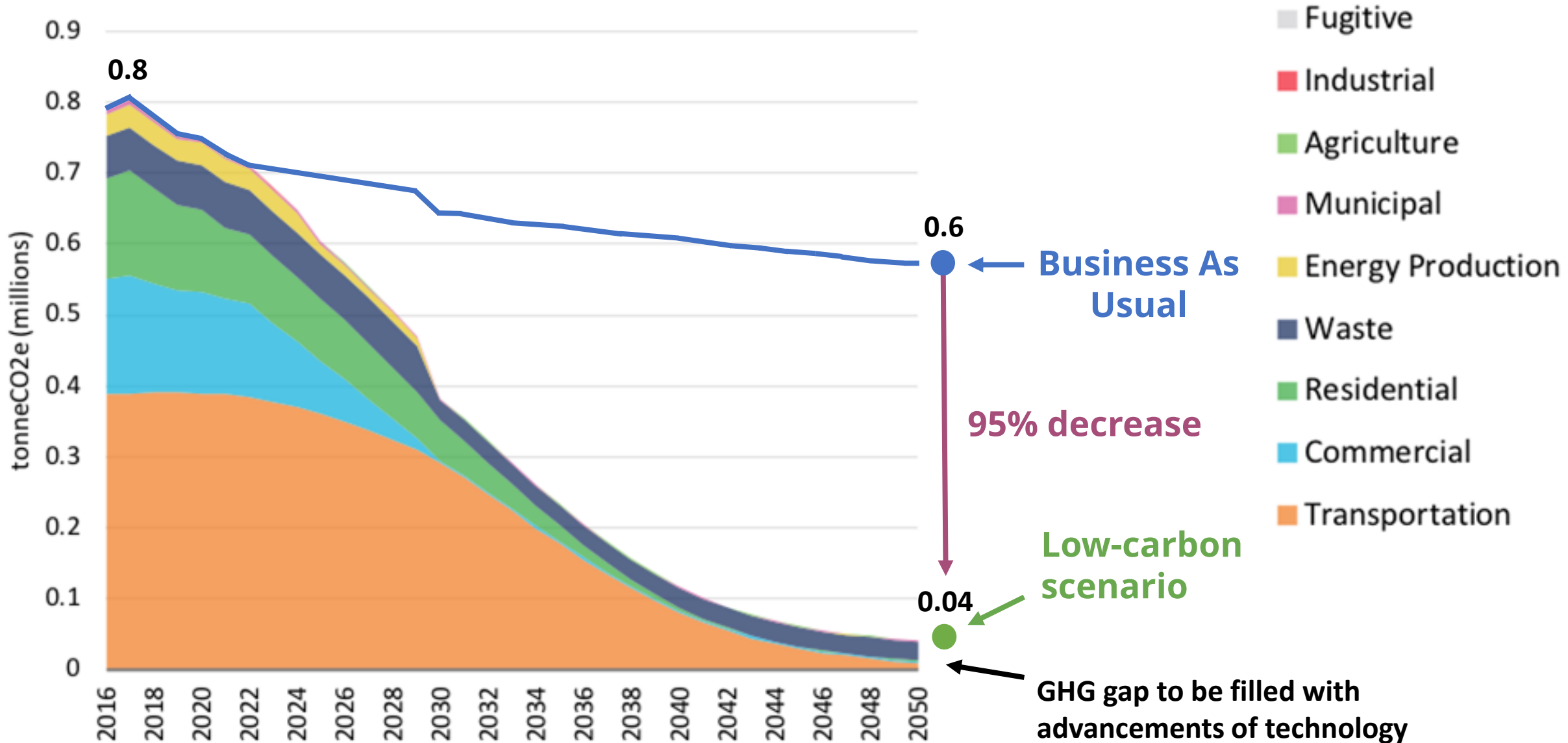


SOCIOECONOMIC



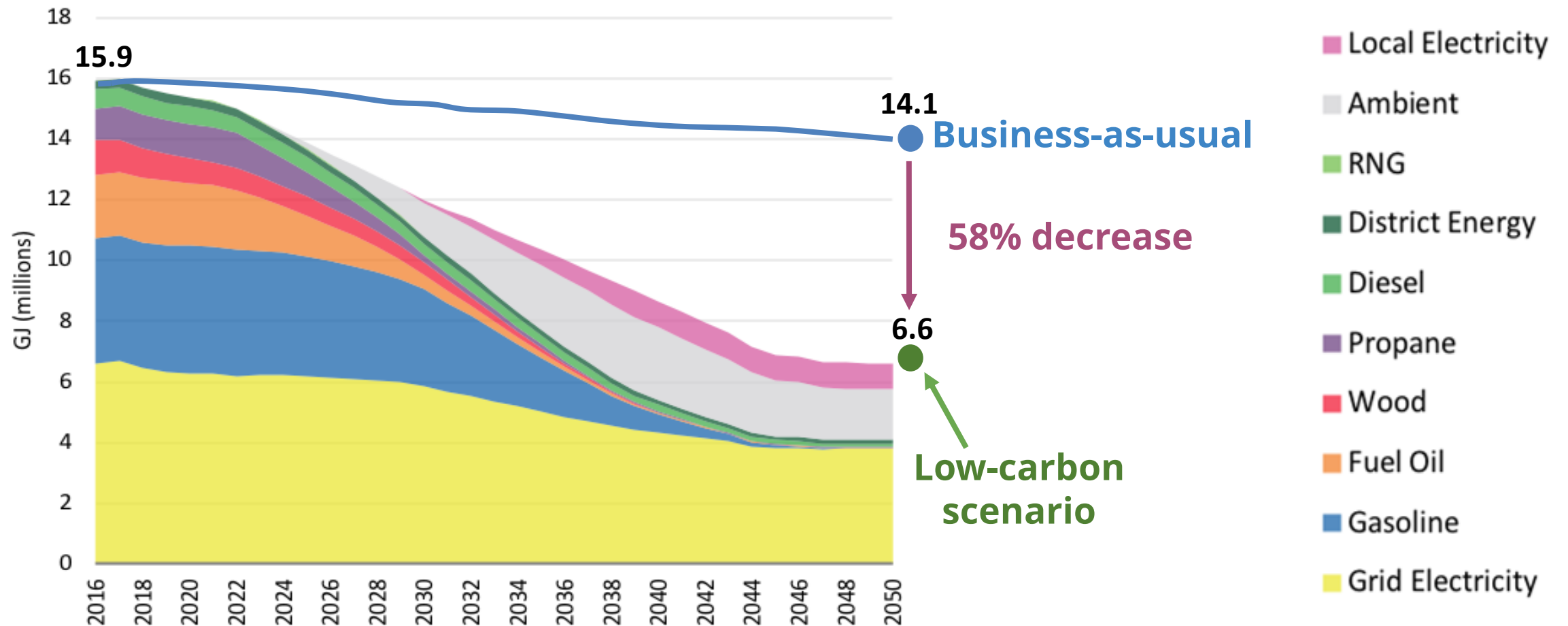
ECOLOGICAL

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**



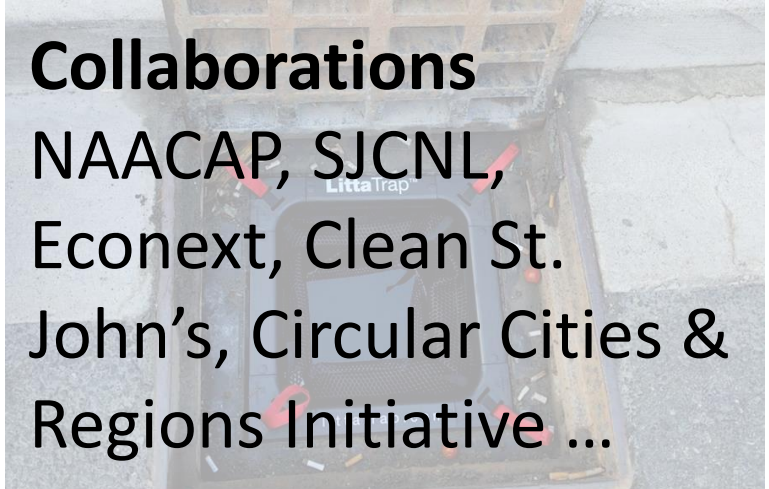
**Expansion of
Landfill Gas
Collection System**



**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

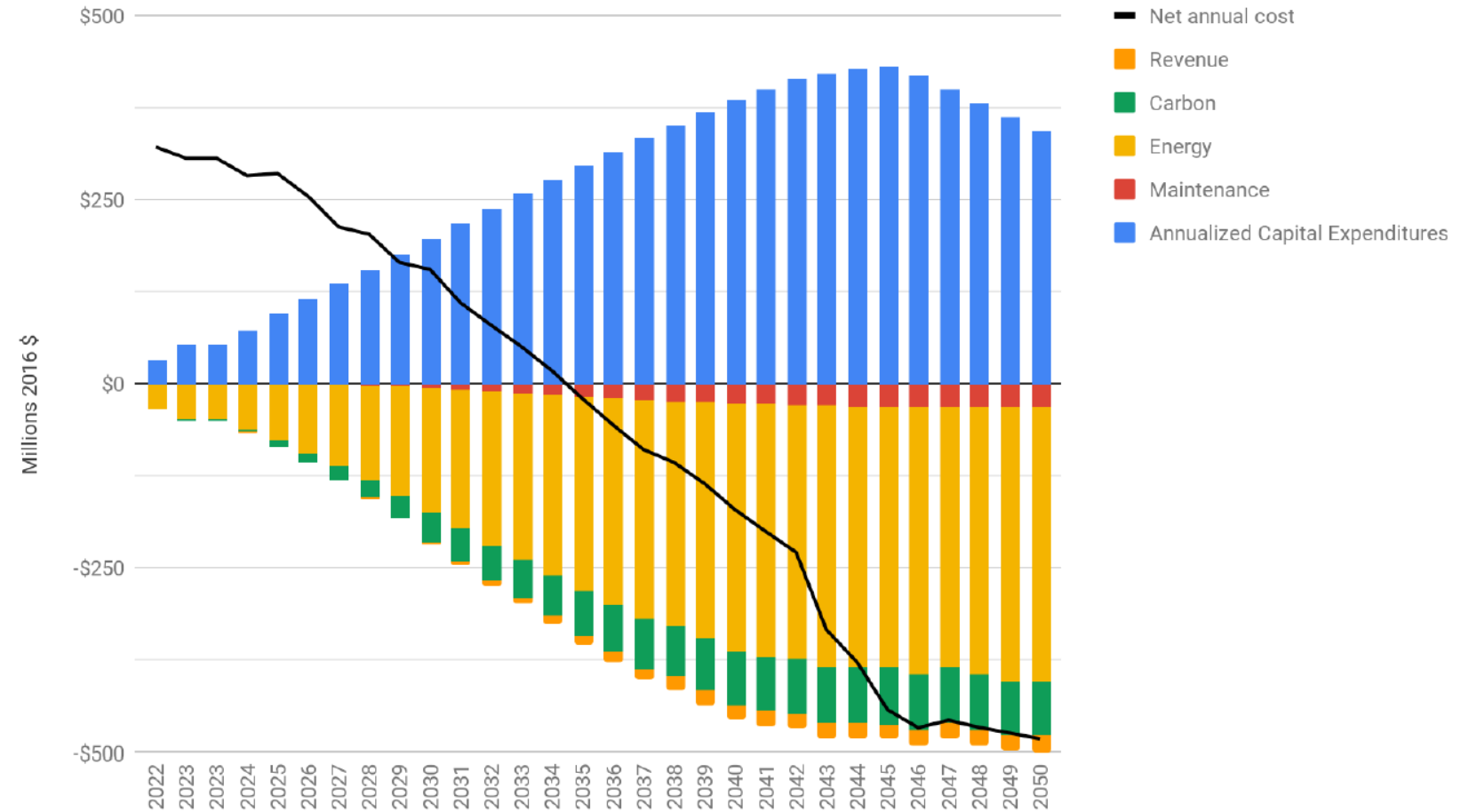
The energy transition is a major investment opportunity for St. John's, one that can support a long-term recovery from COVID19 impacts.

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

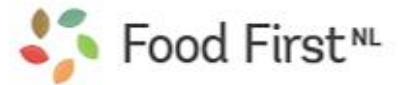
- City's operating budget: **\$312 million 2021**
- Newfoundland GDP: **\$30.5 billion 2018**

We Need Support to Implement



Fisheries and Oceans
Canada

Residents +
Community
Organizations



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