

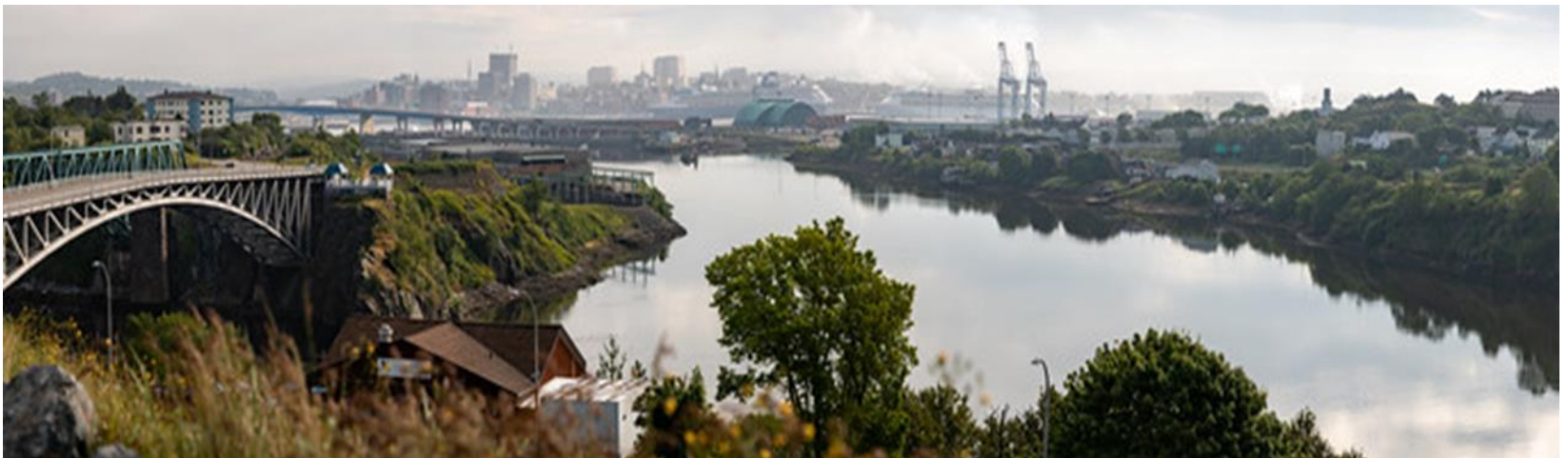


**Presentation to Clean Air Partnership  
City of Saint John Corporate and Community GHG & Energy  
Action Plan  
23 June , 2021**

**Samir Yammine  
CEM, CMVP, CSDM, P.Eng.  
Asset and Energy Management**

# Overview

- COSJ Commitment to Climate Change
- Overview of the COSJ Corporate & Community GHG & Energy Plan
- Next Steps



# Background ( City of Saint John, NB)

- Population 70,785 (2017)
- Coastal municipality
- Bay of Fundy and SJ River
- **Infrastructure Highlights:**

Roads	1,392 lane-km
Water Pipes	518 km
Sanitary Pipes	444 km
Storm Pipes	318 km
Facilities	168 (60 Lift Station)

**Total Valuation = \$3.2 B (2018)**



SAINT JOHN



# 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**
  - Corporate GHG Action Plan
    - GHG Reduction 30% by 2030 and carbon neutral by 2040
- Asset Management Program Strategy
- Approved By Council May 6, 2019



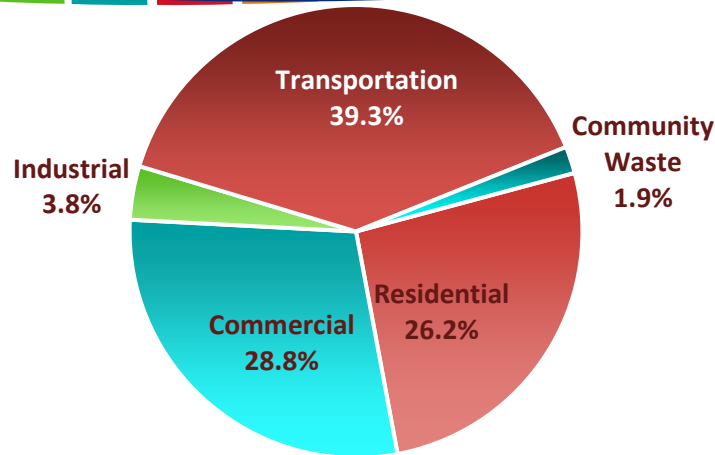
# Community GHG & Energy Action Plan Goals

- Foster a shift towards low carbon technologies
- Increase energy efficiency for new and existing buildings
- Build awareness about energy investment and create a culture of energy conservation among residents, business, institutions, and industry
- Build knowledge, skills and technical capacity through partnerships
- Develop Collaboration approach between the various community stakeholders



# Community GHG Inventory

**GHG Emissions Breakdown by Sector Type (teCO<sub>2</sub>)**



## GHG Emissions summary

### Community GHG Emissions for the base year

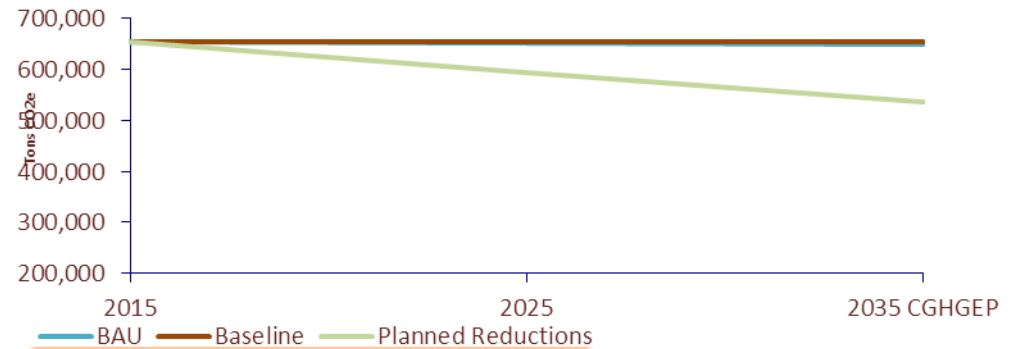
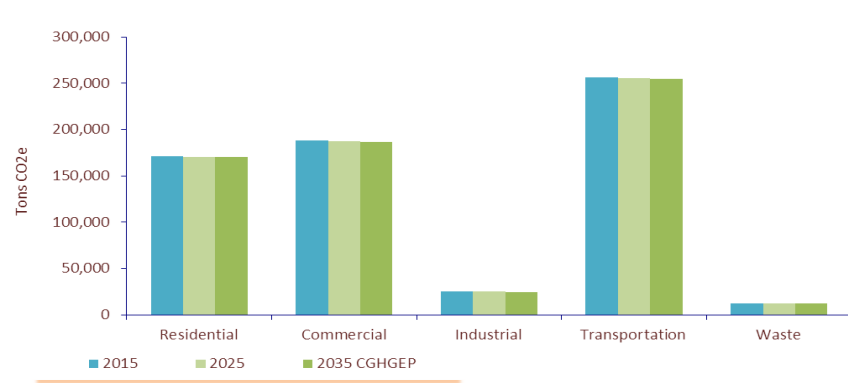
GHG (tons eCO <sub>2</sub> )	2015
Residential	171,288
Commercial	187,917
Industrial	25,020
Transportation	256,393
Community Waste	12,534
<b>Total</b>	<b>653,152</b>
Population	67,575
GHG per capita (teCO <sub>2</sub> )	9.7

## • Community Inventory Summary

### Energy Usage and eCO<sub>2</sub> Emission by Source

Energy type	Total Use	Cost	Energy (GJ)	Total eCO <sub>2</sub> (t)
Electricity	955,491,860	\$ 95,549,186.00	3,439,771	267,538
Fuel Oil	29,536,412	\$ 23,629,129.90	1,146,013	80,787
Natural Gas	10,391,032	\$ 238,993,733.33	407,744	19,770
Diesel - Buildings	0		0	0
Heavy fuel oil	2,958,875	\$ 1,479,437.74	125,752	9,306
Propane - Buildings	4,420,006	\$ 1,989,002.79	111,870	6,825
District Energy	0		0	0
Gasoline	68,613,182	\$ 80,963,555.30	2,401,461	167,384
Diesel - transportation	32,599,587	\$ 38,467,512.07	1,248,564	87,479
Ethanol Blend (10%)	686,446	\$ 810,006.09	23,229	1,507
Biodiesel (B5)	0		0	0
Biodiesel (B10)	0		0	0
Biodiesel (B20)	0		0	0
Propane - transportation	12,441		315	19
CNG	1,266		48	4
Waste	-		-	12,534
<b>Total</b>	<b>1,104,711,108</b>	<b>\$ 481,881,563.22</b>	<b>8,904,768</b>	<b>653,152.0</b>

# Community GHG Emission Target



## Community Energy & GHG Action Plan

### Baseline and Target

Tons of CO <sub>2</sub> equivalent		Year	
		Base 2015	Forecast 2025
			Forecast CGHGEP 2035
1	Current Emissions	653,152	
2	Community Emissions Forecast (BAU Scenario)		<b>650,906</b>
3	Reduction Target		9.0%
4	Forecast emissions (target) (line 1 - line 5)		594,368
5	<b>Total reductions to be achieved (line 1 - line 4)</b>		<b>58,784</b>
6	<b>Total reductions to be achieved (Including BAU Scenario)</b>		<b>56,538</b>

# Community Strategy & Action Plan

- **Local Renewal Energy Production**

- Renewable energy resources ( Wind & Solar) of 6% of SJE's total energy by 2025
- District Energy System
- Improve SJE Load Factor from 71% to 75%
- SJE System efficiency ( 2% by 2030)

- **Transportation**

- Idle-free Strategy
- Electric Vehicle Community Program (220 Vehicle by 2025)
- Fuel Efficiency Driving
- Efficient & Compact Vehicles



# Strategy & Action Plan Continue

- **Energy Efficiency**

- LED Lighting ( 60%)
- Energy Efficiency Products ( HP, DHW) for residential (25%/10%)
- Energy Efficiency for commercial and residential (15%/10%)
- Clean Energy Conversion (15%/10%)
- Clothes Line Program

# Community Benefits

- Overall Benefits assuming 9% Reduction by 2025
  - Over \$44 Million Annual Savings
  - 56,000 Tonnes of CO2 Annually
  - Carbon Saving \$2.8 Million ( Assuming \$50 per Tonnes of CO2)
  - Displace over 1 Million of NG Annually and 7.5 Million liter of **gasoline & diesel** annually
  - Divert over \$1.1 Billion ( 25 years ) in energy into the **local economy**
  - Local Green Energy Jobs

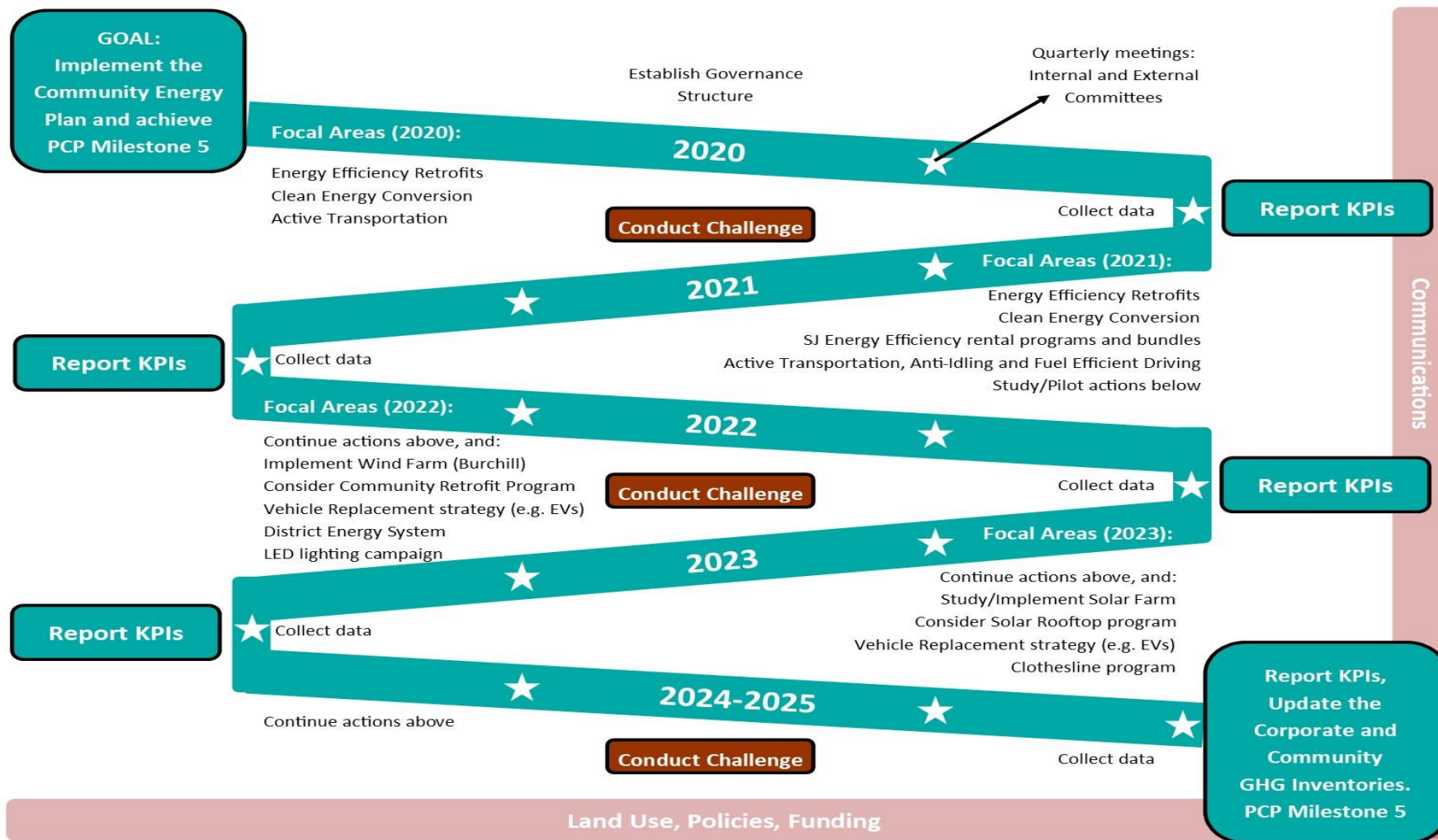


# Projects Underway

- 44 MW Wind Energy Project
- District Energy System
- Home Energy Retrofit Program
- EV Charging Stations
- Public Transit and Fleet Low Carbon Migration Strategy
- Develop an Implementation and Monitoring Plan
- Establish a Governance Structure



# CEP Roadmap and Climate View







THANK YOU !