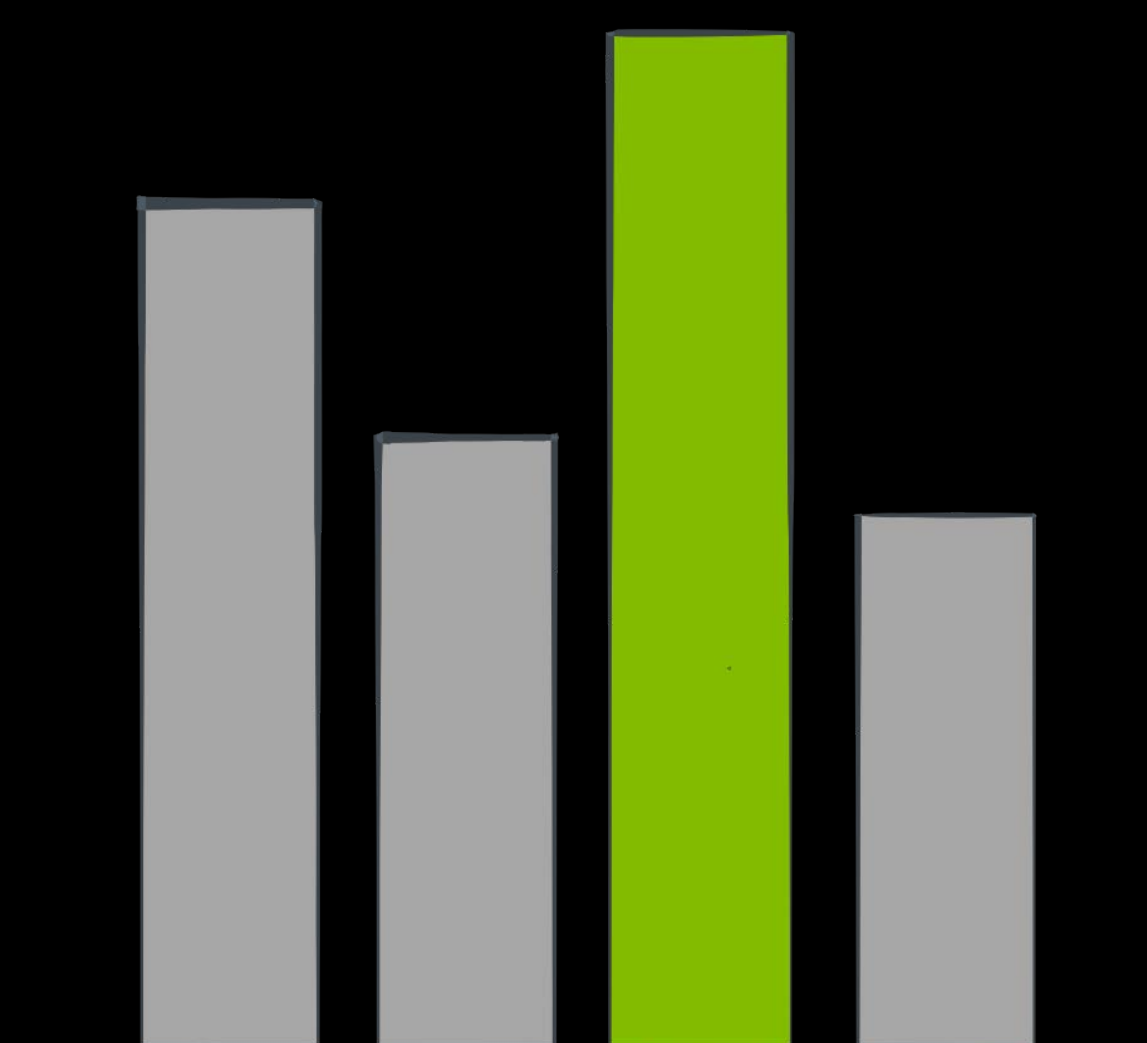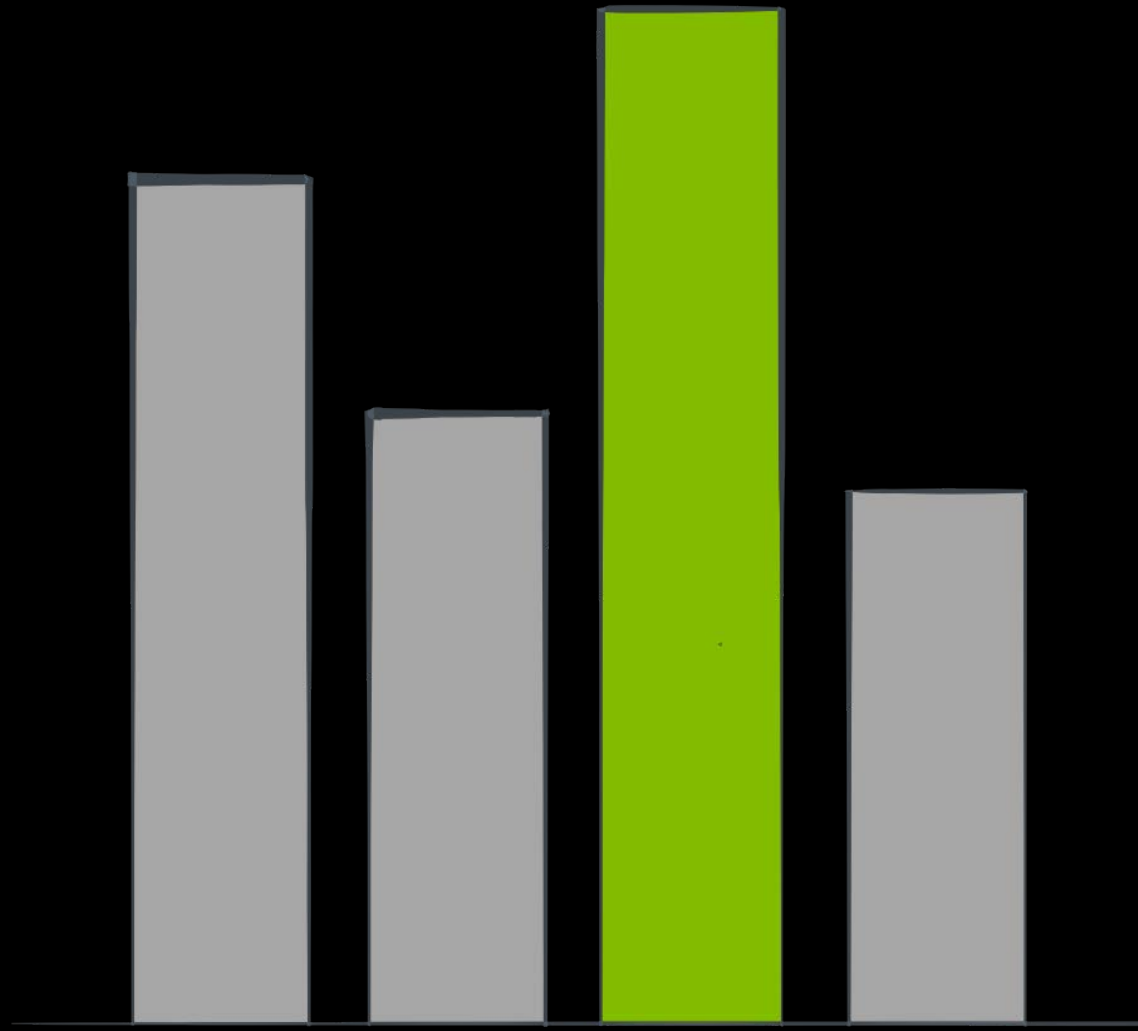# DATA
## *CHALLENGE*

**27 Teams**

## INFOGRAPHIC ROUND: VIEWERS CHOICE

Using visuals, teams will tell their story to **build curiosity for their presentations**. Vote for your favourite infographic and the team with the highest vote count will win $150!

How to vote? Voting link on last page

Team names will appear on the page **before** the infographic!

**UNB** EST. 1785 UNIVERSITY OF NEW BRUNSWICK | International Business & Entrepreneurship Centre

# Blue Green

UNB | International Business & Entrepreneurship Centre
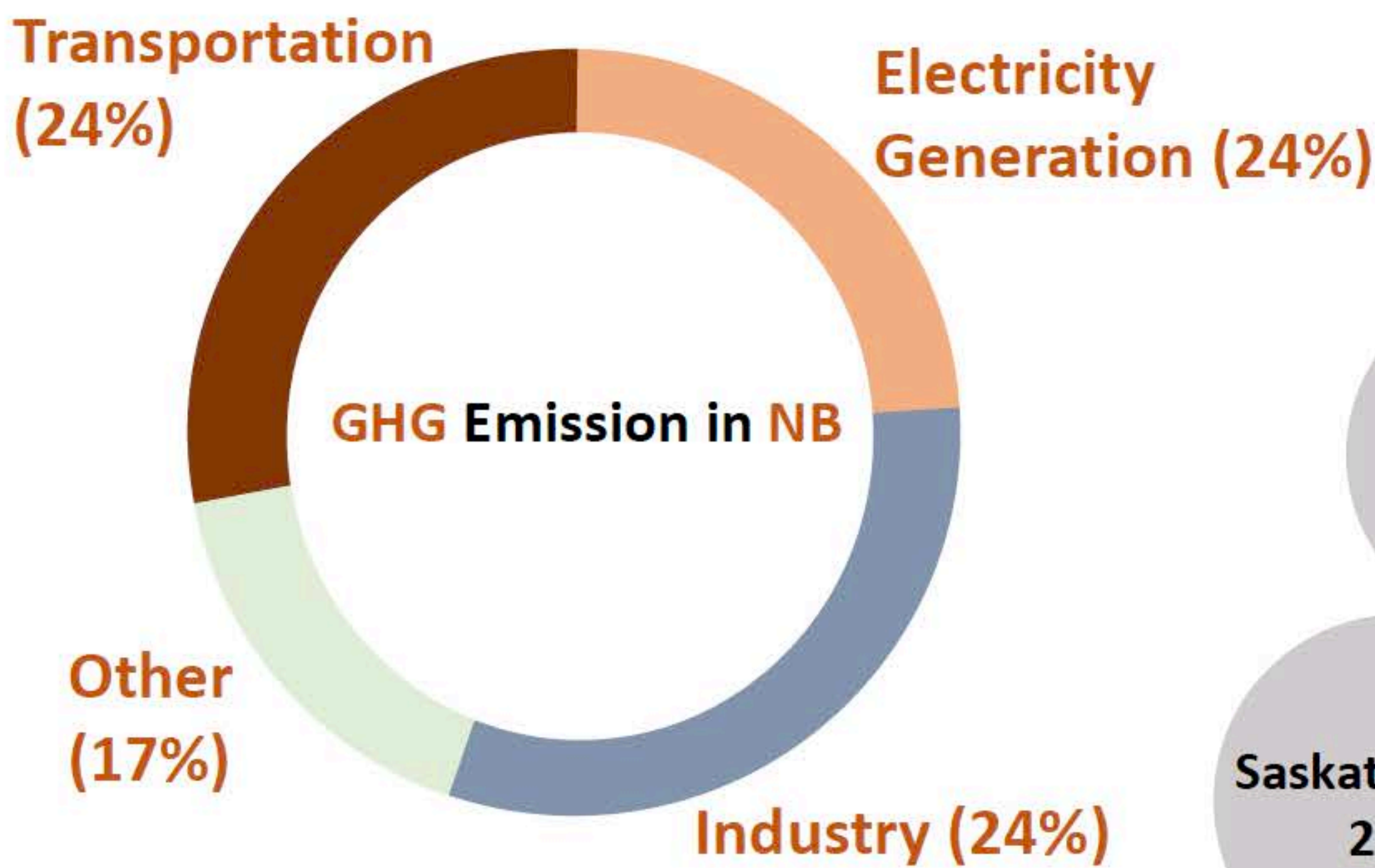EST. 1785
UNIVERSITY OF NEW BRUNSWICK

# CLIMATE CHANGE
# HOAX OR A REAILTY ?
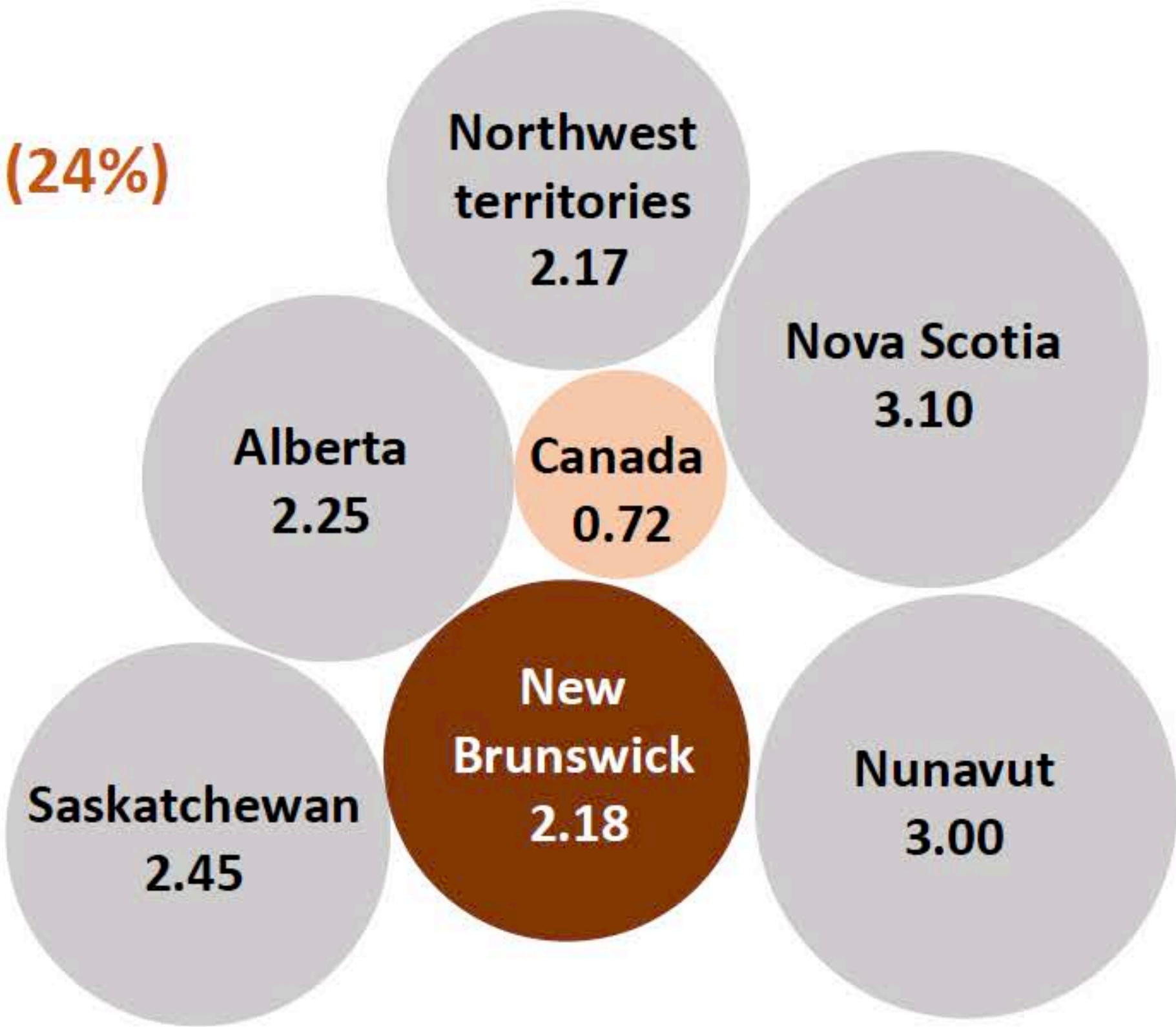## 2020 WAS THE HOTTEST YEAR GLOBALLY SINCE LATE 19TH CENTURY

*"... A man - made disaster of global scale ... Climate Change "*

**David Attenborough**

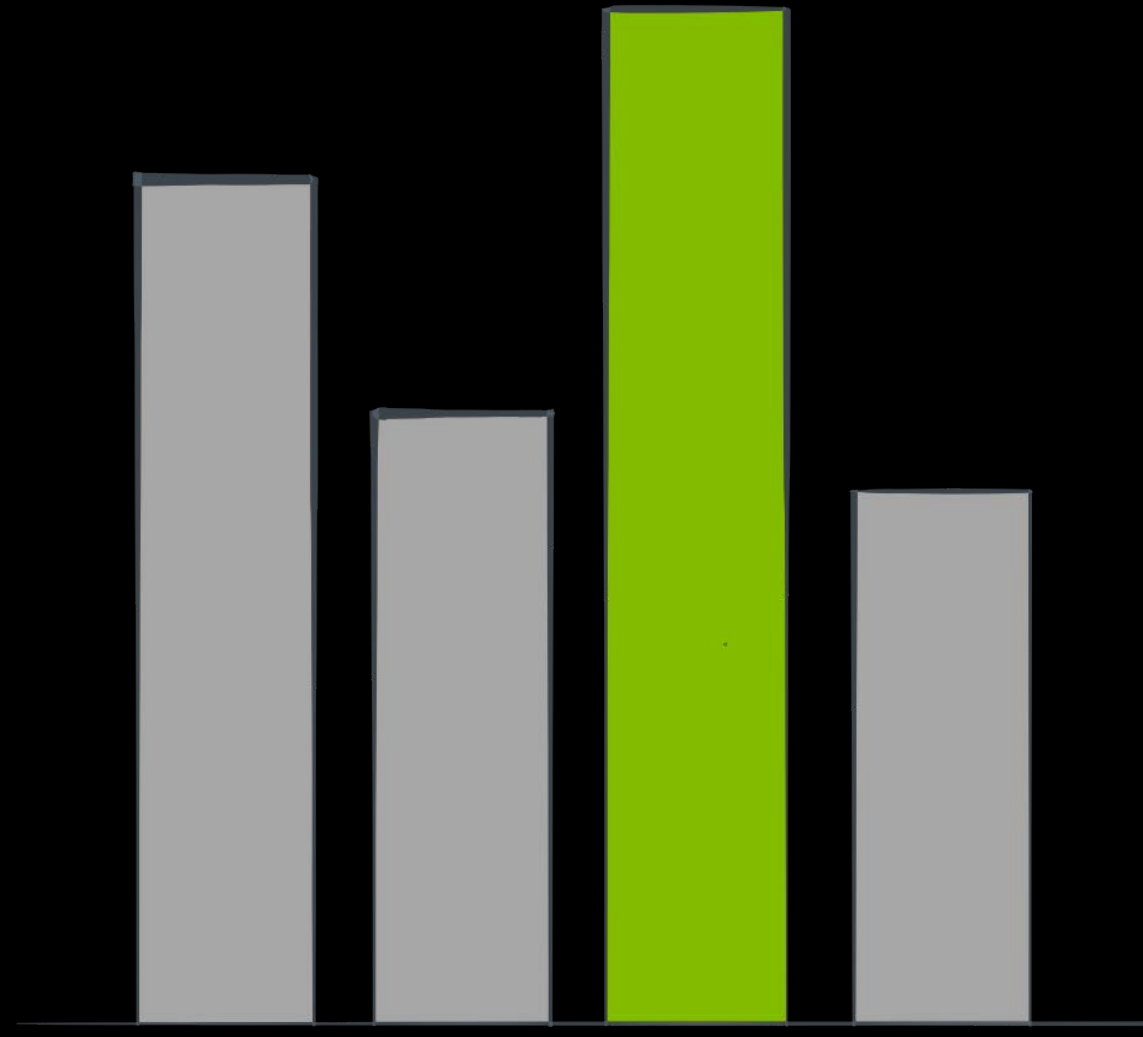NB **Lost 21 %** forest area from 2001 to 2020

## GHG emission per Capita

**Transportation (24%)**

**Electricity Generation (24%)**

GHG Emission in NB

**Other (17%)**

**Industry (24%)**

Northwest territories 2.17

Nova Scotia 3.10

Alberta 2.25

Canada 0.72

New Brunswick 2.18

Saskatchewan 2.45

Nunavut 3.00

**1° C** rise in temperature leads to

**7%** More moisture in atmosphere

**10 to 20 %** more extreme Rain event

**1.01° C**

**0° C**

**Global Temperature Anomaly (deg. C)**

1970        1985        2000        2015        2030
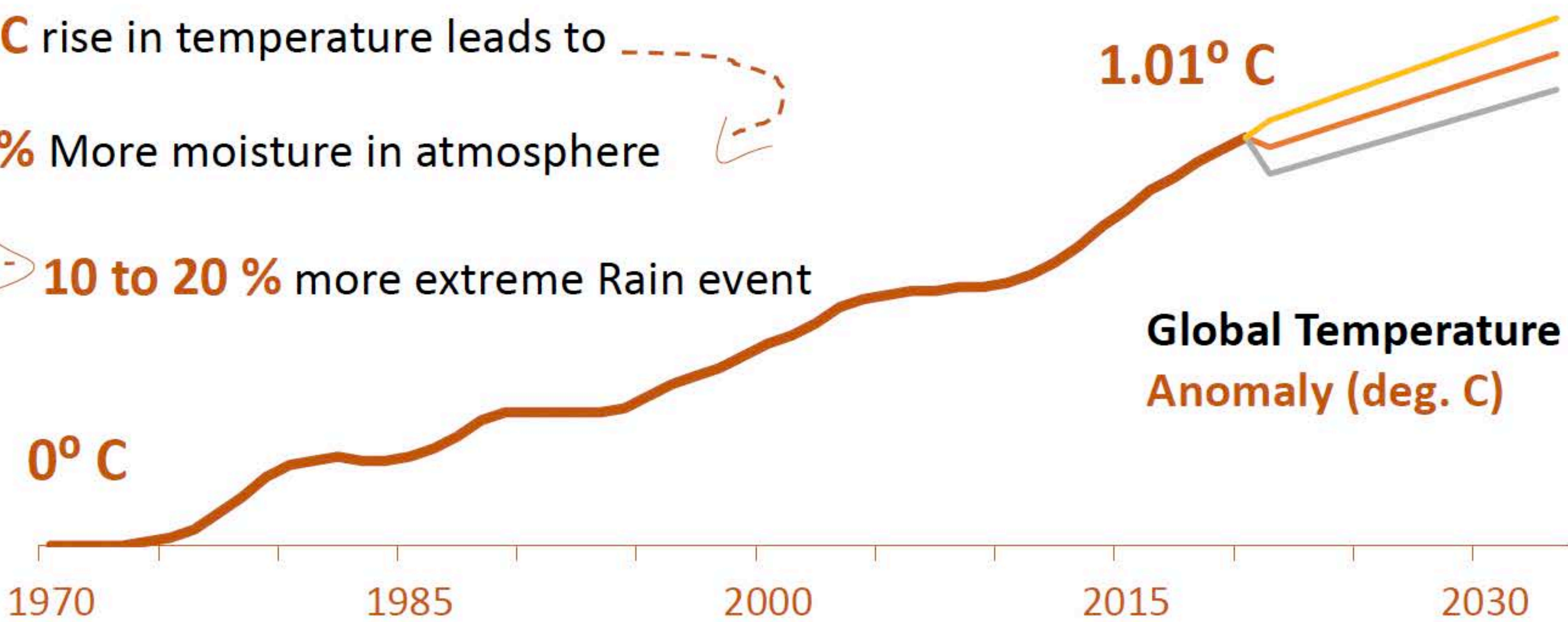
### Call to action
- Need to introduce electric vehicle for **50 % NB's** Rural population
- Need to explore newer renewable energy sources
- Restoration of lost forest land

**Our Goal : 47%** Reduction in NB emission by 2030 Compared to 2005 levels

**Team - Blue-Green**
- Data Source
- https://www2.gnb.ca/
- UNDERSTANDING CLIMATE CHANGE IN SAINT JOHN
- https://climate.nasa.gov/

# Build Together

UNB
EST. 1785
UNIVERSITY OF NEW BRUNSWICK

International Business &
Entrepreneurship Centre

# Housing Crisis in Fredericton, NB

Team Build Together

## 11 SUSTAINABLE CITIES AND COMMUNITIES

SUSTAINABLE DEVELOPMENT GOALS

## Key Findings

Costs of building units are rising.
Gap between demand and supply.
Less Vacancies for Buyers and Renters.
Issuing of Bill permits is consistent but not increasing substantially
Public transit issue.
Affordable housing is not enticing and full of roadblocks.
Difference between people's need and the availability in the market.
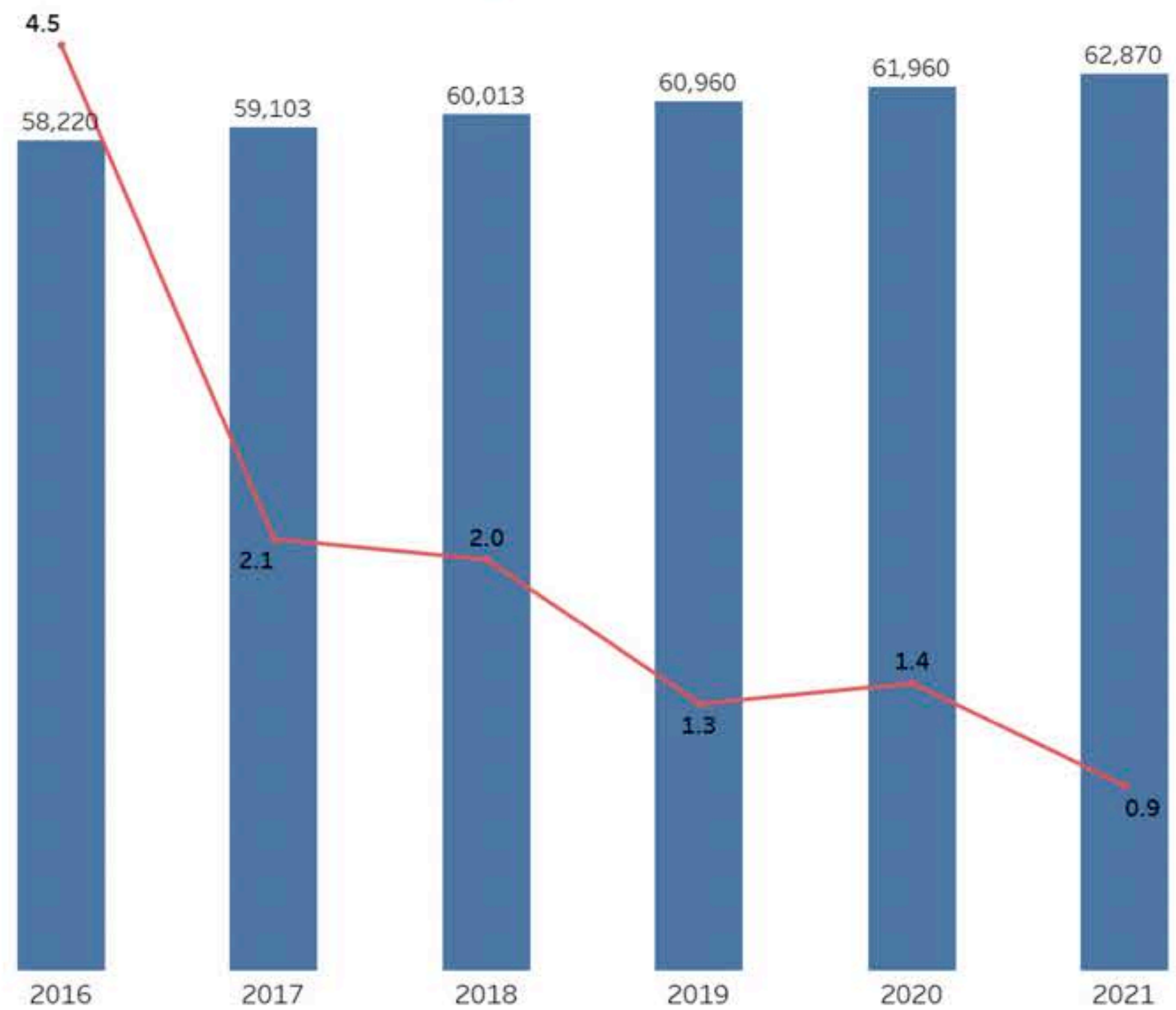
## Call to Action

Lowering the tax and cost of the material.
Goal of 'One Call Solution' for the tenancy matters.
Public Transit infrastructure.
Invest in a business plan for a provincial non-profit rural workforce housing development corporation.
REVIEW AND REVISE THE NEW BRUNSWICK RESIDENTIAL TENANCIES ACT

## Is the Percentage of Vacancies meeting the Fredericton Population Demands?



Bar chart with population values: 58,220 (2016), 59,103 (2017), 60,013 (2018), 60,960 (2019), 61,960 (2020), 62,870 (2021)

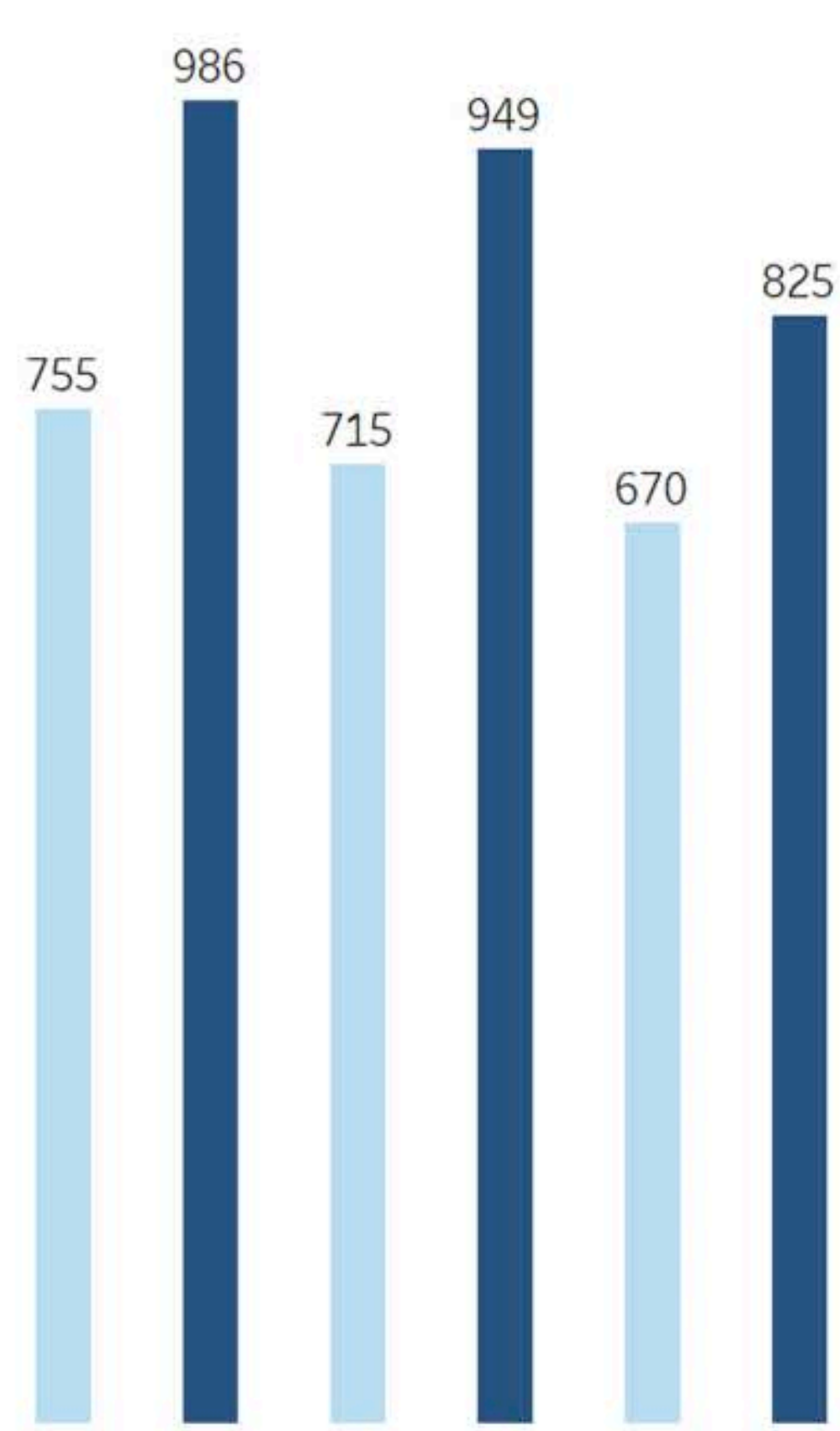Vacancy percentage line: 4.5, 2.1, 2.0, 1.3, 1.4, 0.9

Vacancies down to **2%** in the province
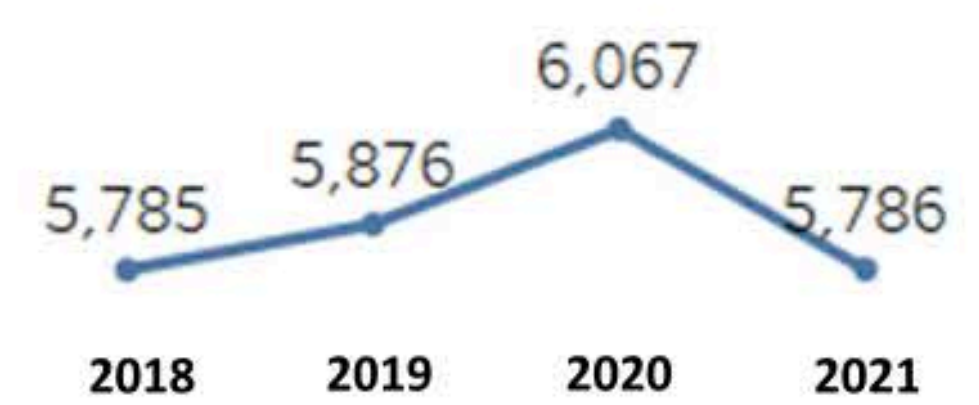
Problem is only getting worse. Why?

Around **10k** immigrants won't come to NB if crisis continues, reports CBC
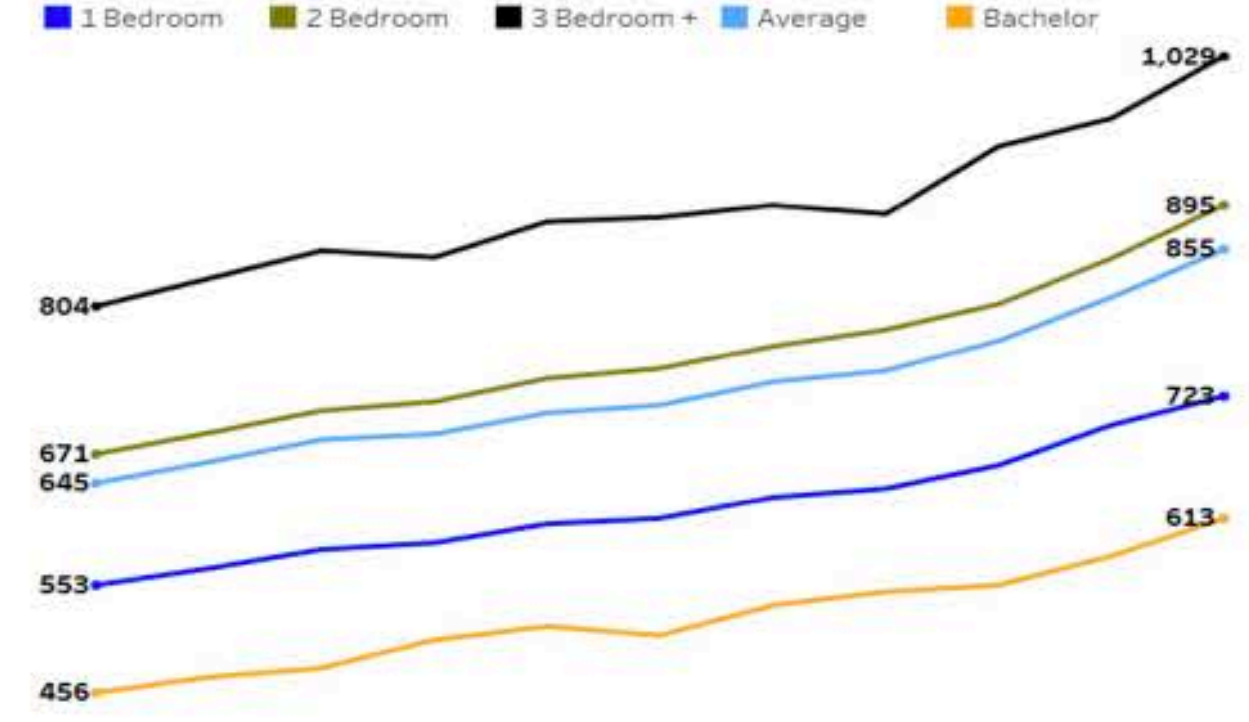
## Buyers' Market? Renters' Market? Neither.

### Rent Prices (2011 vs 2020)

**Fredericton**    Moncton    St. John

Fredericton: 755 (2011), 986 (2020)
Moncton: 715 (2011), 949 (2020)
St. John: 670 (2011), 825 (2020)

### The number of Build Permits Issued in NB (Till August)

5,785 (2018), 5,876 (2019), 6,067 (2020), 5,786 (2021)

### New Brunswick — Historical Average Rents by Bedroom Type

Legend: 1 Bedroom | 2 Bedroom | 3 Bedroom + | Average | Bachelor

Values (start → end):
3 Bedroom +: 804 → 1,029
2 Bedroom: 671 → 895
Average: 645 → 855
1 Bedroom: 553 → 723
Bachelor: 456 → 613

2010  2011  2012  2013  2014  2015  2016  2017  2018  2019  2020

## Why are Landlords Reluctant to Build in NB?

Increase in property taxes — **73%** of Landlords
Increase in utilities — **66%** of Landlords
Major repairs — **49%** of Landlords
Renovations — **49%** of Landlords
Regular Maintenance — **43%** of Landlords
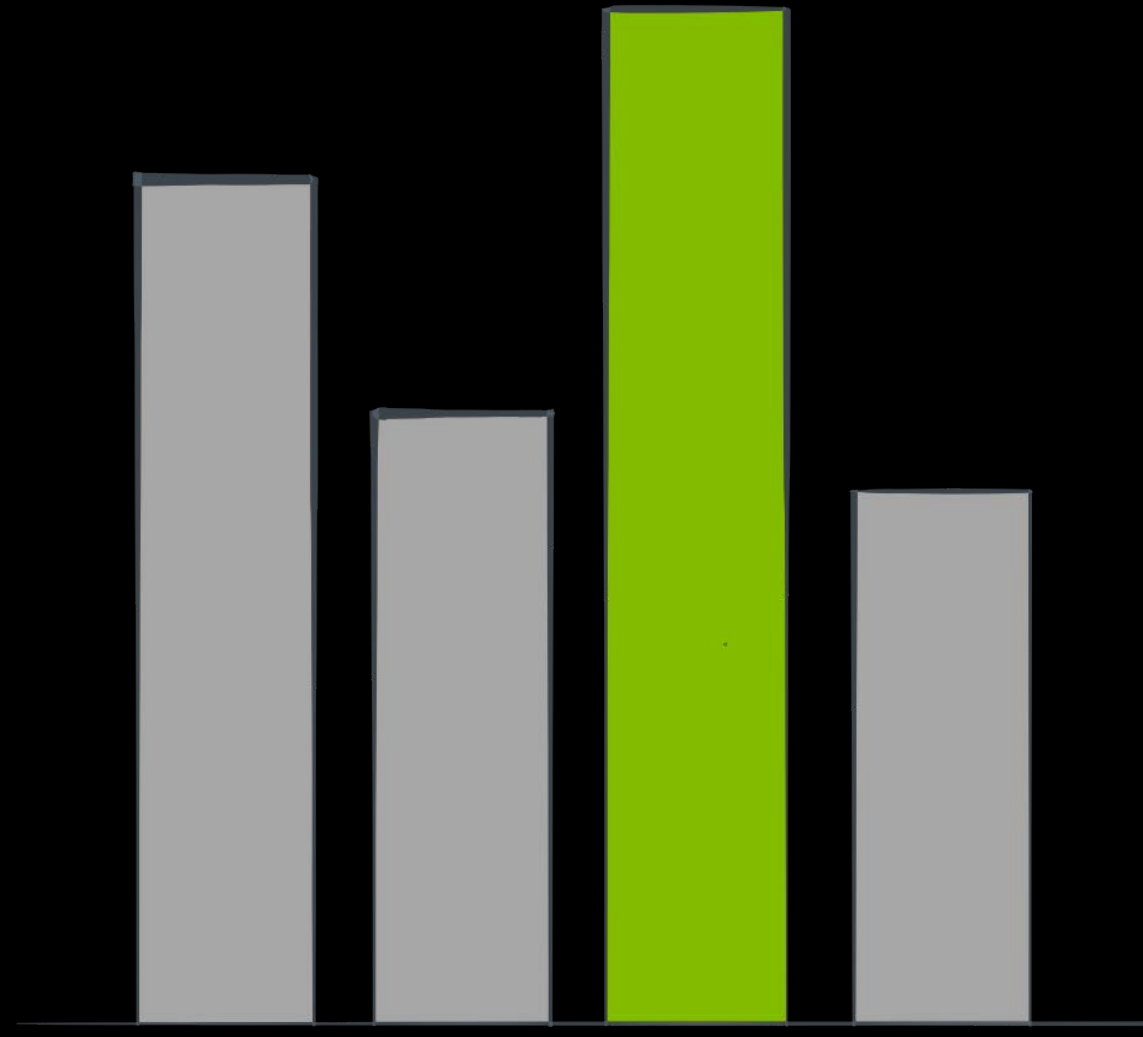
@Moe_Gams – @MohitKumar96 - @cvssasha_

## Sources

StatsCan
SDGS.UN.org
Canadian Indicator Framework for Sustainable Development Goals
Review of the Rental Landscape NB
2019-2022 New Brunswick Action Plan
The Canadian Real Estate Association Statistics

# CivicTech Fredericton

International Business & Entrepreneurship Centre

# Bullying & Exclusion Effects on Mental Health

**Short Term Effects**
Anxiety
Depression
Low self-esteem
Difficulty sleeping
Self-harm
Suicidal thoughts

**Long Term Effects**
Generalized anxiety
Panic disorder
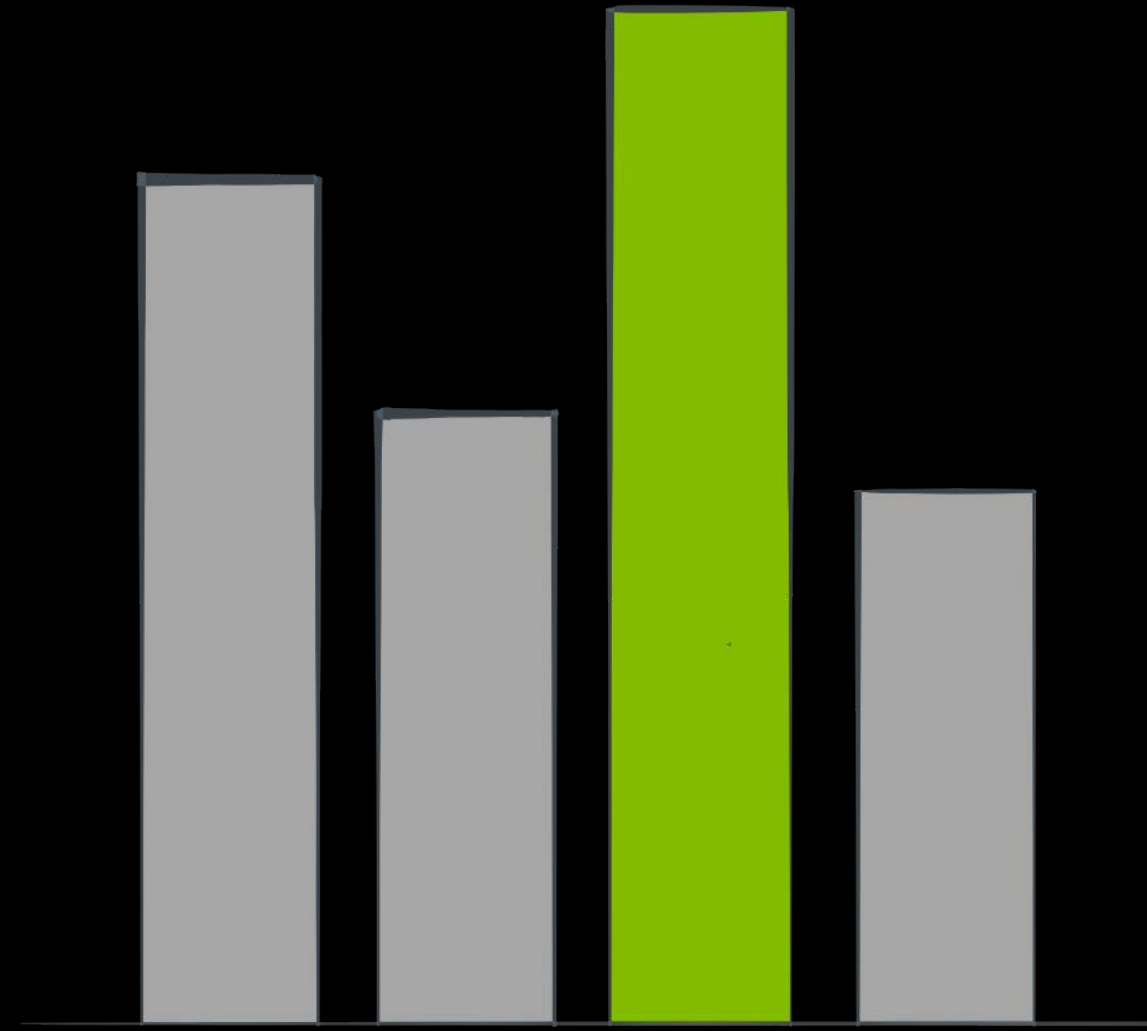Agorophobia
Depression
Loneliness
School avoidance

In 2019, 38,982 students responded to the NB Student Wellness Survey.

## What's Happening in Our Schools?



## Be part of the solution #DoBetter4Me

CIVIC TECH
FREDERICTON

GREATER FREDERICTON SOCIAL INNOVATION

INNOVATION SOCIALE DE LA RÉGION DE FREDERICTON

UNB Renaissance College

3 GOOD HEALTH AND WELL-BEING

# Co-exist

UNB | International Business &
EST. 1785 | Entrepreneurship Centre
UNIVERSITY OF NEW BRUNSWICK

# Equal Access ≠ Equal Pay

Women
Men

## 1. Where are We?

Canada Rank 24 GGI=0.77
Iceland Rank 1 GGI=0.94
Afghanistan Rank 156 GGI=0.44
0.7
0.77
0.76
0.68
0.69
0.77

GGI: Global Gender Gap Index
Index2021 Global Gender Gap Report for 156 Countries

**Global Gender Gap Index**
Canada = 0.77
Economy = 0.74
Politics = 0.38
0.77
Education = 1.0?
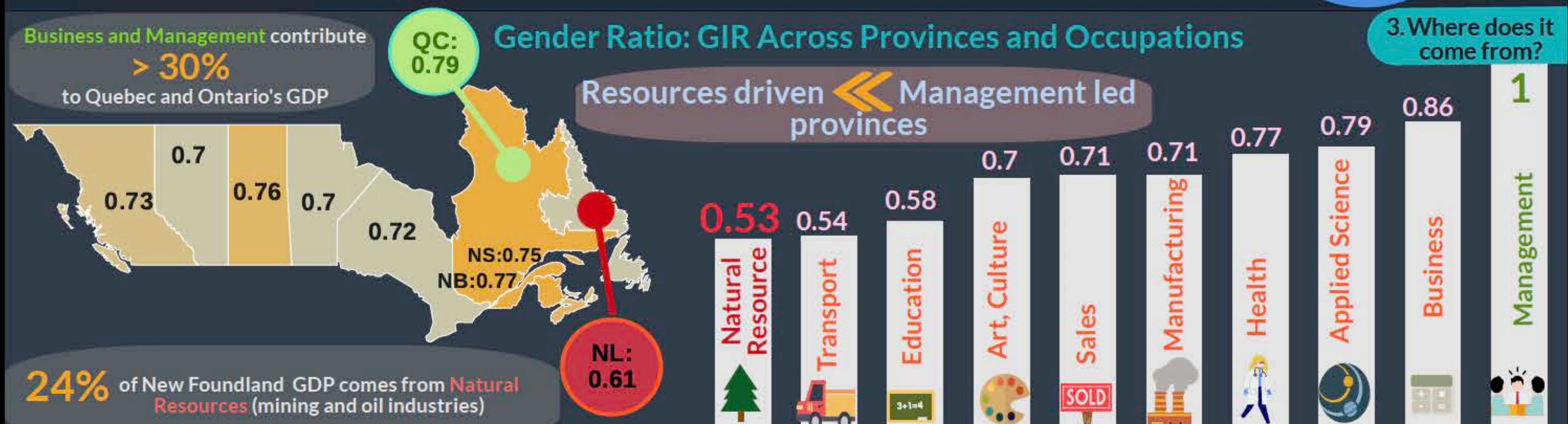Health = 0.96?

Canada Score
World average

## 2. Recent Trend

### Median Gender Annual Income Ratio (GIR)

Economy Affects GIR
Great Recession Recovery
Oil Crisis

0.66 — 2012
0.71 — 2013
0.7 — 2014
0.69 — 2015
0.69 — 2016
0.7 — 2017
0.71 — 2018
0.73 — 2019

Women lost **$12,500** as compared to men

Yearly Median Salary
31,500
43,000

**Although women contribute almost equally in the Canadian workplace, they still fail to get paid as much as men!**

### Gender Ratio: GIR Across Provinces and Occupations

## 3. Where does it come from?

Business and Management contribute > 30% to Quebec and Ontario's GDP

QC: 0.79

Resources driven ≪ Management led provinces

0.73
0.7
0.76
0.7
0.72
NS:0.75
NB:0.77
NL: 0.61

24% of New Foundland GDP comes from Natural Resources (mining and oil industries)

| Occupation | Ratio |
|---|---|
| Natural Resource | 0.53 |
| Transport | 0.54 |
| Education | 0.58 |
| Art, Culture | 0.7 |
| Sales | 0.71 |
| Manufacturing | 0.71 |
| Health | 0.77 |
| Applied Science | 0.79 |
| Business | 0.86 |
| Management | 1 |

## 4. GGI Health 0.97 / GIR Health 0.77

Median Yearly Salary
$62,000 | $47,900

Average Work Hours
33 Hrs | 27.4 Hrs

**Men** on average **Worked more** and earned **higher** salaries.

### Hours Worked per Week (Percentage)

| Women | Hours | Men |
|---|---|---|
| 16.8 | 0 hrs | 11.1 |
| 7.3 | 1-40 | 6.2 |
| 17.6 | 15-29 | 14.3 |
| 12.1 | 30-34 | 9.5 |
| 20.5 | 35-39 | 18.5 |
| 13.2 | 40 | 16.7 |
| 7.8 | 41-49 | 10.1 |
| 4.7 | >50 | 13.6 |

## 5. GGI Edu 1.00 / GIR Edu 0.58

Total Doctoral Degrees
49.3% | 50.7%
Gender Parity Reached

### Doctoral Degree by Field of Study

| Field | Value |
|---|---|
| Engineering | 10.8 |
| Mathematics, computer | 22 |
| Transportation | 38.5 |
| Natural Resources | 44.6 |
| Personal improvement | 52.7 |
| Physical and life sciences | 55.2 |
| Humanities | 63.2 |
| Art | 64.9 |
| Business, Managment | 66.4 |
| Health | 84.3 |
| Education | 88.3 |
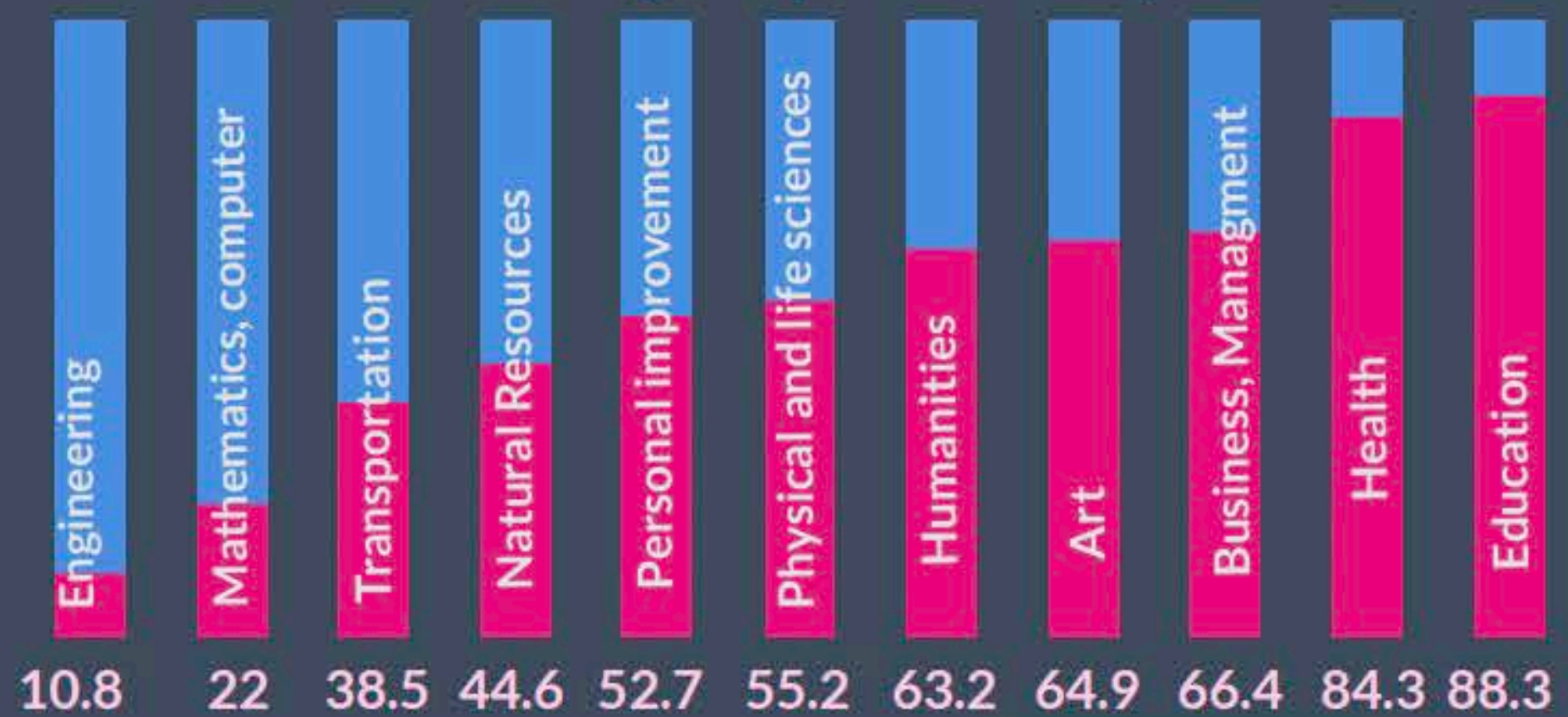
Median Yearly Salary
$69,900 Engineering | $45,000 Education

Men Prefer Engineering and Women **Still** prefer Humanities Even though it **pays less!**

---

**Total Income:** Pay Ratio matters more than Wage Ratio!

**Education:** STEM disparity increases Gender Gap!

**Health:** Work hours matter!

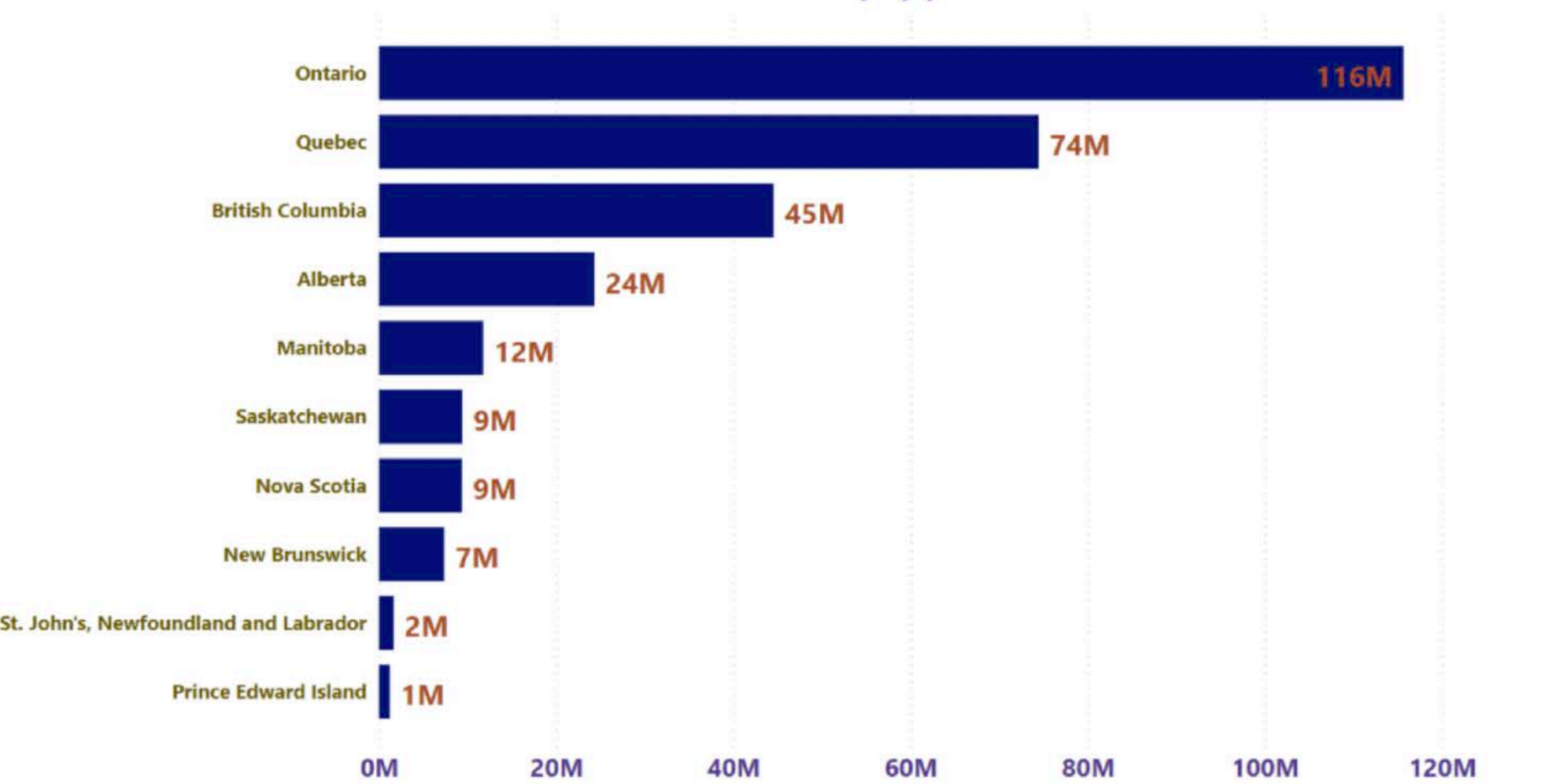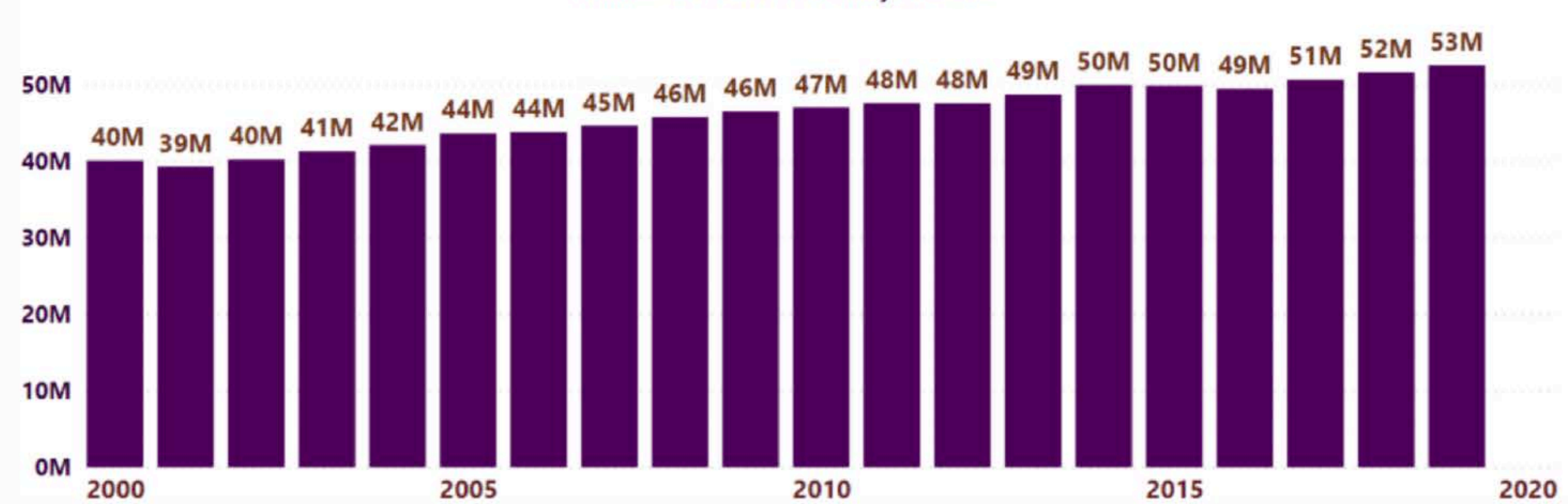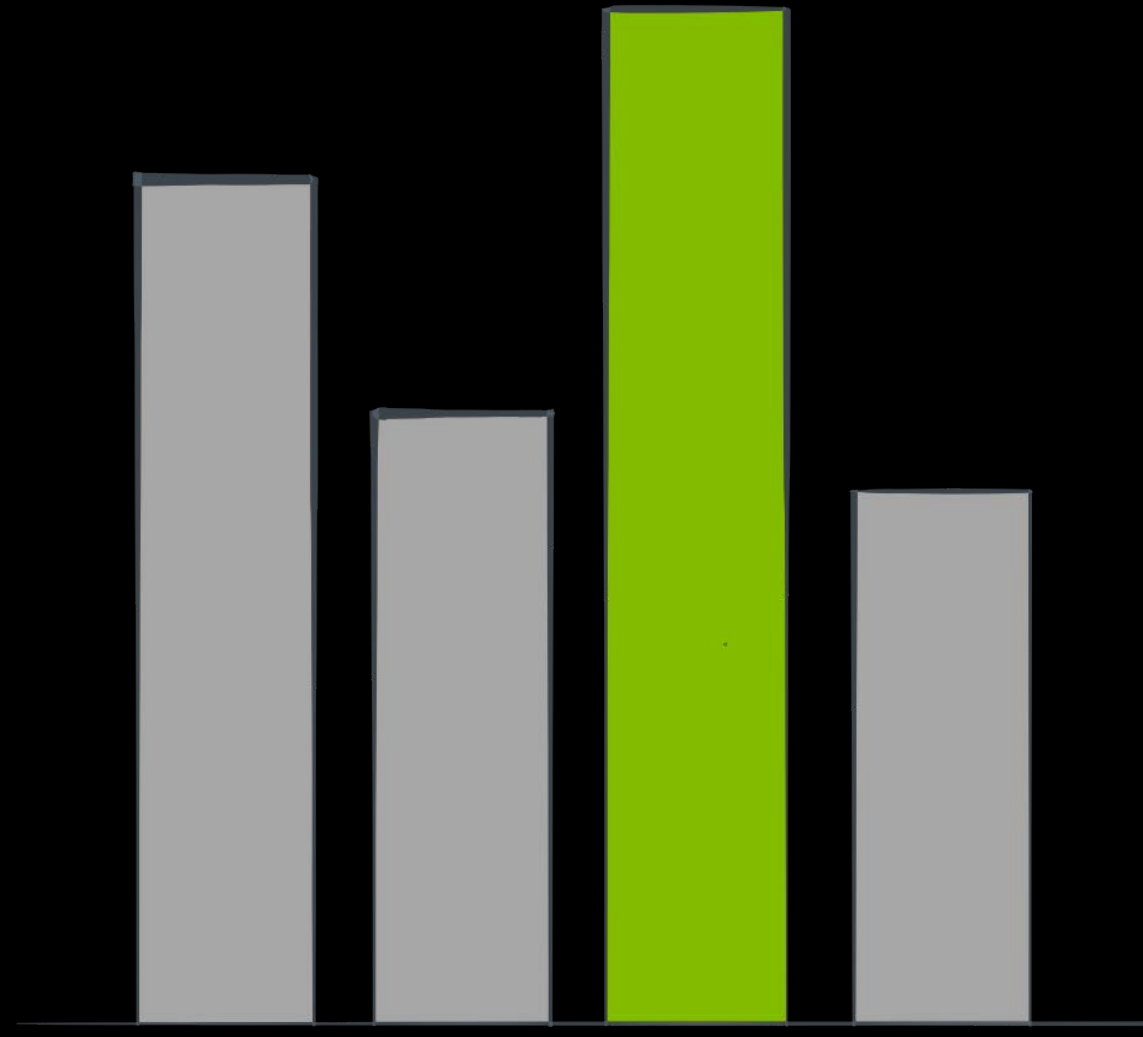**Equal Access + Equal Pay = Gender Parity**

SCAN ME!

Group Name: Co-Exist

UNB

# Data & Story

Team
5/27
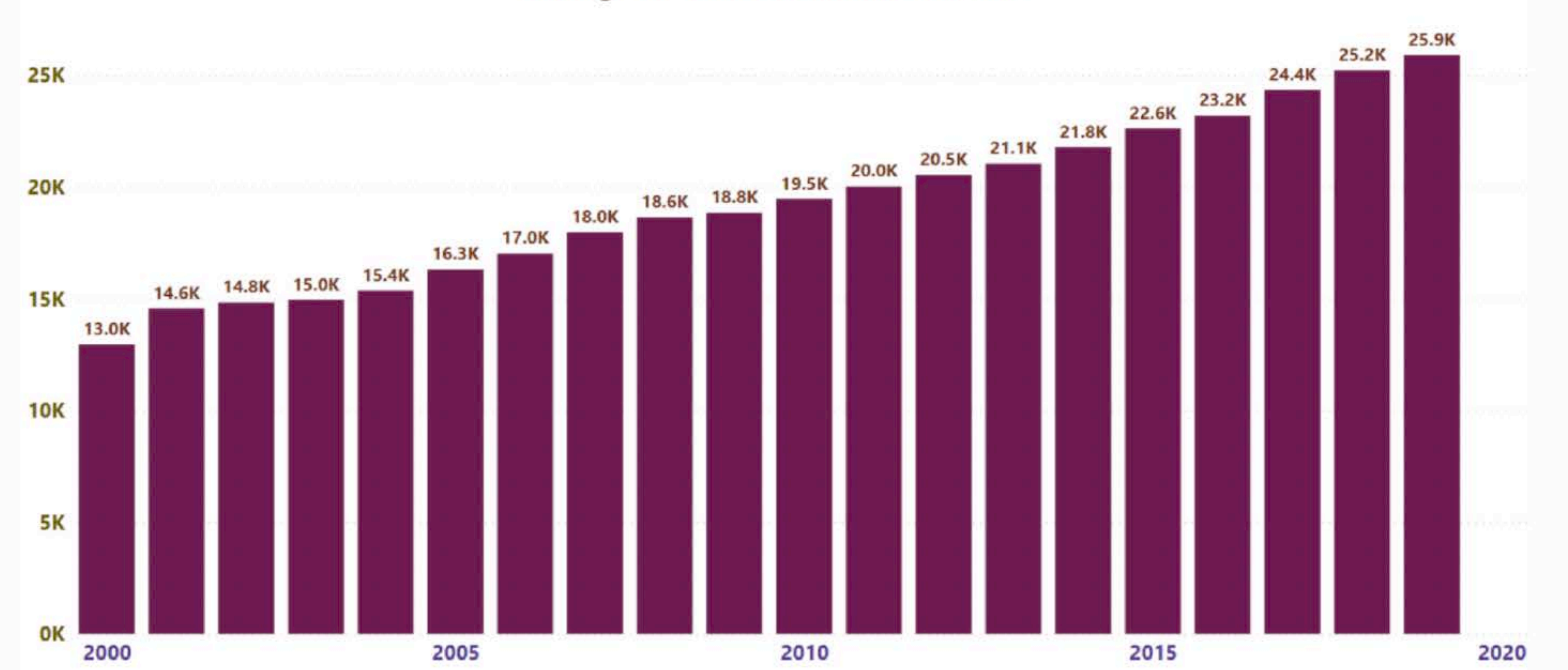
UNB
EST. 1785
UNIVERSITY OF NEW BRUNSWICK | International Business &
Entrepreneurship Centre

## Number of Low Income family by provience

| Province | Value |
|----------|-------|
| Ontario | 116M |
| Quebec | 74M |
| British Columbia | 45M |
| Alberta | 24M |
| Manitoba | 12M |
| Saskatchewan | 9M |
| Nova Scotia | 9M |
| New Brunswick | 7M |
| St. John's, Newfoundland and Labrador | 2M |
| Prince Edward Island | 1M |

(x-axis: 0M, 20M, 40M, 60M, 80M, 100M, 120M)

## Number of Low-Income family Over time

40M, 39M, 40M, 41M, 42M, 44M, 44M, 45M, 46M, 46M, 47M, 48M, 48M, 49M, 50M, 50M, 49M, 51M, 52M, 53M

(y-axis: 0M, 10M, 20M, 30M, 40M, 50M; x-axis: 2000, 2005, 2010, 2015, 2020)

## Average After tax Low-Income Over time

13.0K, 14.6K, 14.8K, 15.0K, 15.4K, 16.3K, 17.0K, 18.0K, 18.6K, 18.8K, 19.5K, 20.0K, 20.5K, 21.1K, 21.8K, 22.6K, 23.2K, 24.4K, 25.2K, 25.9K

(y-axis: 0K, 5K, 10K, 15K, 20K, 25K; x-axis: 2000, 2005, 2010, 2015, 2020)

# Data Drivers

UNB | International Business &
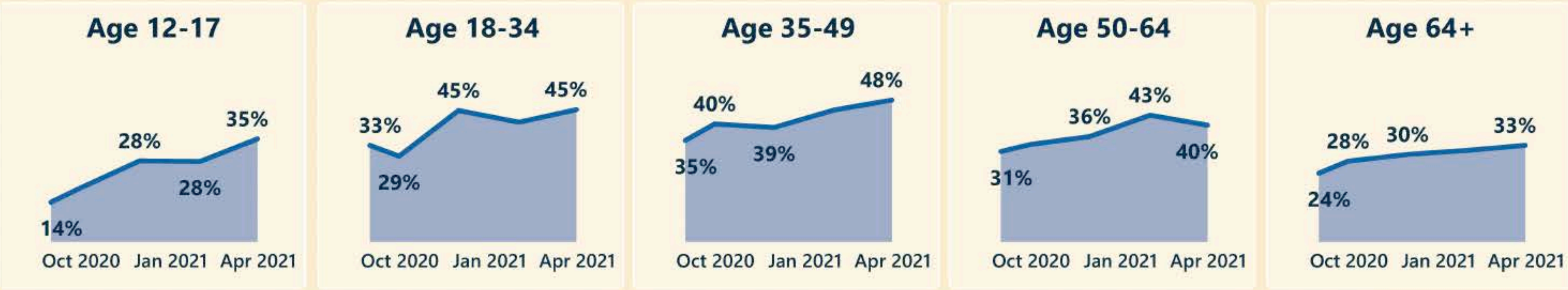Entrepreneurship Centre
UNIVERSITY OF NEW BRUNSWICK
EST. 1785

# Mental Health Consequences of COVID-19 in Canada
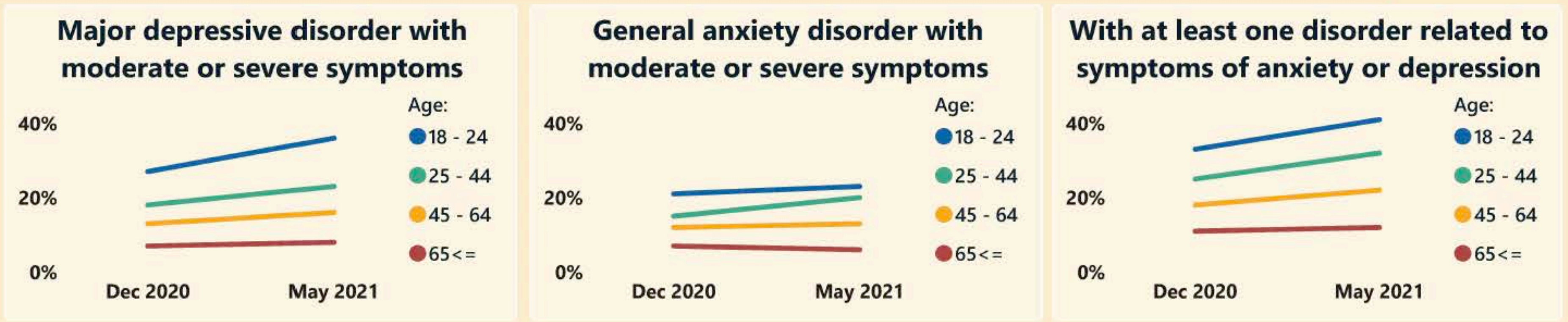## Which age group's mental health is most impacted during a pandemic?
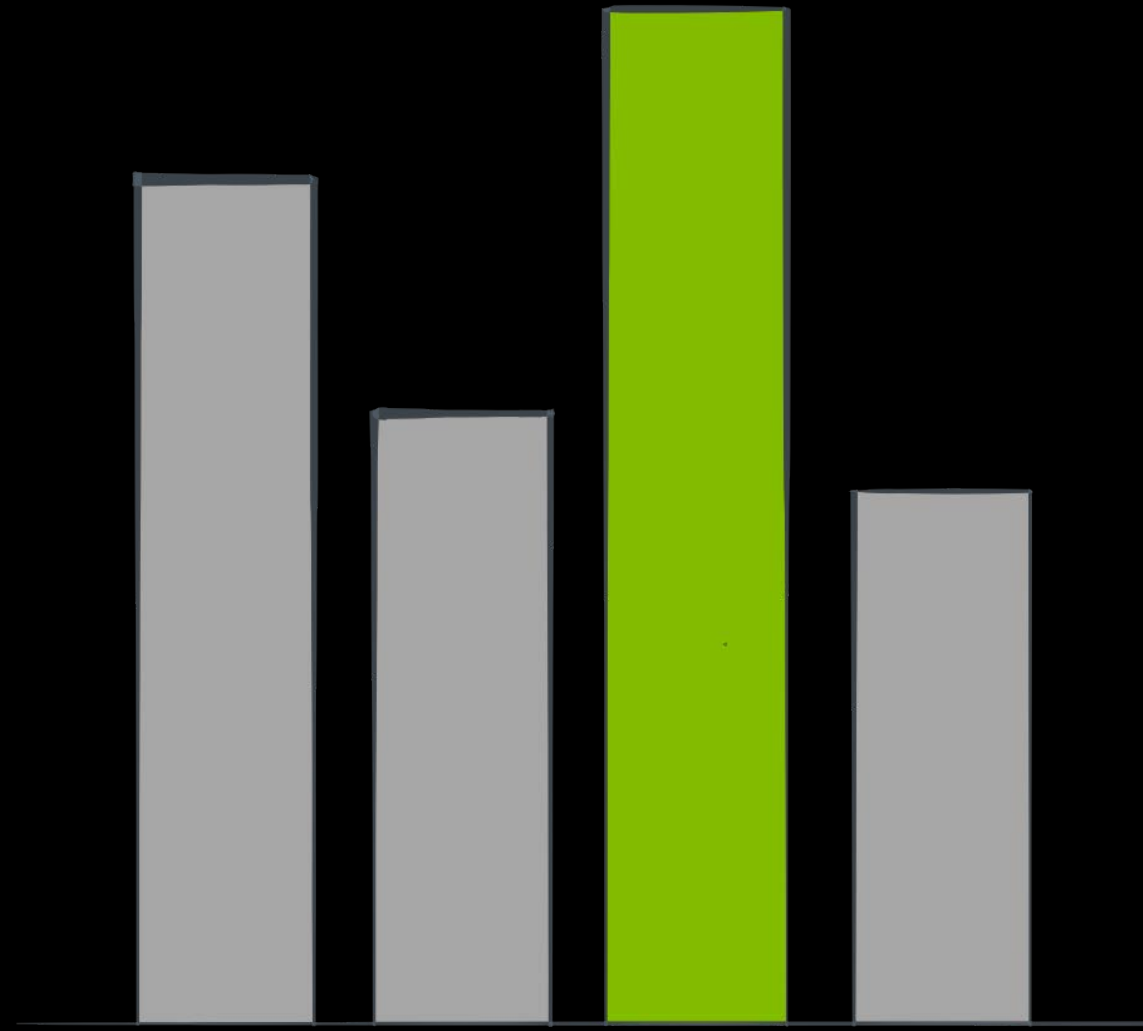
## Mental health worsened through the pandemic*

### Age 12-17
14%  28%  28%  35%
Oct 2020   Jan 2021   Apr 2021

### Age 18-34
33%  29%  45%  45%
Oct 2020   Jan 2021   Apr 2021

### Age 35-49
35%  40%  39%  48%
Oct 2020   Jan 2021   Apr 2021

### Age 50-64
31%  36%  43%  40%
Oct 2020   Jan 2021   Apr 2021

### Age 64+
24%  28%  30%  33%
Oct 2020   Jan 2021   Apr 2021

## Symptoms of anxiety and depression**

### Major depressive disorder with moderate or severe symptoms
40%
20%
0%
Dec 2020        May 2021
Age:
- 18 - 24
- 25 - 44
- 45 - 64
- 65 <=

### General anxiety disorder with moderate or severe symptoms
40%
20%
0%
Dec 2020        May 2021
Age:
- 18 - 24
- 25 - 44
- 45 - 64
- 65 <=

### With at least one disorder related to symptoms of anxiety or depression
40%
20%
0%
Dec 2020        May 2021
Age:
- 18 - 24
- 25 - 44
- 45 - 64
- 65 <=

## Emergency department visits and hospitalizations due to substance abuse***

### Emergency department visits
15%
10%
5%
0%
10–19  20–29  30–39  40–49  50–59  60–69  70–79  80+
Year:
- 2019
- 2020

### Hospitalizations
15%
10%
5%
0%
10–19  20–29  30–39  40–49  50–59  60–69  70–79  80+
Year:
- 2019
- 2020

Based on data gathered prior to and over the course of the COVID-19 pandemic, the mental health of individuals aged 18 to 49 were most affected. In addition, individuals aged 30 to 39 had the highest increase in emergency visits and hospitalizations due to substance abuse. Findings reflect that the COVID-19 pandemic poses higher risk of mental health issues among young adults.

Recommendations: There should be structures in place to minimize the mental health consequences of a pandemic and to promote the general well-being of young adults.  Public heath restrictions should be tailored to balance the risks of physical and mental health among age groups. Mental health and substance use services should be made available and accessible to young adults during a pandemic.
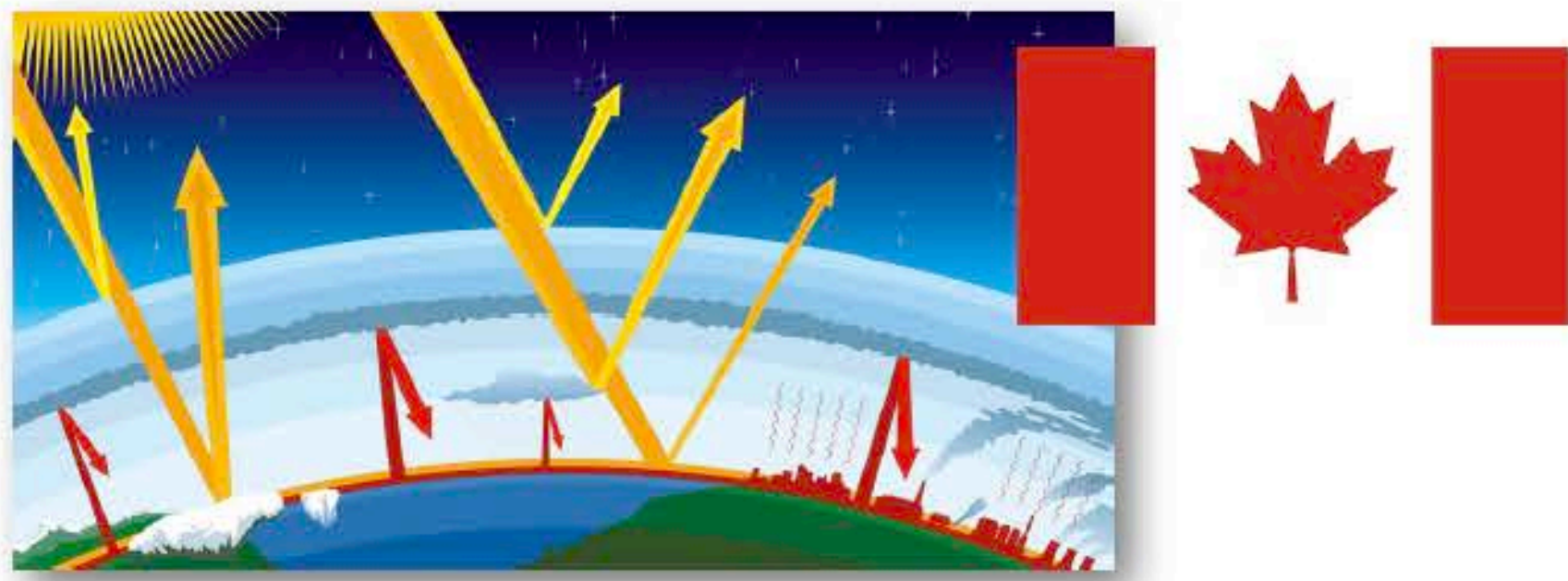
## Data Drivers

# Data Huskies

UNB | International Business & Entrepreneurship Centre

EST. 1785
UNIVERSITY OF NEW BRUNSWICK

# Greenhouse Gases Emission (GHGs) in
# Canada

## Global GHGs scenario

Canada
Total GHG emissions including LUCF (CAIT) in 2016: **779,270,000**

## Region-wide emissions

275.8  163.2  83.7  74.8  65.7  22.6  16.2  12.4  11.1  1.8  1.4  0.7  0.7
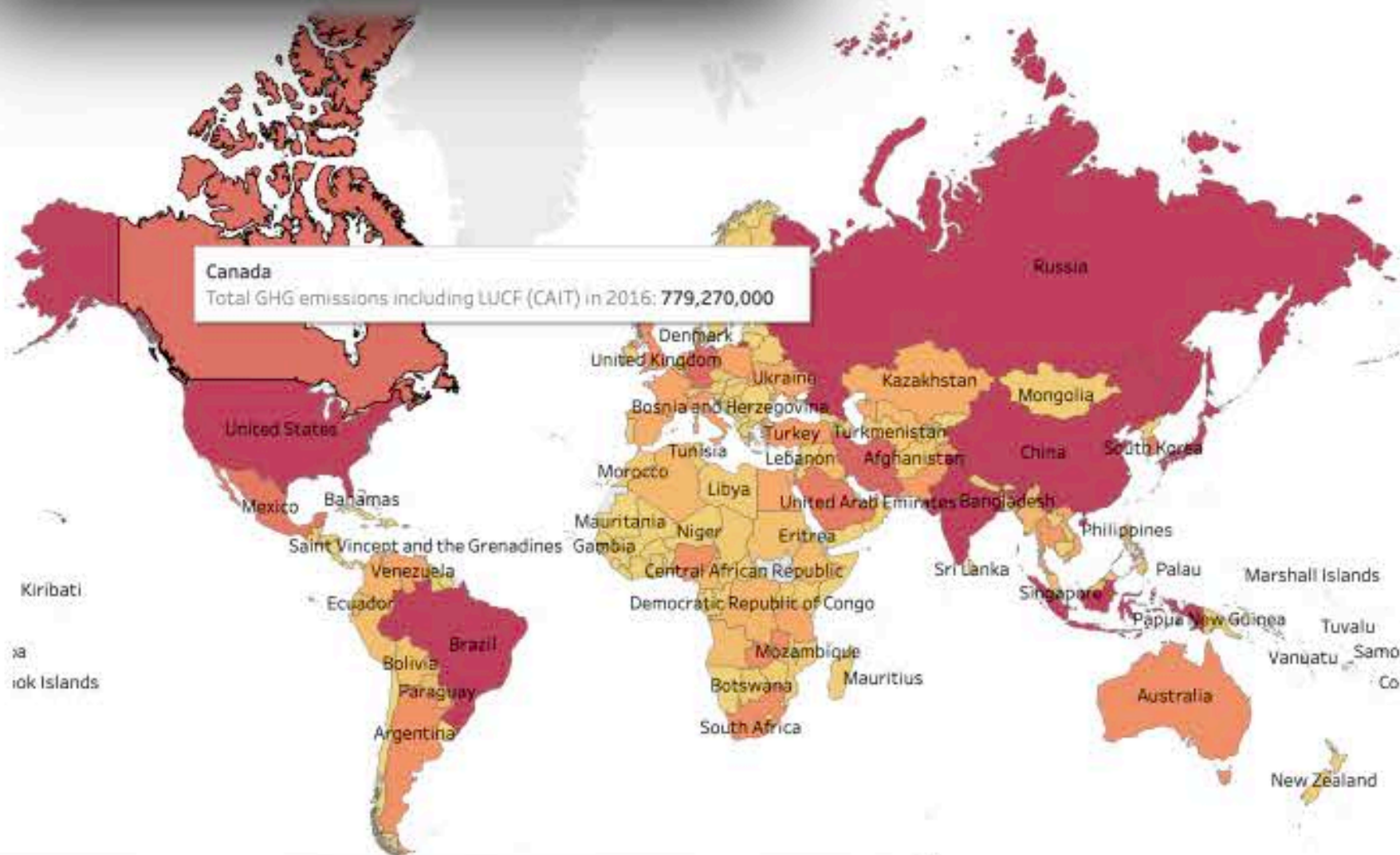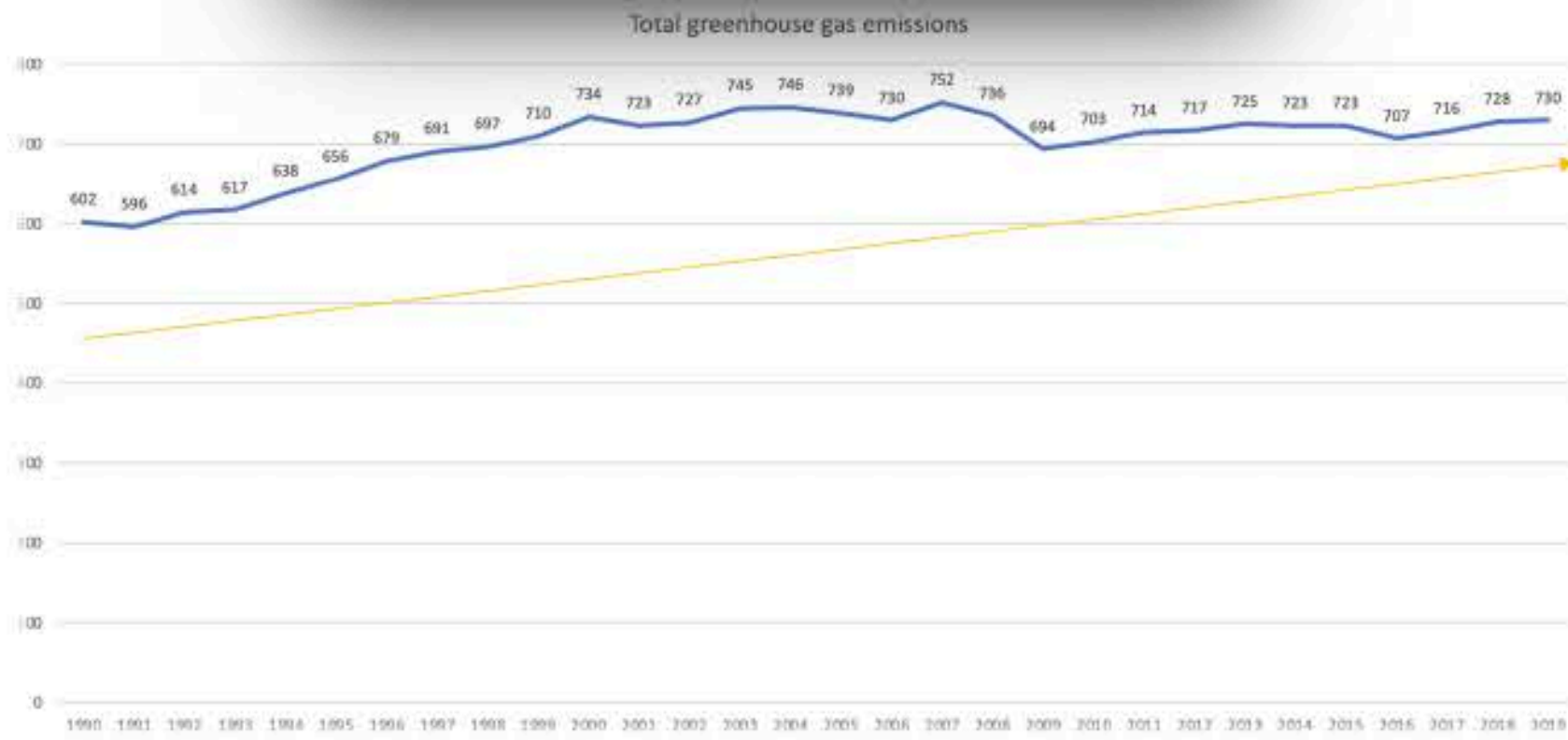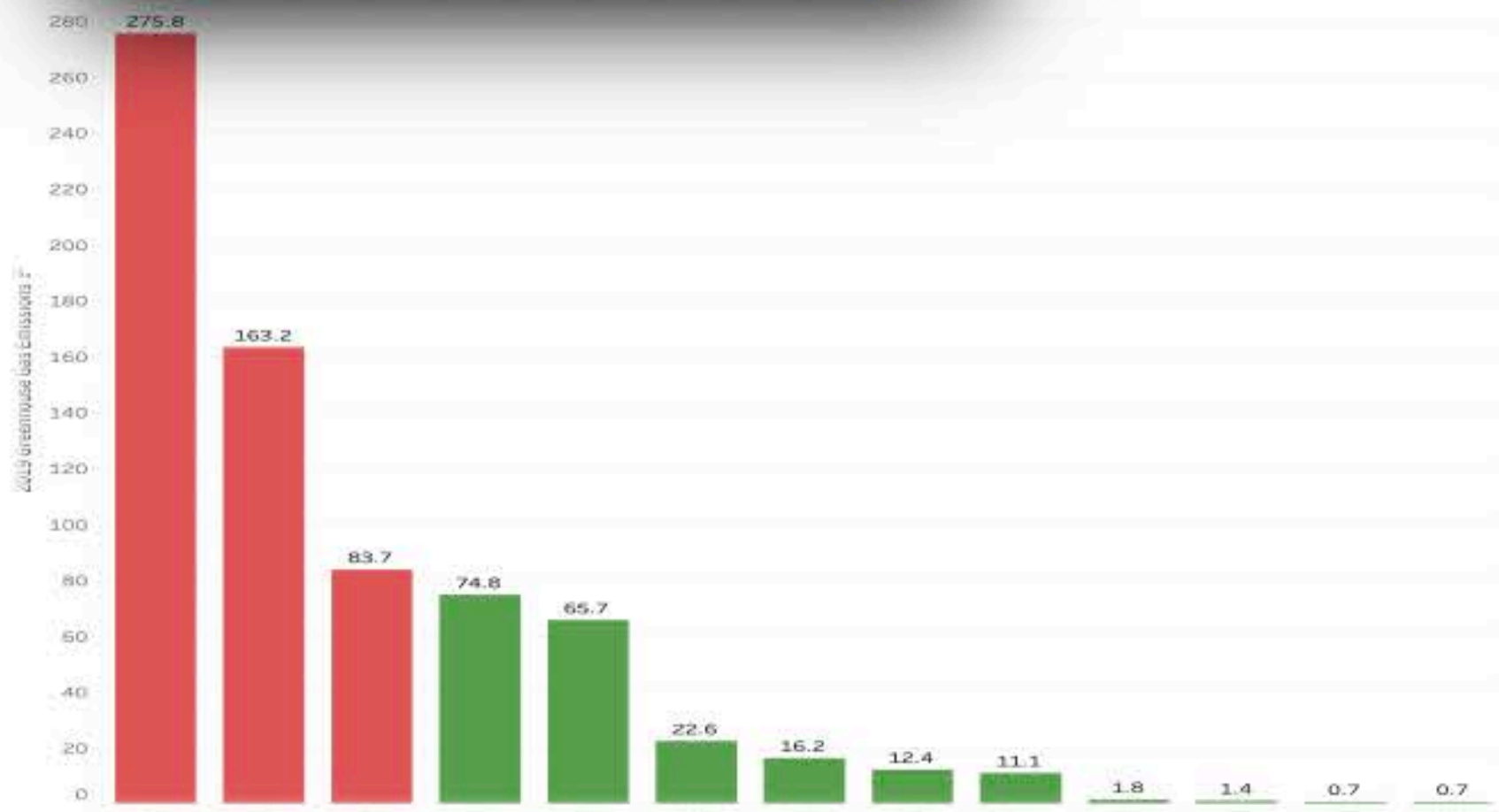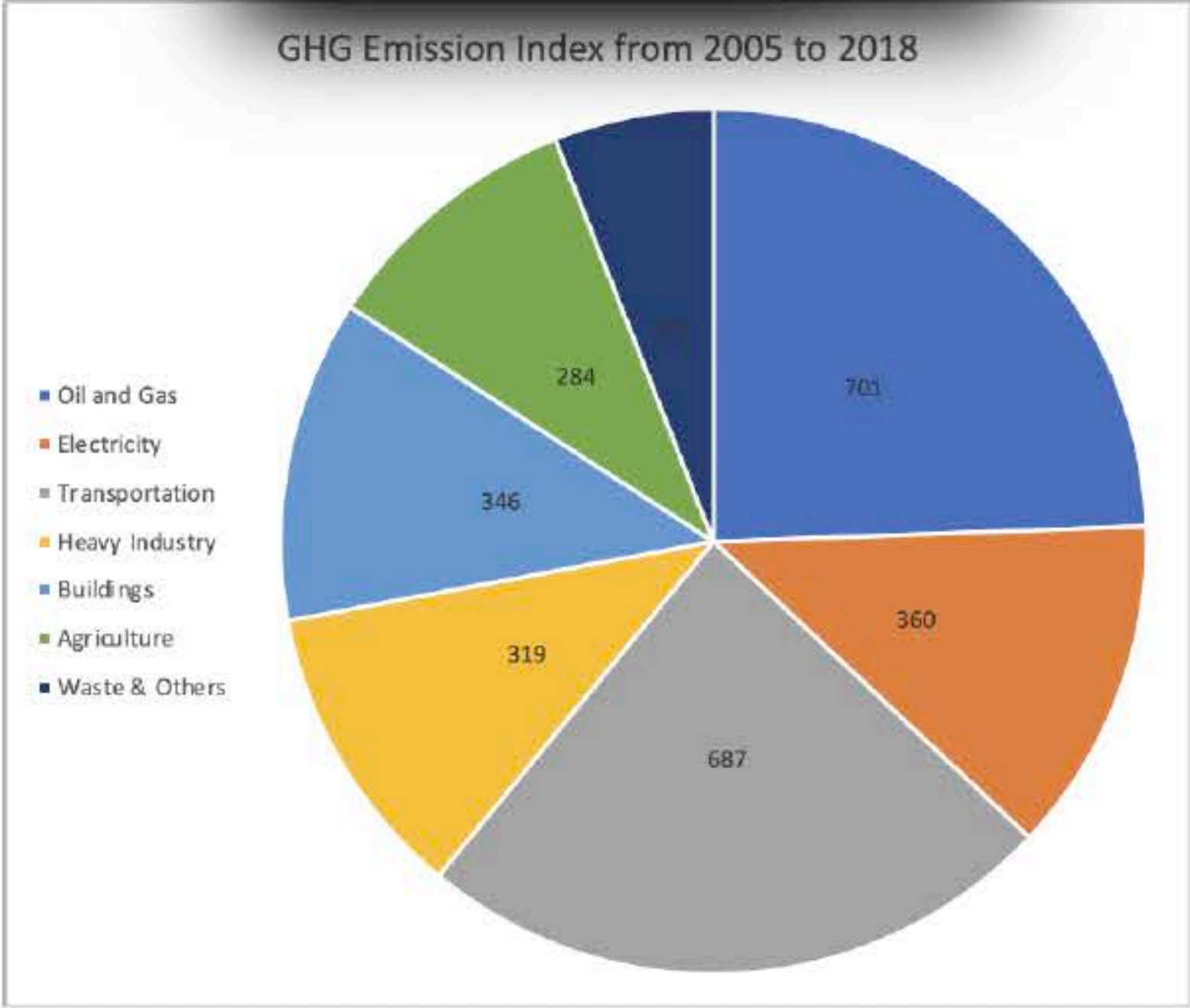
## Current emissions & 2030 Projected Emissions

Alberta

Ontario

Quebec
Saskatchewan
British Columbia

## Nation-wide emissions

Total greenhouse gas emissions

602  596  614  617  638  656  679  691  697  710  734  723  727  745  746  739  730  752  736  694  703  714  717  725  723  725  707  716  728  730

## Major factors

GHG Emission Index from 2005 to 2018

- Oil and Gas
- Electricity
- Transportation
- Heavy Industry
- Buildings
- Agriculture
- Waste & Others

703  360  687  319  346  284

## Recommendations

❑ The Govt. of Canada can focus on devising strategies to reduce GHGs emissions in Western Canada (Alberta) and Central Canada (Ontario).

❑ Since major sectors of GHGs emissions are Oil and Gas and Transportation, environment-friendly practices at industry-level and transportation-level should be strategized to combat the increase in projected emissions.

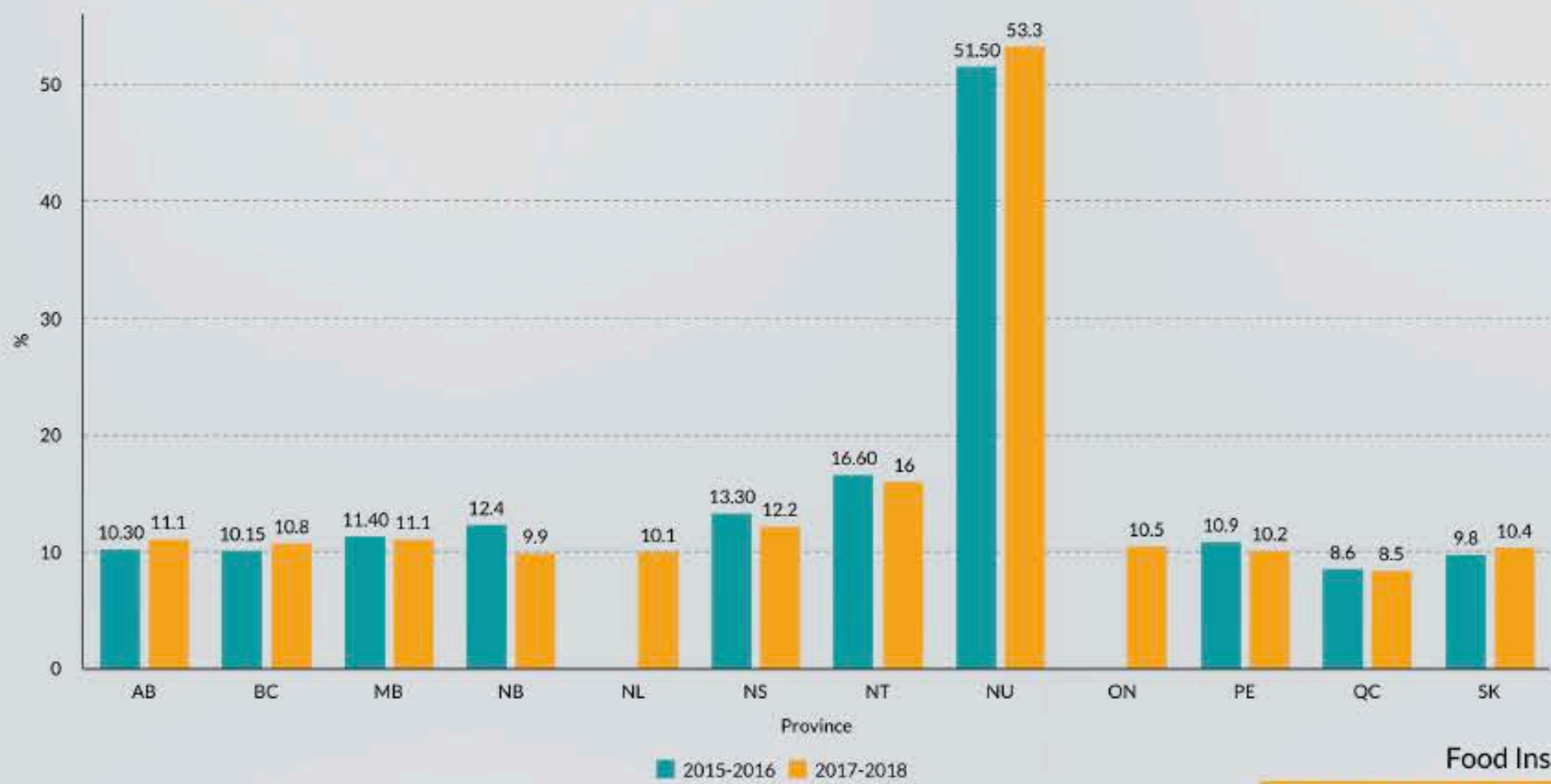**Created by Data Huskies**

# Data Knows

UNB | International Business &
Entrepreneurship Centre
EST. 1785
UNIVERSITY OF NEW BRUNSWICK

# ZERO HUNGER?

## Food Insecurity Issue in Nunavut

### Team: Data Knows

**Proportion of Household Living with Food Insecurity by Province (2015-2016 vs. 2017-2018)**



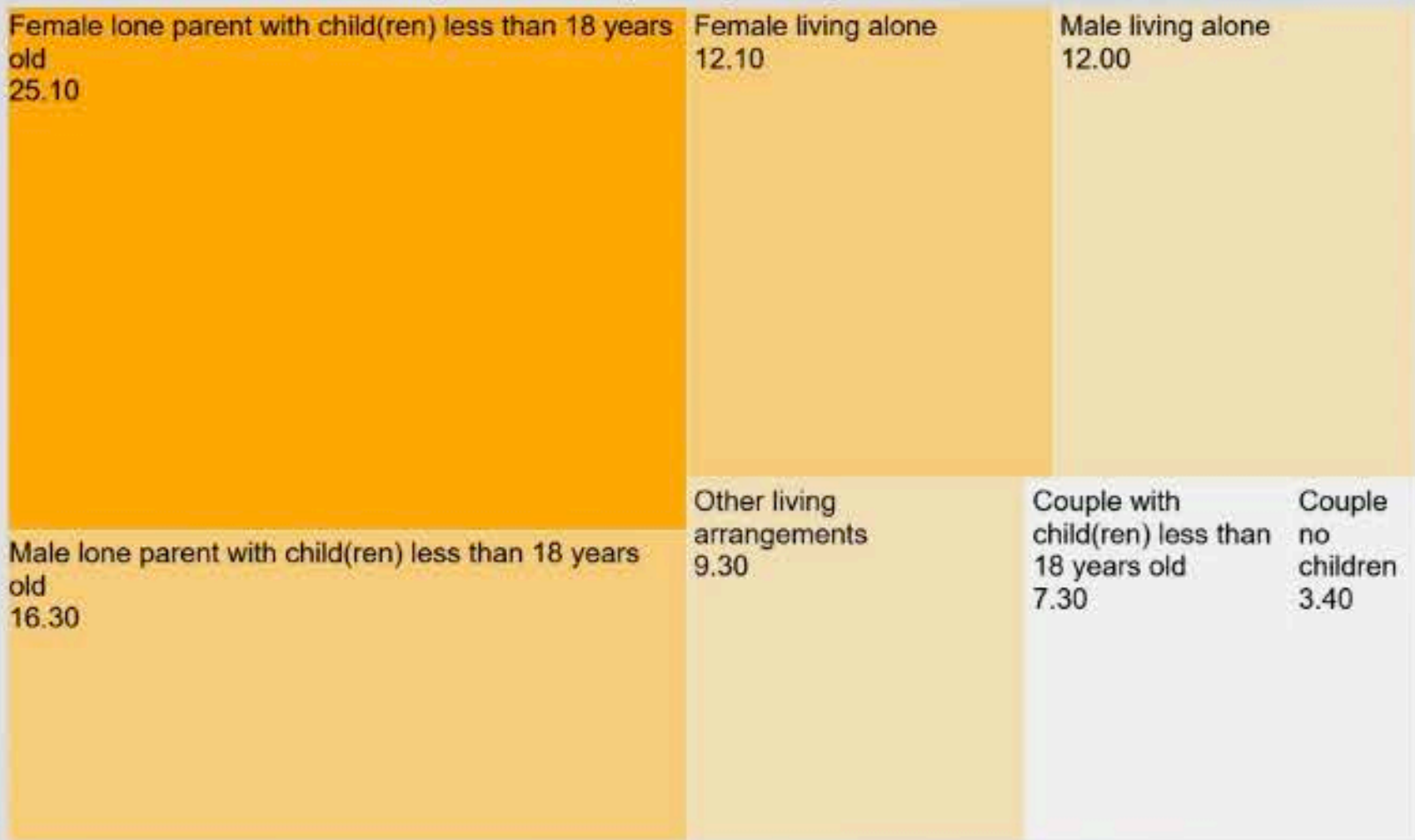| Province | 2015-2016 | 2017-2018 |
|---|---|---|
| AB | 10.30 | 11.1 |
| BC | 10.15 | 10.8 |
| MB | 11.40 | 11.1 |
| NB | 12.4 | 9.9 |
| NL | | 10.1 |
| NS | 13.30 | 12.2 |
| NT | 16.60 | 16 |
| NU | 51.50 | 53.3 |
| ON | | 10.5 |
| PE | 10.9 | 10.2 |
| QC | 8.6 | 8.5 |
| SK | 9.8 | 10.4 |

Did you know **more than 50%** of households in Nunavut are living with food insecurity?

In Canada, **25.1%** of single mothers and their child(ren) are suffering from food insecurity.

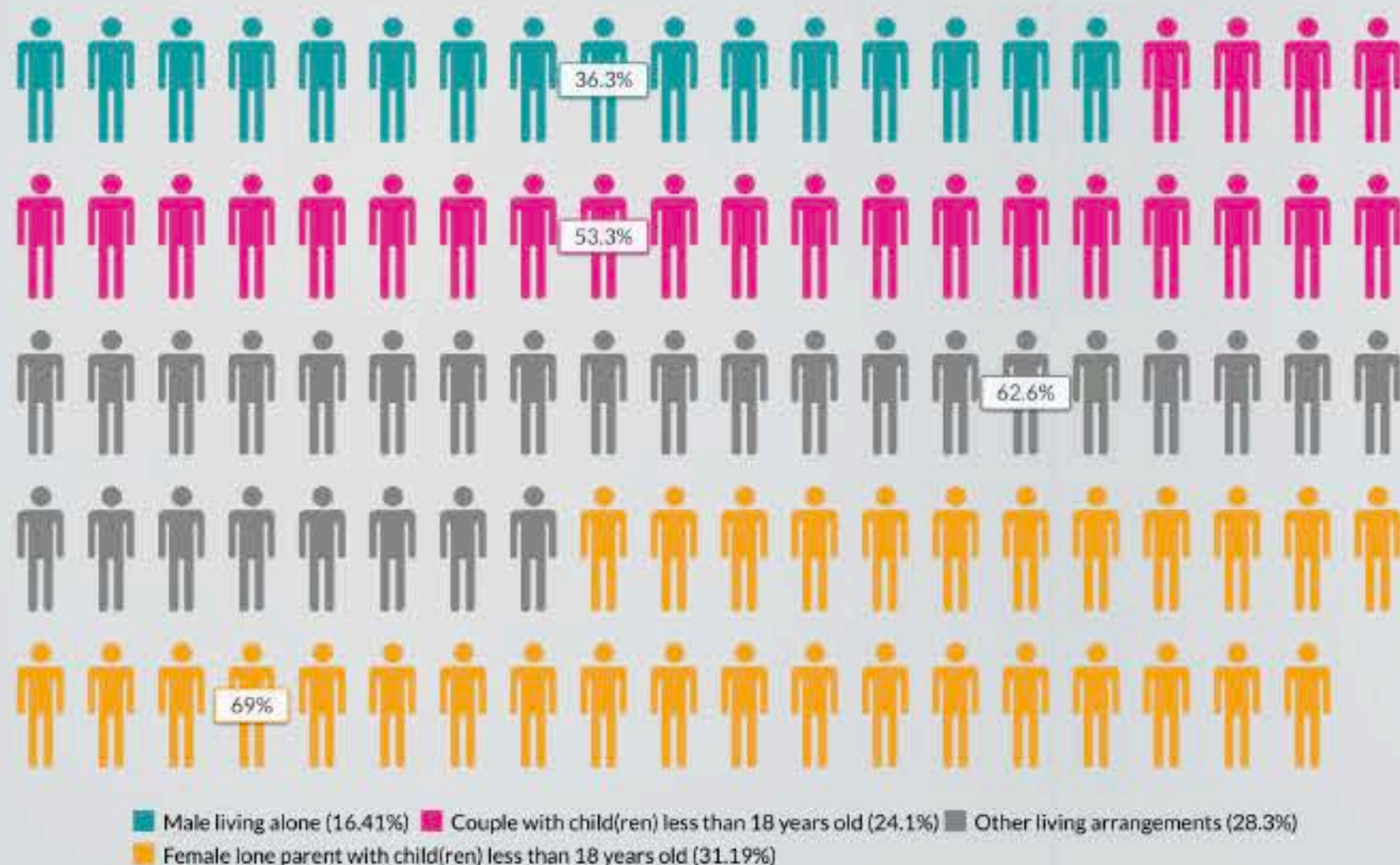**Food Insecurity in Canada by Living Arrangement (2017-2018, %)**



- Female lone parent with child(ren) less than 18 years old — 25.10
- Male lone parent with child(ren) less than 18 years old — 16.30
- Female living alone — 12.10
- Other living arrangements — 9.30
- Male living alone — 12.00
- Couple with child(ren) less than 18 years old — 7.30
- Couple no children — 3.40

**Food Insecurity in Nunavut by Living Arrangement (2015-2016)**



- 31.8%
- 51.5%
- 59.8%
- 78.1%

Legend:
- Male living alone (14.38%)
- Couple with child(ren) less than 18 years old (23.28%)
- Other living arrangements (27.03%)
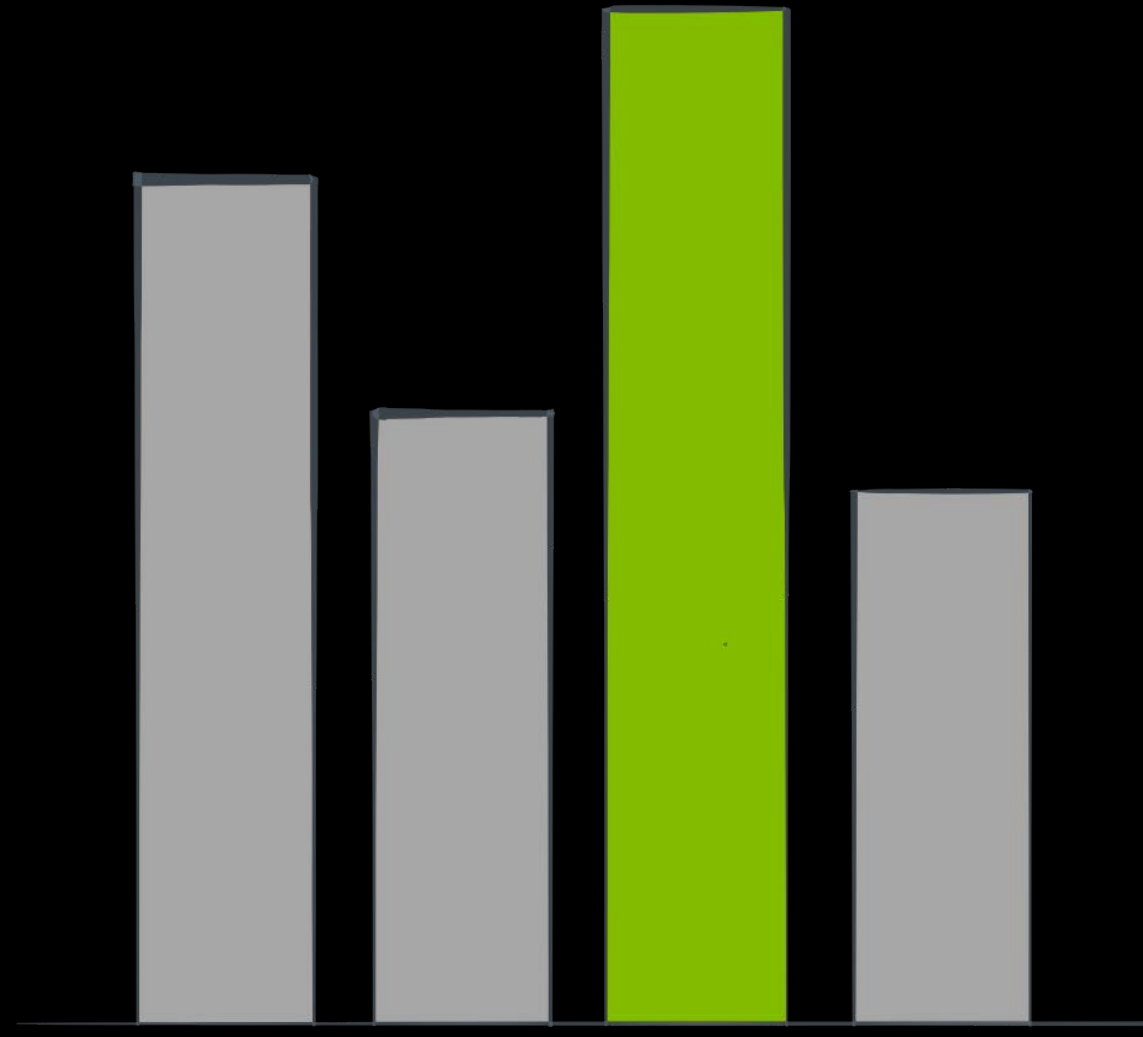- Female lone parent with child(ren) less than 18 years old (35.31%)

In Nunavut, although the status of single mothers had improved, still nearly **70%** of single mothers struggle to put food on the table.
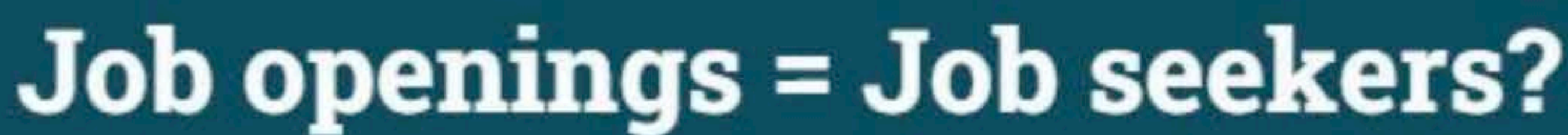
Zero hunger, there is still a long way to go.

**Food Insecurity in Nunavut by Living Arrangement (2017-2018)**



- 36.3%
- 53.3%
- 62.6%
- 69%

Legend:
- Male living alone (16.41%)
- Couple with child(ren) less than 18 years old (24.1%)
- Other living arrangements (28.3%)
- Female lone parent with child(ren) less than 18 years old (31.19%)

# Data See Future

UNB | International Business & Entrepreneurship Centre
EST. 1785
UNIVERSITY OF NEW BRUNSWICK

# Job openings = Job seekers?

## —— Data See Future

## Unemployment Rate

**5.7%**

Year 2019

**9.5%**

Year 2020

Percentage: 100 75 50 25 0

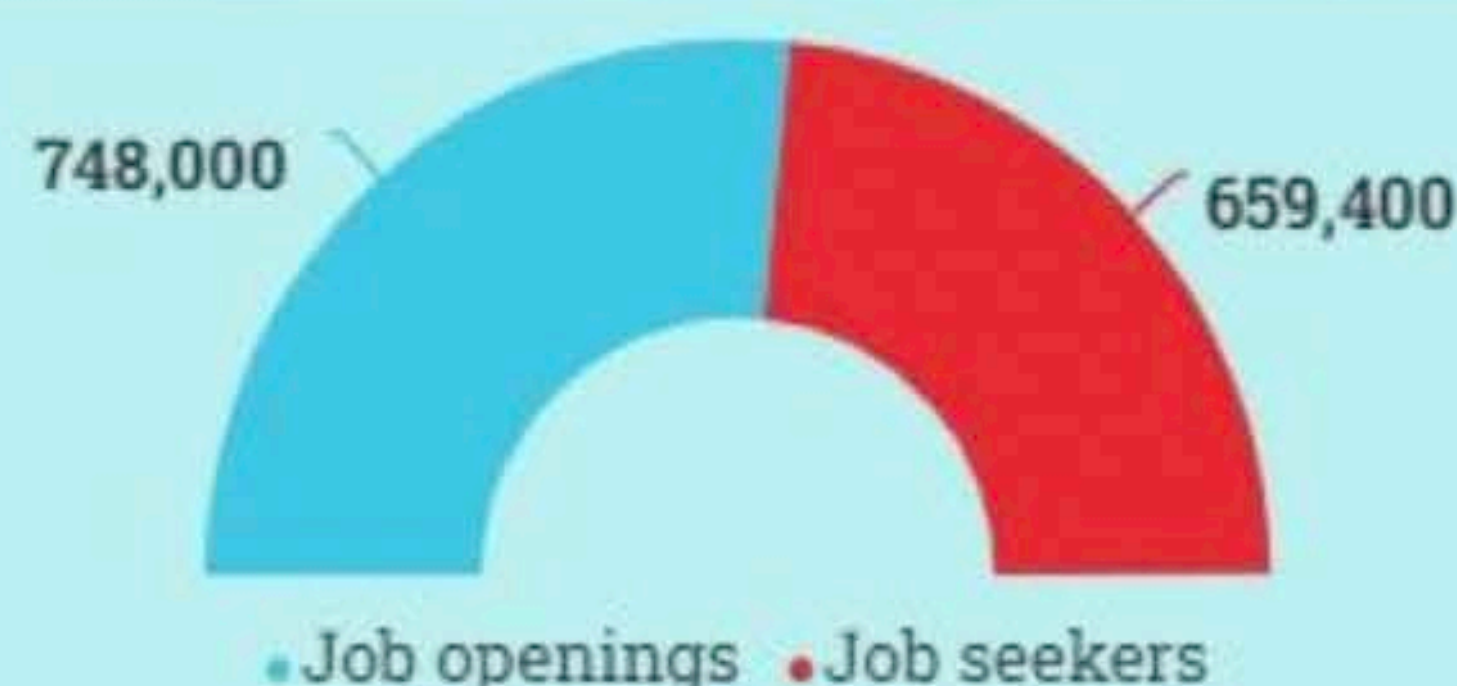2022 2023 2024 2025 2026 2027 2028

● Employment growth ● Retirement

**3** retired : **2** hired

People retired are **far more than** ones hired.

Ontario has the highest average annual employment of **7.2million**, followed by **Quebec** with **4.2 million**

## Top 3 occupations with largest job openings by 2028

| | |
|---|---|
| Sales and Service | 1,601,300 |
| Business and Finance | 1,142,100 |
| Trades and Transport | 953,600 |

748,000 — 659,400

● Job openings ● Job seekers

**88,600** shortage in the health occupation in labor market by 2028.

College or vaocational education
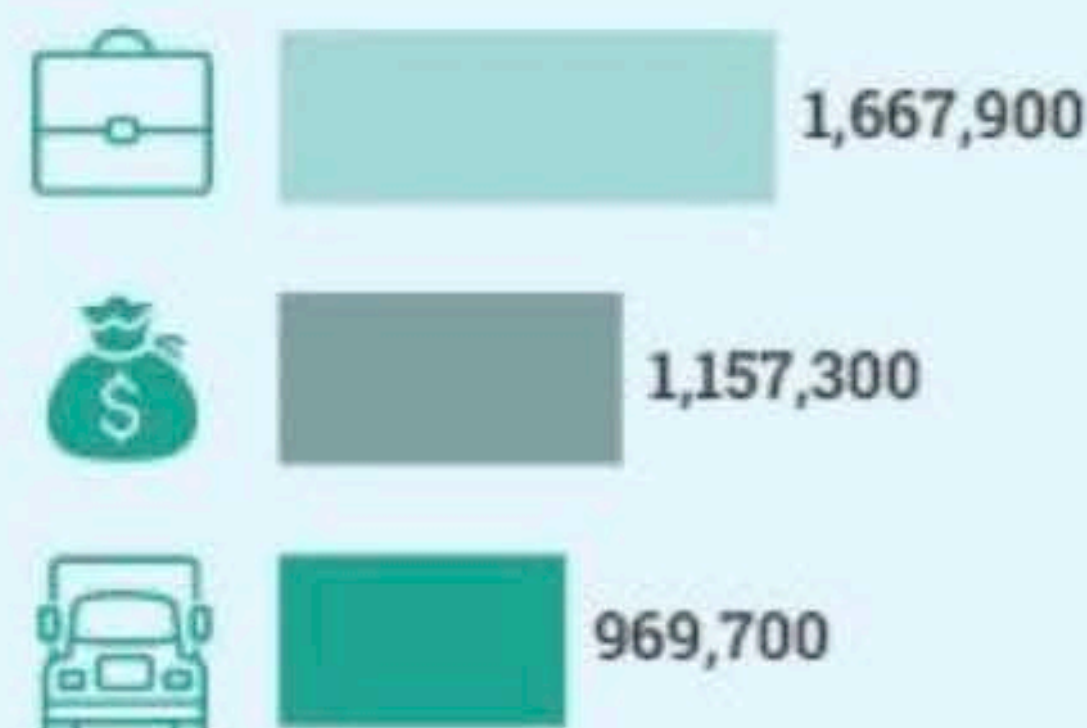
University education

Secondary school

In 2028, employees who have **University education** are still the most popular one.

By 2028 **Sales & Service, Business & Finance** and **Trade & Tranport** still have most job seekers!

| | |
|---|---|
| | 1,667,900 |
| | 1,157,300 |
| | 969,700 |

designers medical pathologists practitioners industrial mechanics therapists health technologists analysts mechanical n.e.c technicians engineers nurses therapy laboratory computer software related workers professional occupations assessment

The shortage of jobs in the future labor market will focus on keywords about **Technologists, Designers, Medical, Therapists** and **Engineers**.
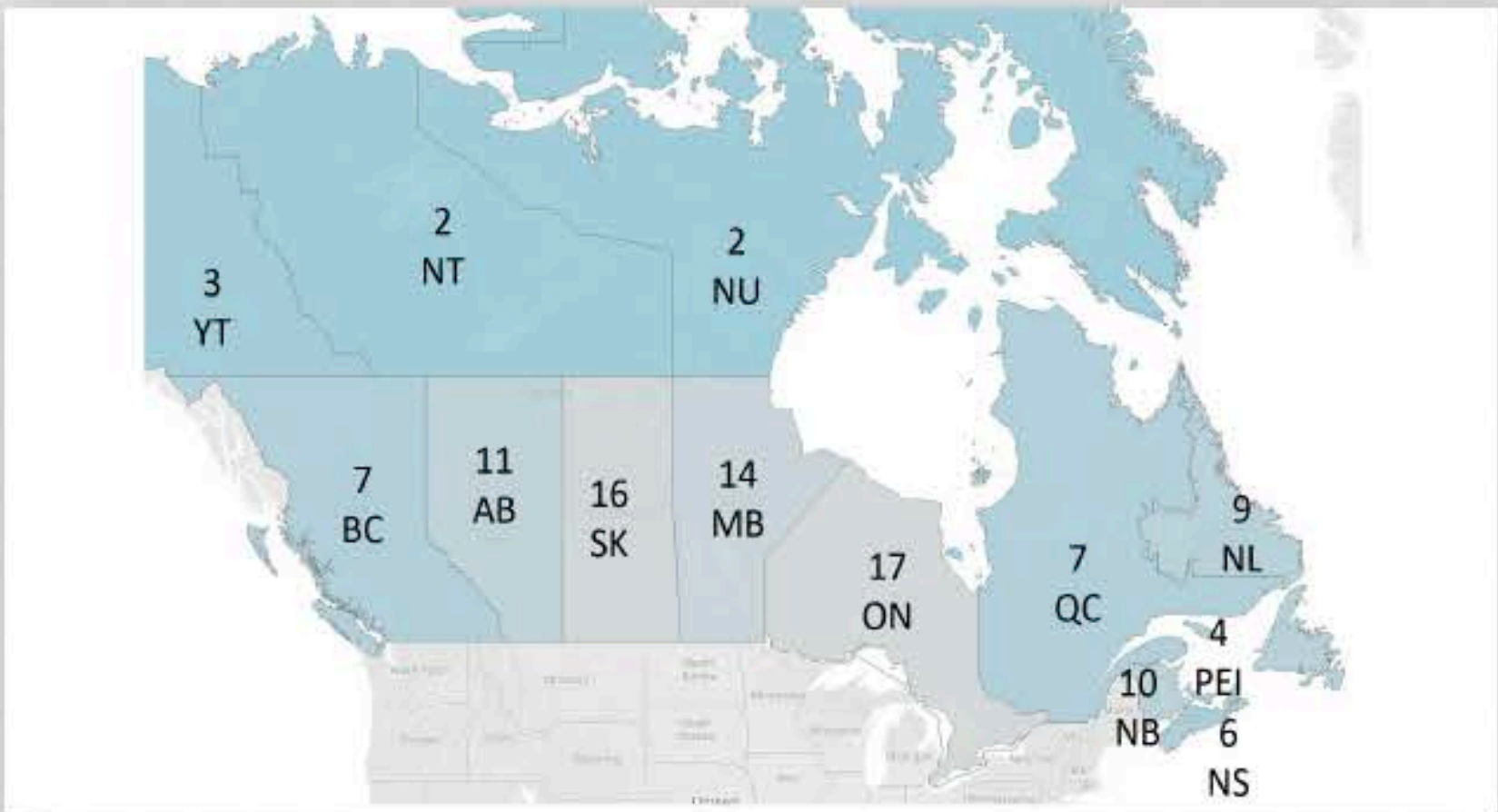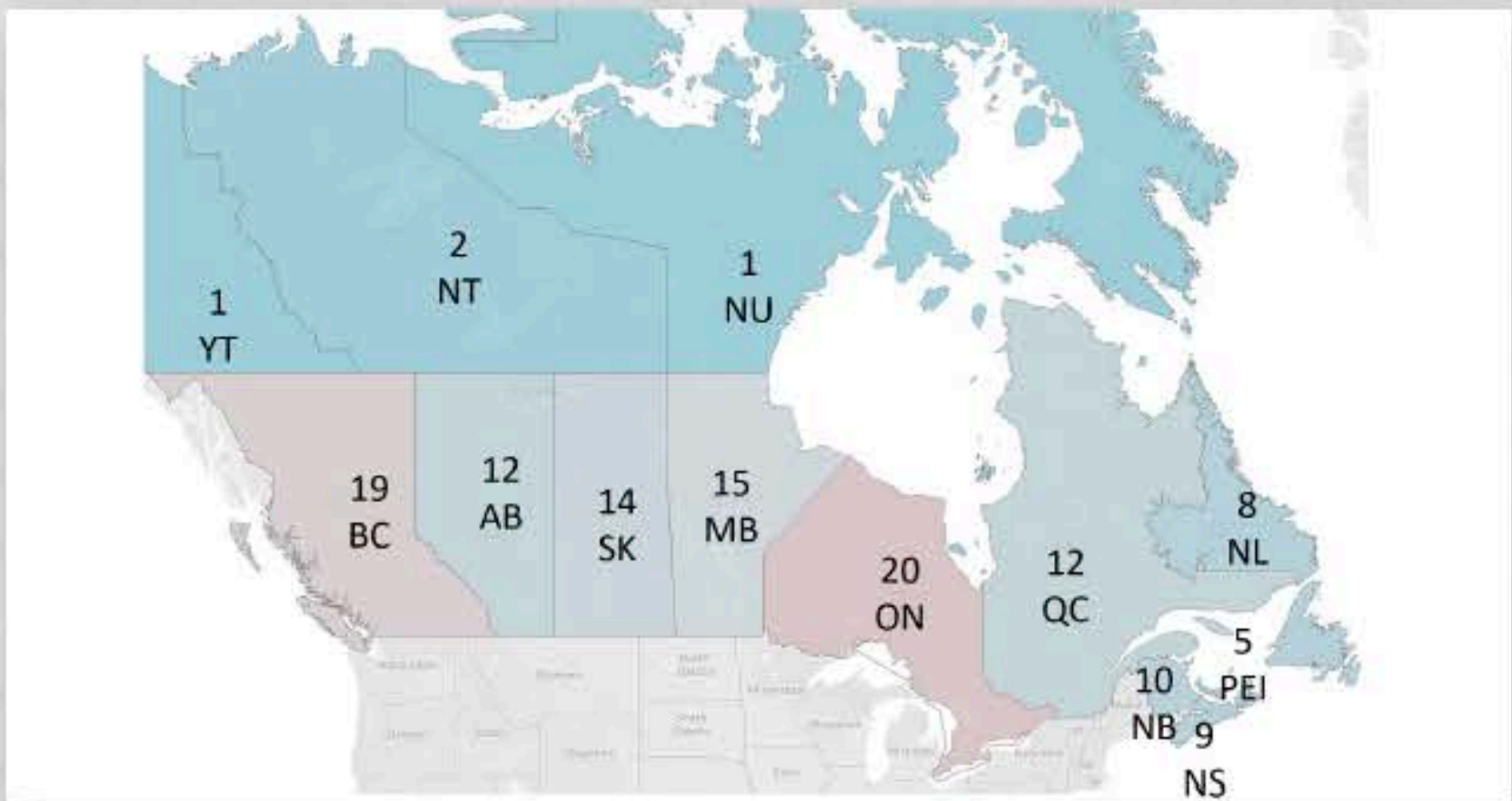
# Data Storytellers

UNB
EST. 1785
UNIVERSITY OF NEW BRUNSWICK

International Business &
Entrepreneurship Centre

# Climate Change: How Is Our Climate Changing?

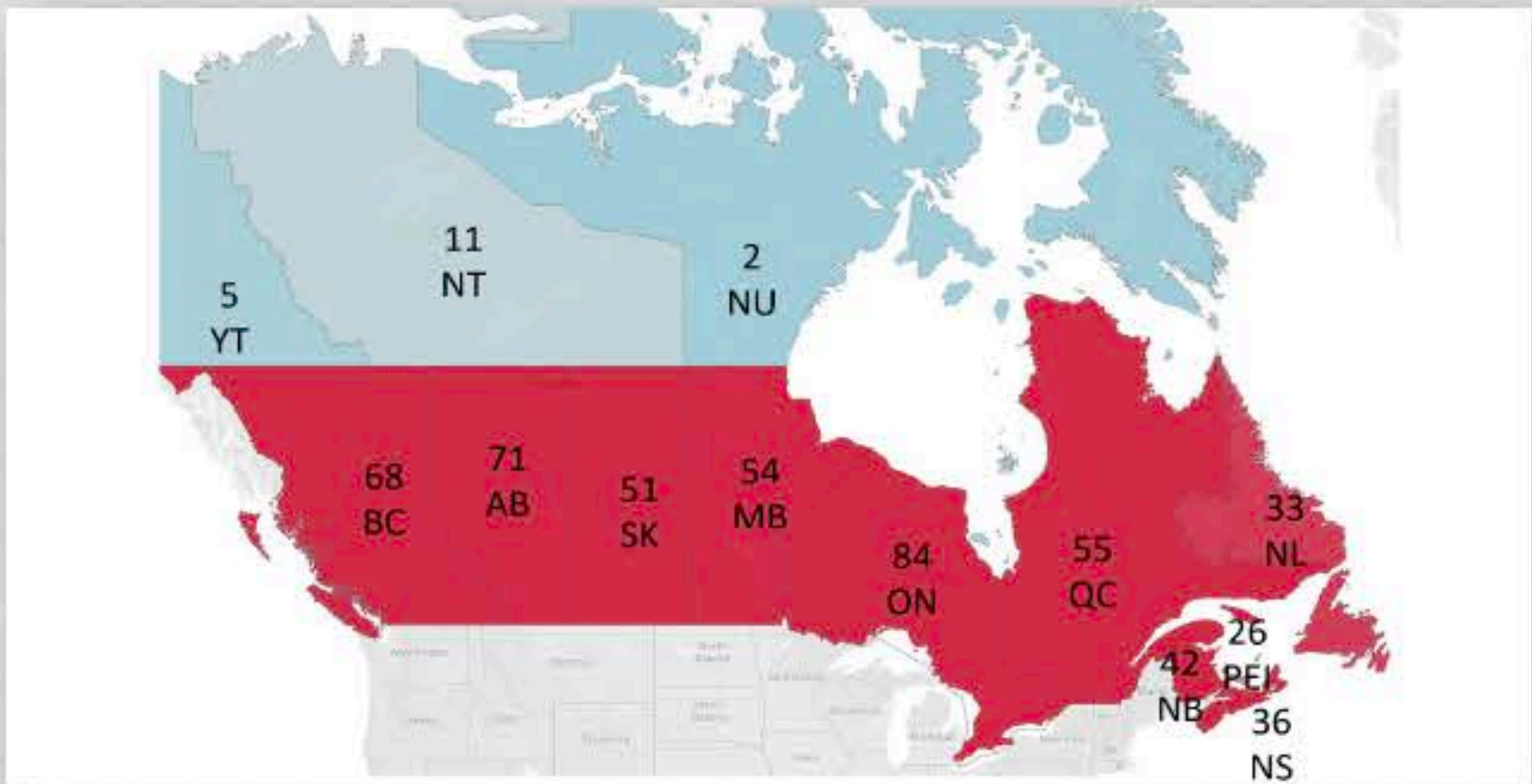## 498%: number of Natural Disasters in Canada increased over 100 years

Disasters
1 — 35

### 1917 - 1941
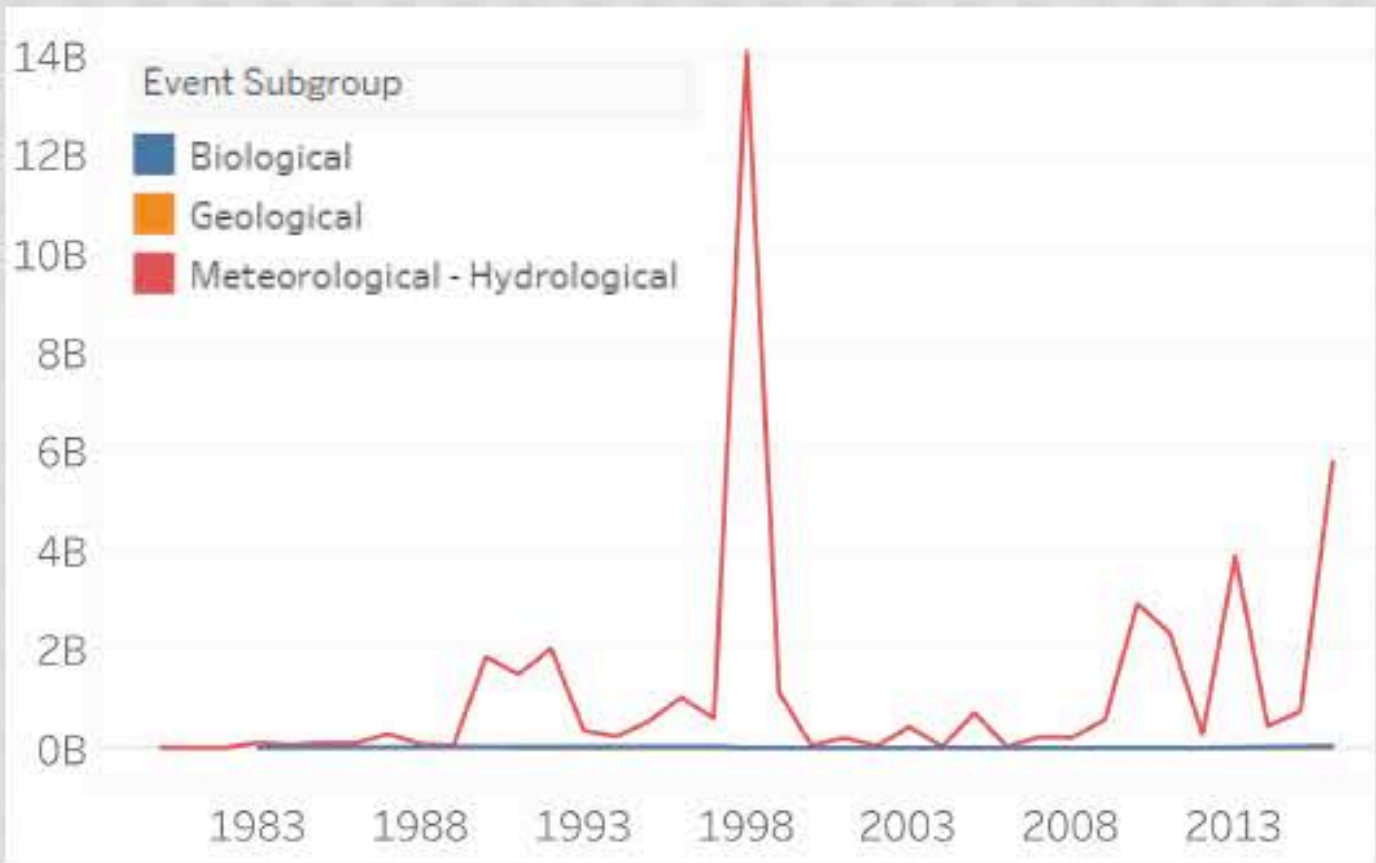
- 3 YT
- 2 NT
- 2 NU
- 7 BC
- 11 AB
- 16 SK
- 14 MB
- 17 ON
- 7 QC
- 9 NL
- 4 PEI
- 10 NB
- 6 NS

### 1942 - 1966

- 1 YT
- 2 NT
- 1 NU
- 19 BC
- 12 AB
- 14 SK
- 15 MB
- 20 ON
- 12 QC
- 8 NL
- 5 PEI
- 10 NB
- 9 NS

### 1967 - 1991

- 7 YT
- 9 NT
- 2 NU
- 37 BC
- 55 AB
- 29 SK
- 33 MB
- 52 ON
- 49 QC
- 21 NL
- 7 PEI
- 25 NB
- 14 NS

### 1992 - 2016

- 5 YT
- 11 NT
- 2 NU
- 68 BC
- 71 AB
- 51 SK
- 54 MB
- 84 ON
- 55 QC
- 33 NL
- 26 PEI
- 42 NB
- 36 NS
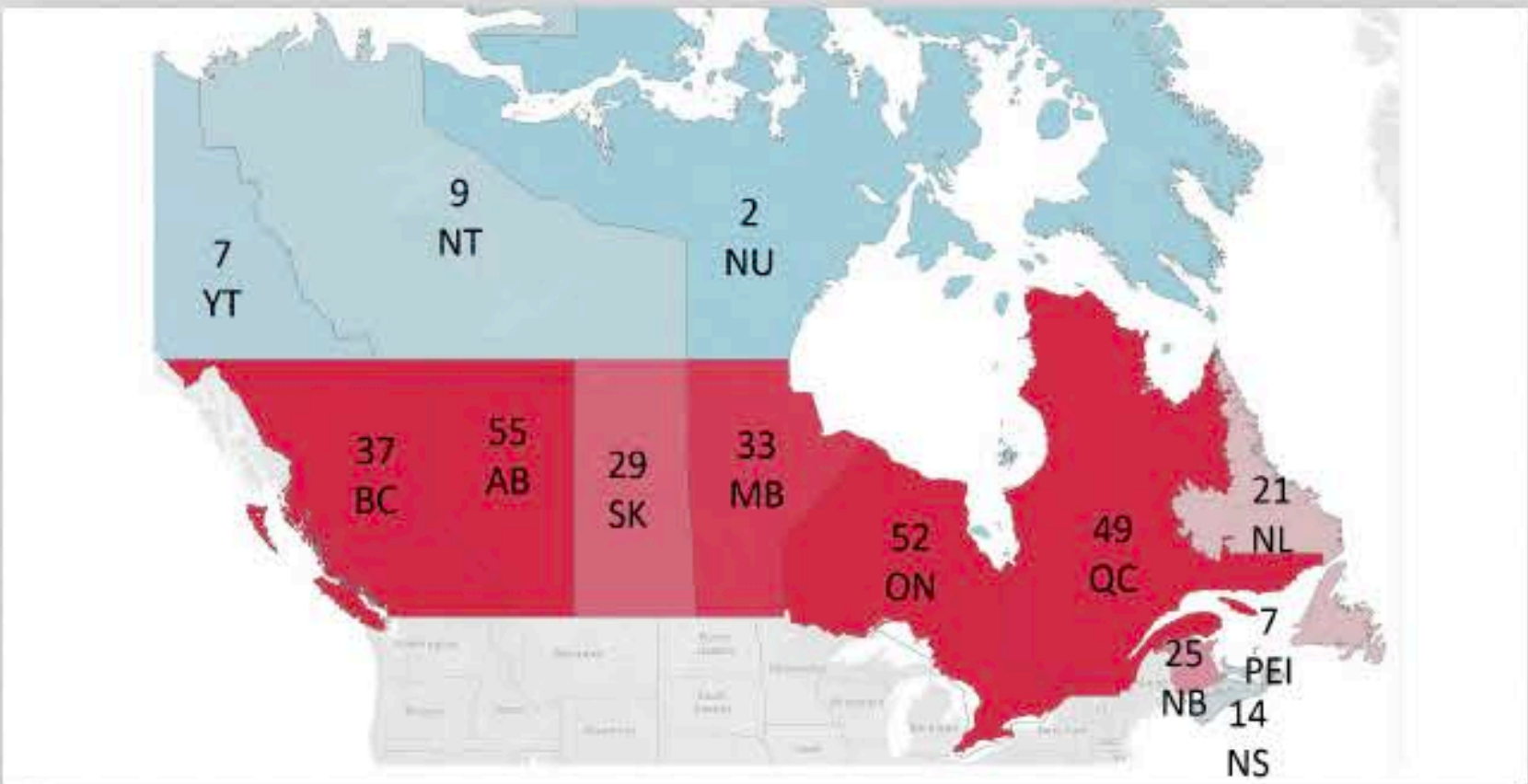
## Estimated Total Cost (dollars)



Event Subgroup
- Biological
- Geological
- Meteorological - Hydrological

14B, 12B, 10B, 8B, 6B, 4B, 2B, 0B

1983  1988  1993  1998  2003  2008  2013

## Estimated Total Cost of Meteorological – Hydrological (dollars)



- Winter Storm 16B
- Wildfire 6B
- Drought 4B
- Flood 11B
- Thunderstorms 4B
- Others 3B
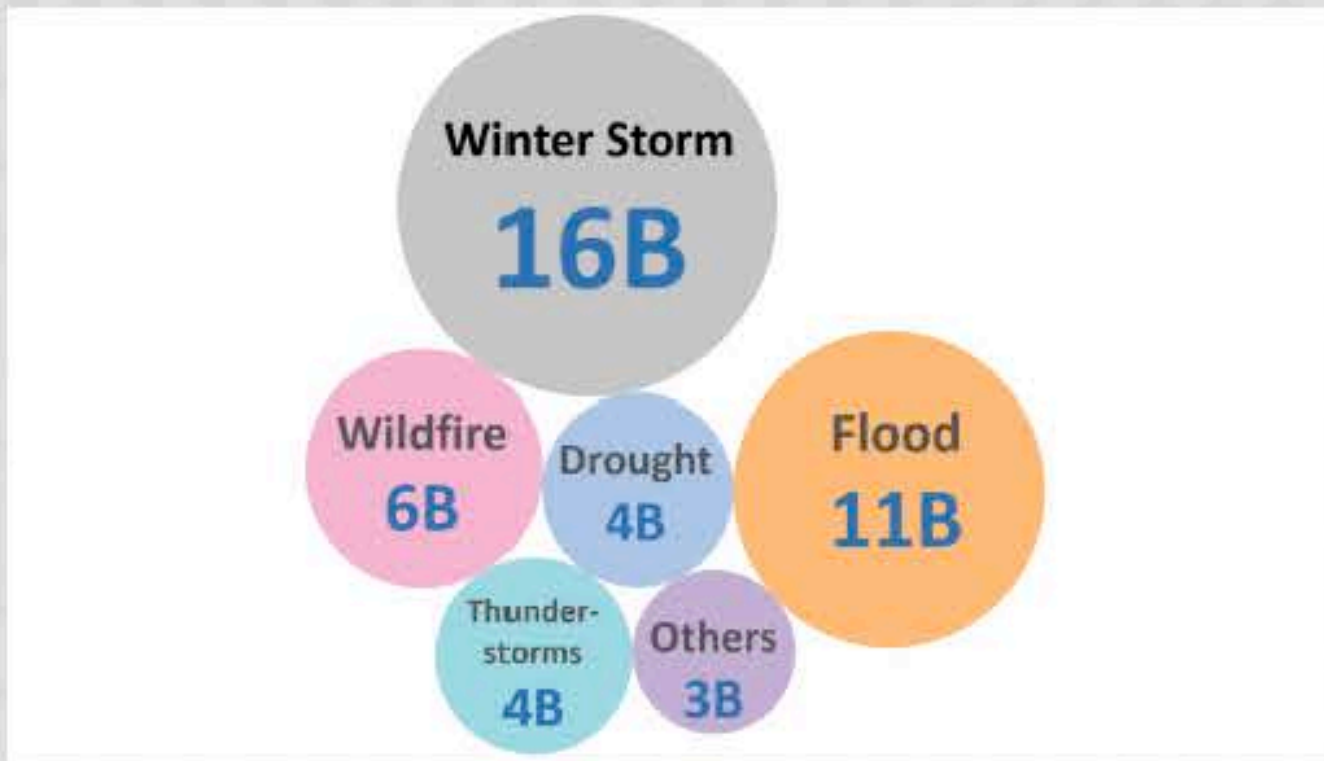
## New Brunswick Temperature Average (°C)

|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1951-1980 | -9.5 | -8.7 | -3.2 | 3.1 | 9.7 | 15.1 | 18.3 | 17.3 | 12.7 | 7.2 | 1.4 | -6.6 | 4.8 |
| 1981-2010 | -10.1 | -8.6 | -3.2 | 3.5 | 10.1 | 15.3 | 18.4 | 17.8 | 13.1 | 7.0 | 1.1 | -6.0 | 4.9 |

- From 1951-2010, the average temperature in New Brunswick is hotter. Snowfall has decreased, and rainfall has slightly increased over this time period.
- Over the last several years, Fredericton has had increased yearly average temperatures.
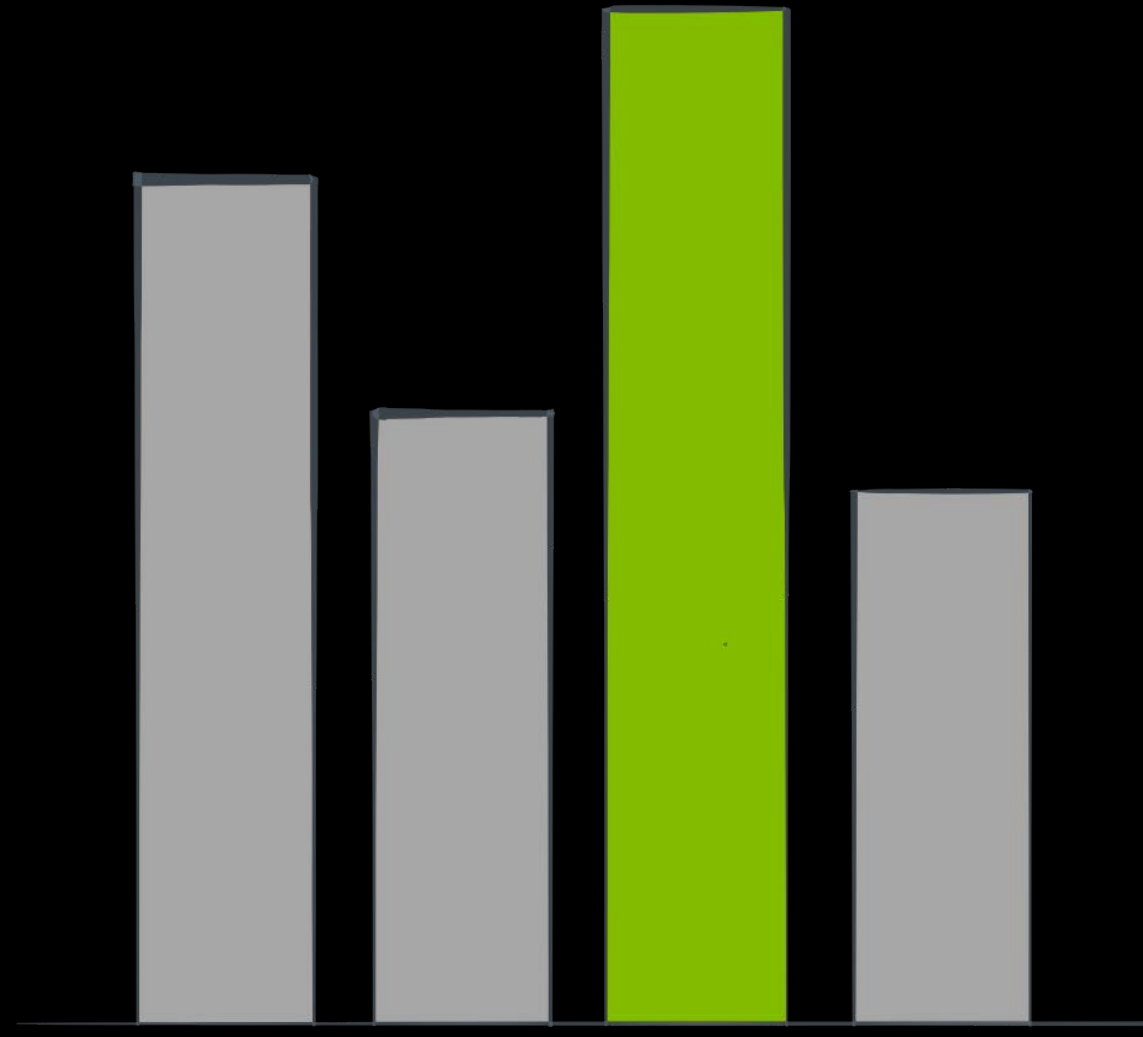
## New Brunswick Snowfall Average (cm)



80, 70, 60, 50, 40, 30, 20, 10, 0

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1951-1980   1981-2010

## New Brunswick Rainfall Average (mm)



120, 100, 80, 60, 40, 20, 0

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
1951-1980   1981-2010
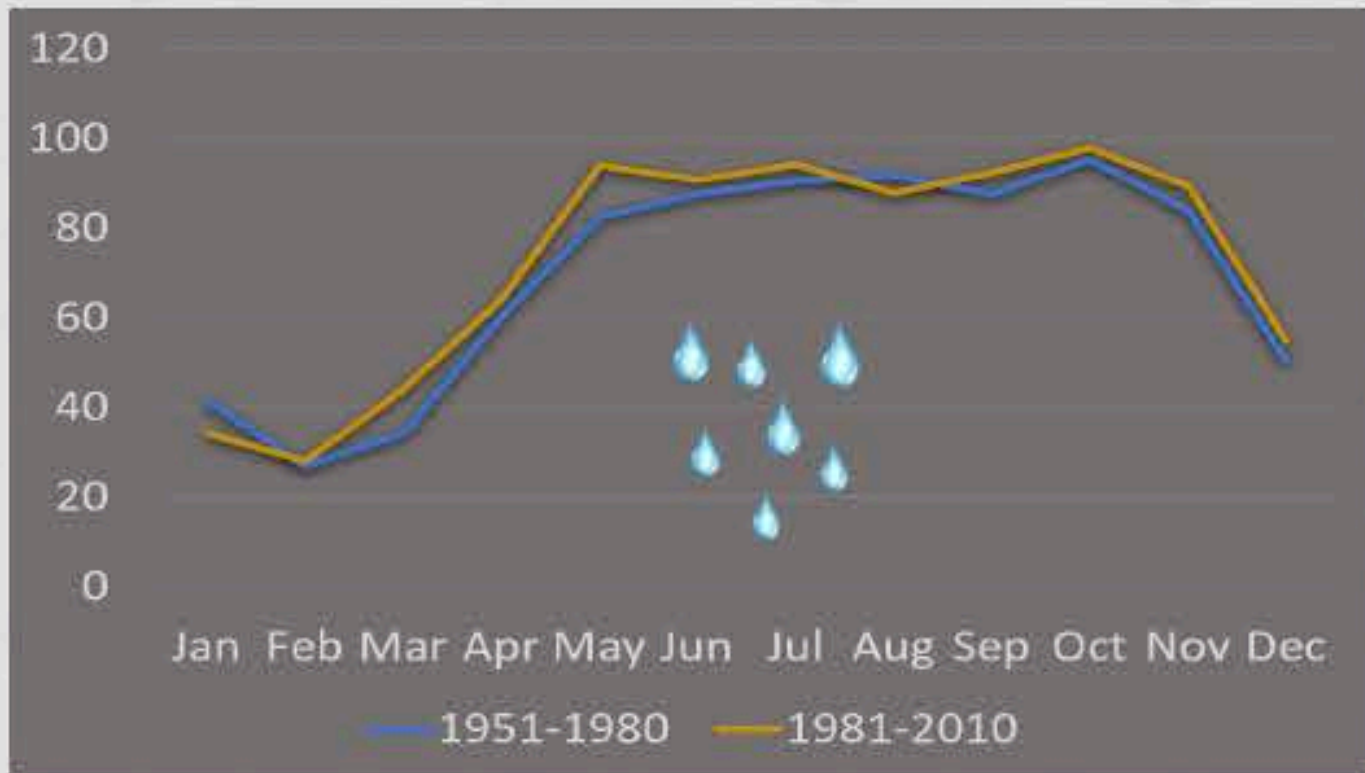
## Fredericton Mean Temperature Average (°C)

|  | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| January | -8.2 | -7.5 | -10.0 | -8.8 | -11.3 | -6.5 | -6.5 | -8.7 | -9.5 | -6.9 |
| February | -9.7 | -7.4 | -6.5 | -8.6 | -14.7 | -5.2 | -7.0 | -5.5 | -9.1 | -7.6 |
| March | -2.6 | 0.5 | 0.3 | -6.3 | -4.6 | -2.2 | -4.8 | -0.9 | -3.8 | -1.6 |
| April | 4.4 | 6.0 | 4.5 | 4.4 | 3.3 | 3.7 | 5.3 | 2.4 | 4.2 | 3.5 |
| May | 11.0 | 12.1 | 12.2 | 10.5 | 12.5 | 11.8 | 10.4 | 11.3 | 8.8 | 10.5 |
| June | 15.5 | 16.1 | 15.8 | 17.1 | 14.5 | 15.9 | 15.9 | 14.5 | 15.7 | 17.5 |
| July | 19.5 | 20.4 | 20.3 | 20.9 | 18.9 | 19.7 | 18.9 | 21.1 | 20.0 | 20.4 |
| August | 18.8 | 20.3 | 18.3 | 18.9 | 20.9 | 19.3 | 17.4 | 20.1 | 18.2 | 19.2 |
| September | 15.2 | 14.2 | 14.3 | 13.9 | 16.8 | 14.9 | 16.8 | 13.8 | 12.7 | 13.9 |
| October | 8.8 | 8.9 | 8.0 | 9.5 | 6.3 | 8.4 | 10.6 | 5.8 | 8.2 | 7.5 |
| November | 3.4 | 1.3 | 0.7 | 0.1 | 2.8 | 3.6 | 1.6 | -1.0 | -0.6 | 3.6 |
| December | -3.1 | -3.9 | -8.3 | -2.7 | -0.8 | -6.5 | -8.6 | -6.4 | -4.1 | -1.1 |
| Yearly Average | 6.1 | 6.8 | 5.8 | 5.7 | 5.4 | 6.4 | 5.8 | 5.5 | 5.1 | 6.6 |

THINK GREEN SAVE THE EARTH

# Data Wizards

Team 11/27

UNB | International Business &
Entrepreneurship Centre
UNIVERSITY OF NEW BRUNSWICK
EST. 1785

# CLIMATE CHANGE IN CANADA

Avg. Annual Temperature (C) in Canada from 1960-1990

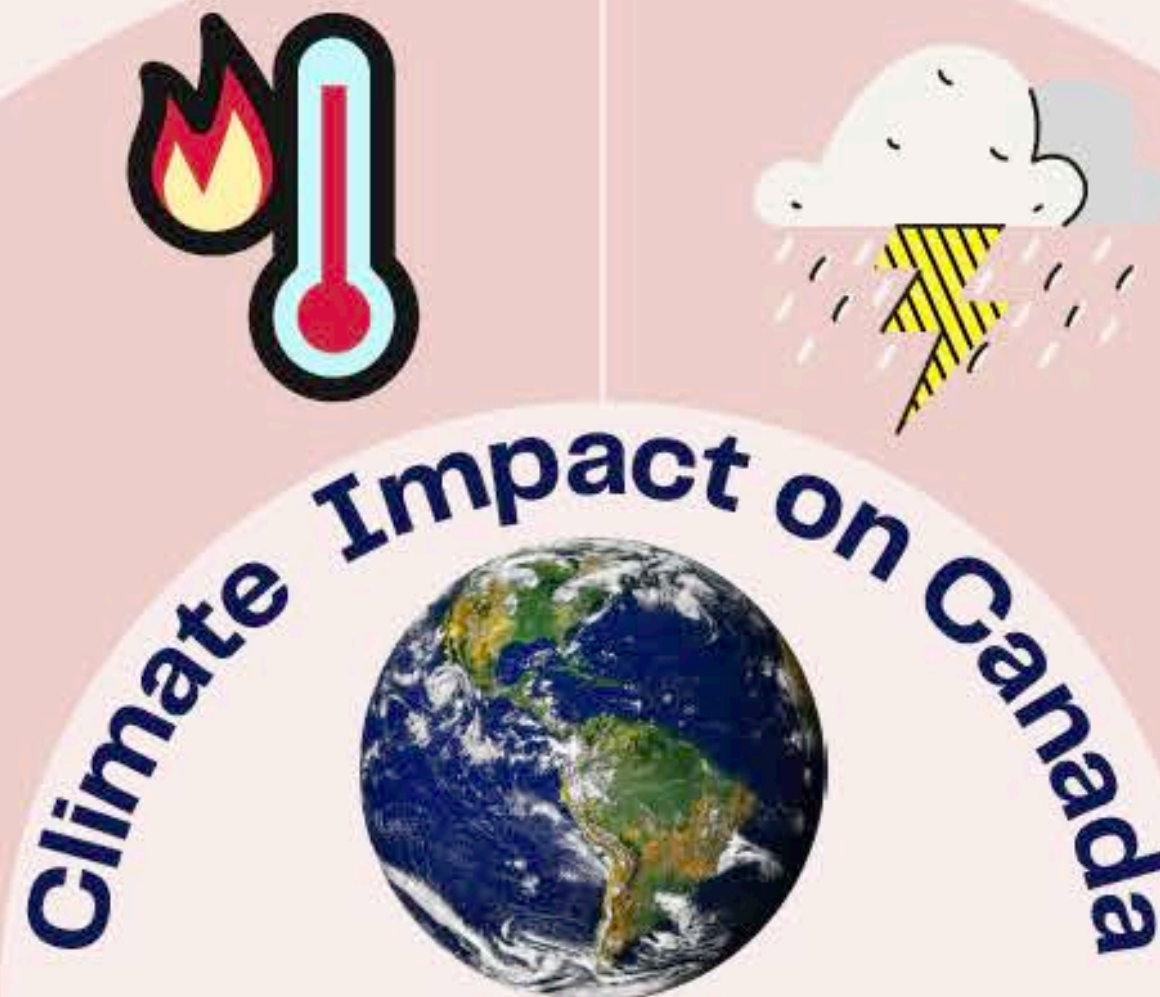Avg. Annual Temperature in Canada from 1991-2020
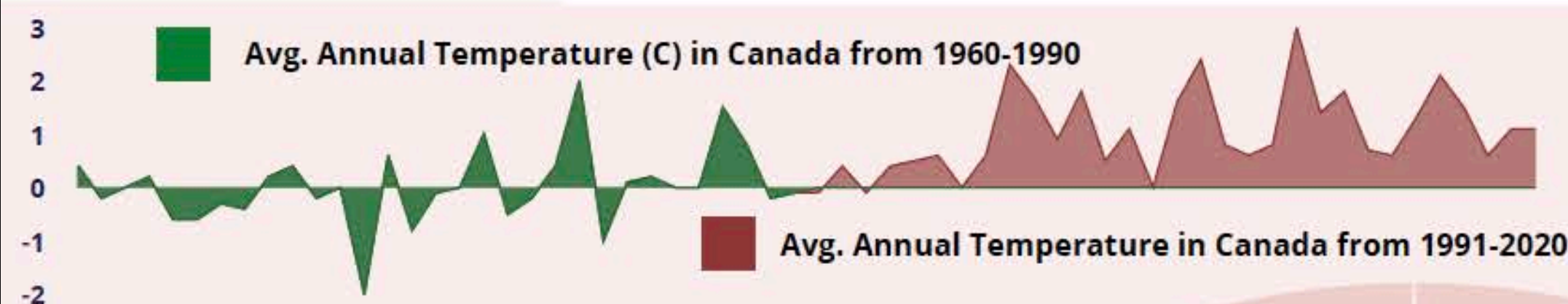
## 1.7 Deg C
### Rise in average temperature in Canada in last 60 years

**195%** Increase in casualties in BC over the normal years due to heat wave

**1400%** Increase in annual Canadian disaster cost since 1970

**4x** Increase in the forest burn area in Alberta against the 10-year average

**50 m** Reduction in the thickness of canadian ice caps since 1980

## Climate Impact on Canada

# GREENHOUSE GAS (GHG) EMISSION
## Biggest contributor to Canadian Climate Change

### Economic Sector Wise GHG Emission in Canada (2019)

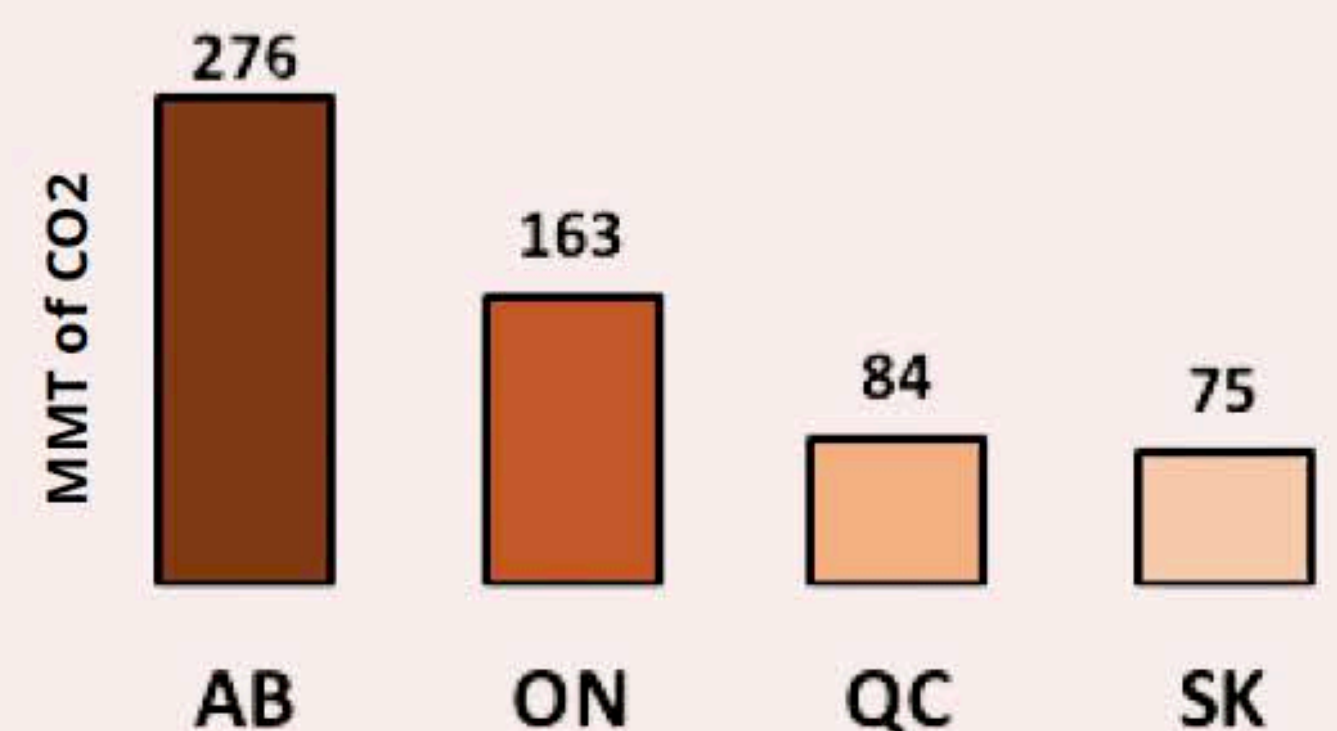| 26% | 25% | 12% | 11% | 10% | 8% | 7% |
|---|---|---|---|---|---|---|
| Oil & Gas GHG | Transport | Building | Heavy Industry | Agriculture | Electricity | Waste & Oth |
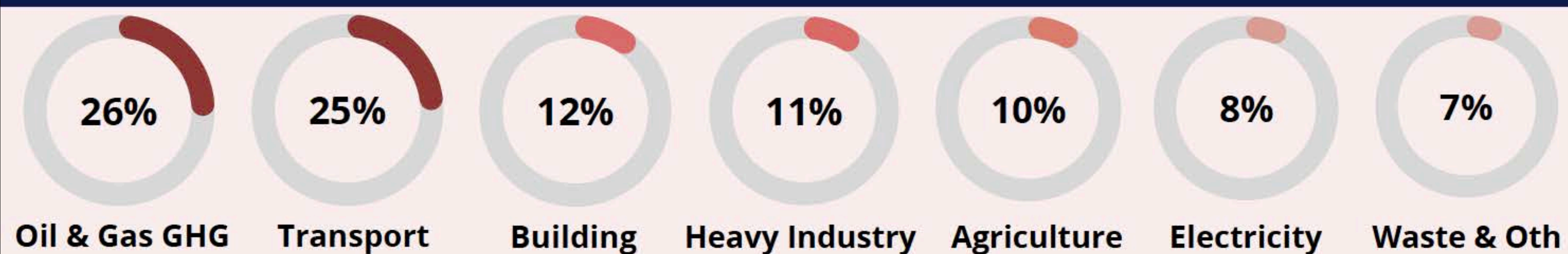
### Province Wise % change in GHG Emission in Canada (2005-2019)

- GHG Emissions have increased in **over 50% of the Canadian provinces** in the 2005-2019 timeline
- **New Brunswick (-38%) & NovaScotia (-30%) have the maximum reduction** in GHG emission from 2005 to 2019
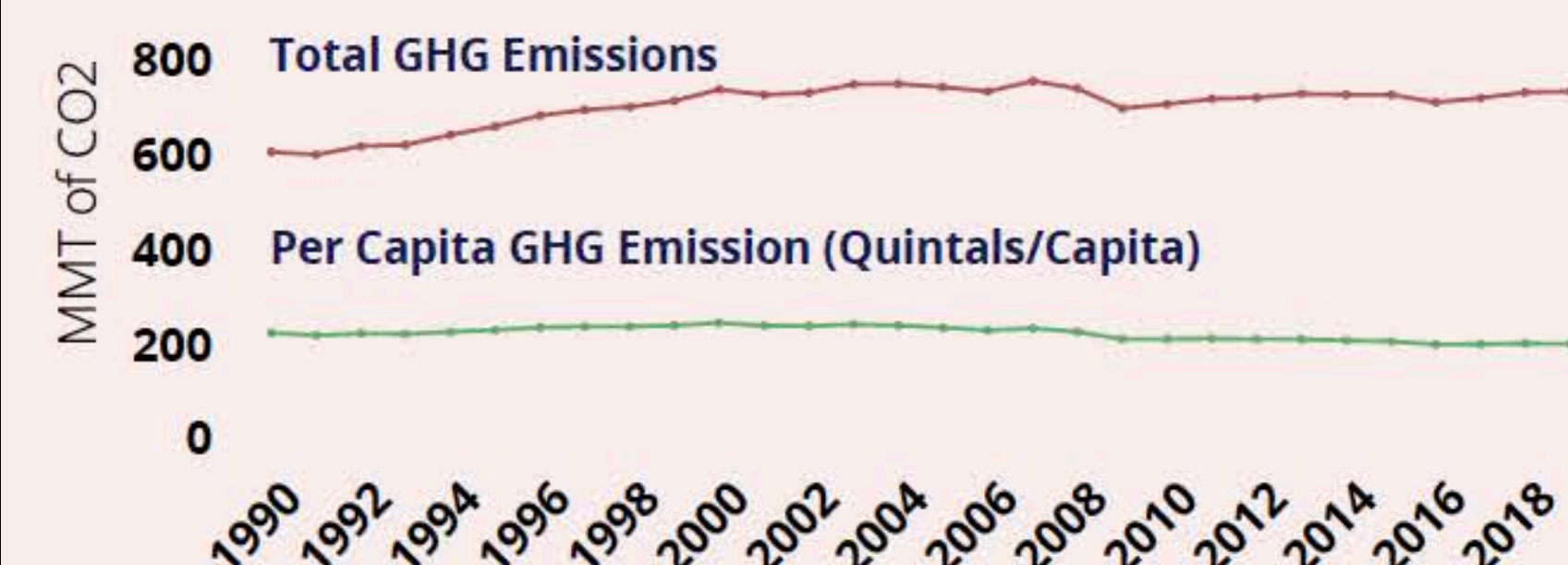
| | |
|---|---|
| 17% | AB |
| 17% | YT |
| 17% | NU |
| 10% | SK |
| 10% | MB |
| 6% | NL |
| 4% | BC |
| | QC |
| -4% | PEI |
| -10% | NT |
| -13% | ON |
| -21% | NS |
| -30% | NS |
| -38% | NB |
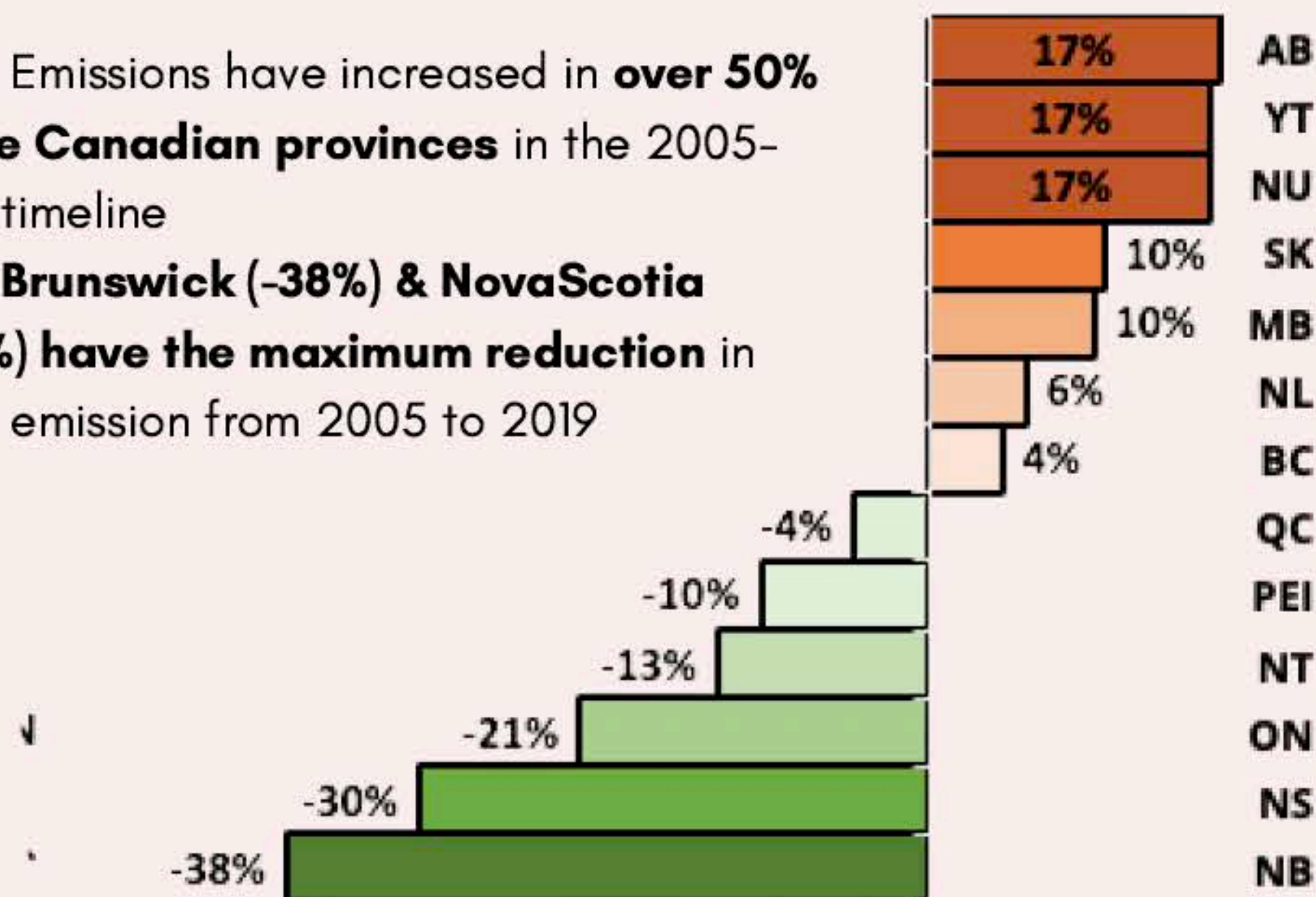
### Province Wise GHG Emission in Canada (2019)

MMT of $CO_2$

| AB | ON | QC | SK |
|---|---|---|---|
| 276 | 163 | 84 | 75 |

- Alberta was the **largest contributor** to the GHG Emission in 2019
- About **1/2 of the total GHG emissions in Canada** were generated by **Ontario, Quebec & Saskatchewan**

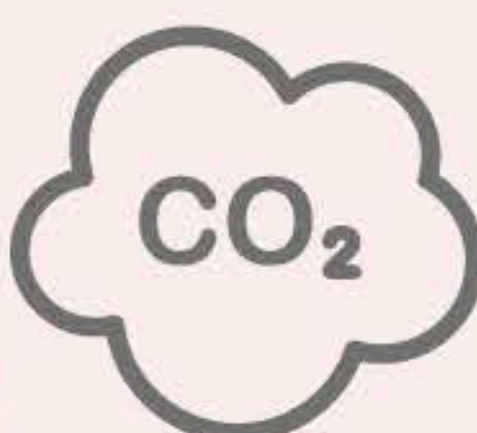### Per Capita GHG Emission Comparison in Canada (1990 - 2019)

MMT of $CO_2$

Total GHG Emissions

Per Capita GHG Emission (Quintals/Capita)

1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018

**2019** Per Capita GHG Emissions **<** **1990** Per Capita GHG Emissions
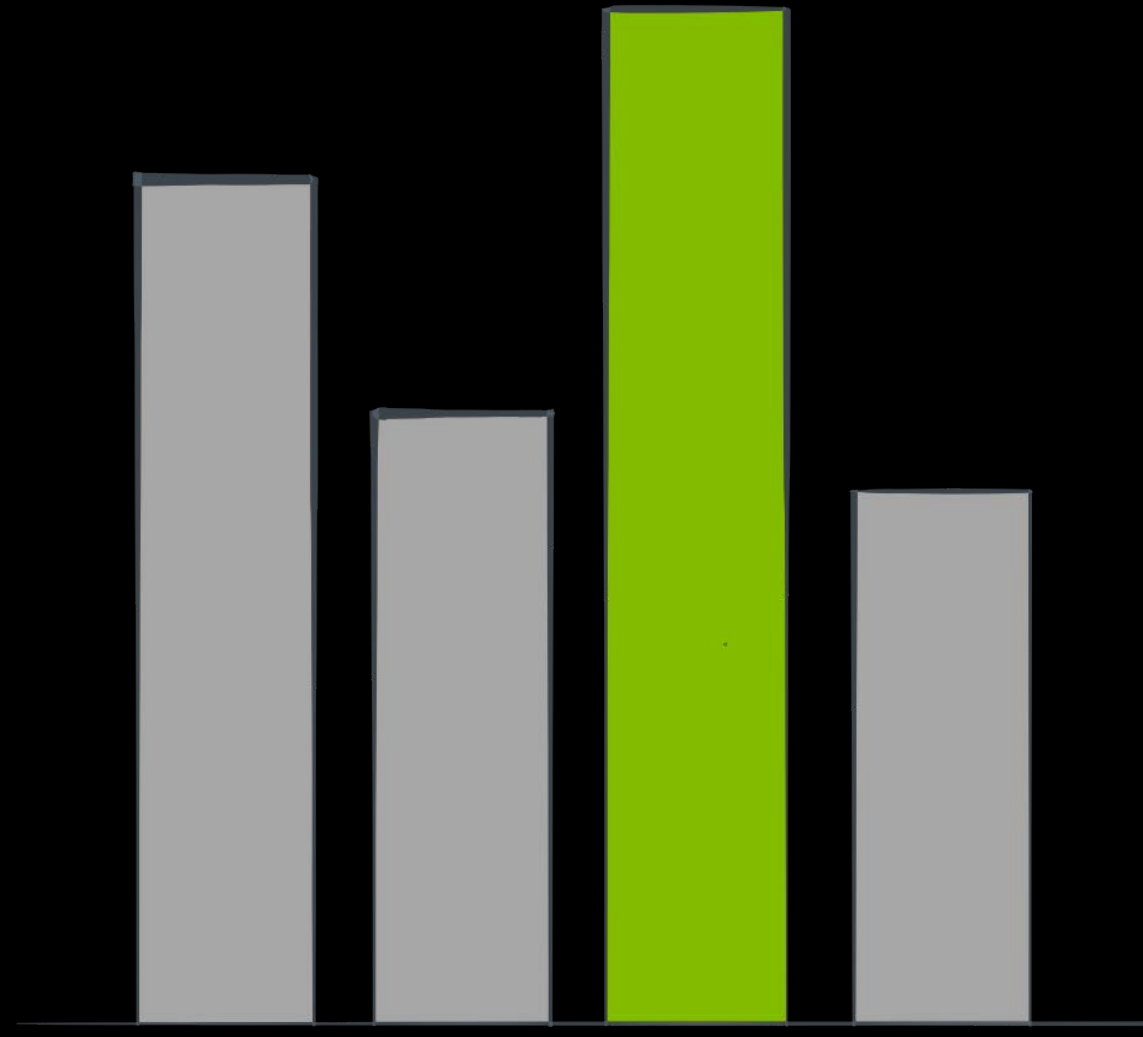
$CO_2$

**21%** Increase in the GHG emission between 1990-2019 in Canada

References
### References
- https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/Climate-change/pdf/CCCR_FULLREPORT-EN-FINAL.pdf
- https://www.canada.ca/en/environment-climate-change/services/climate-change/causes.html
- https://www.imua.org/Files/reports/Natural%20Disasters%20-%20Country%20Profile%20Series%20-%20Canada.html
- www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/inventory.html
- https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/Climate-change/pdf/CCCR-Chapter5-ChangesInSnowIcePermafrostAcrossCanada.pdf
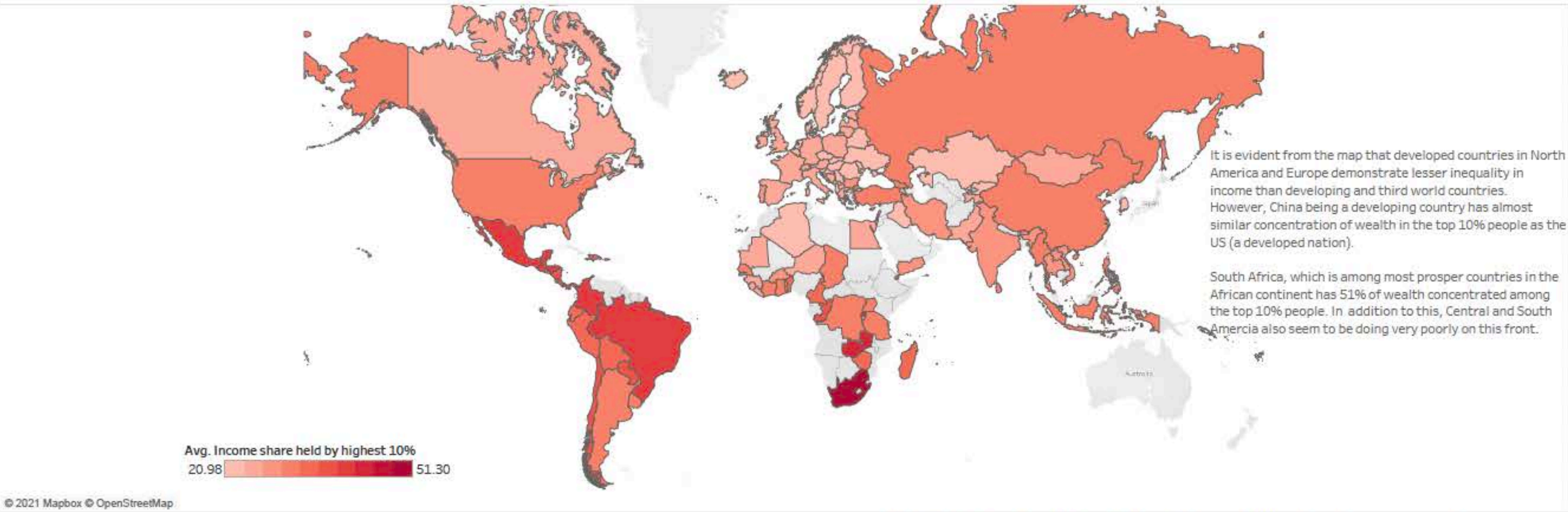
**Team Data Wizards**

# DatVision

Team 12/27

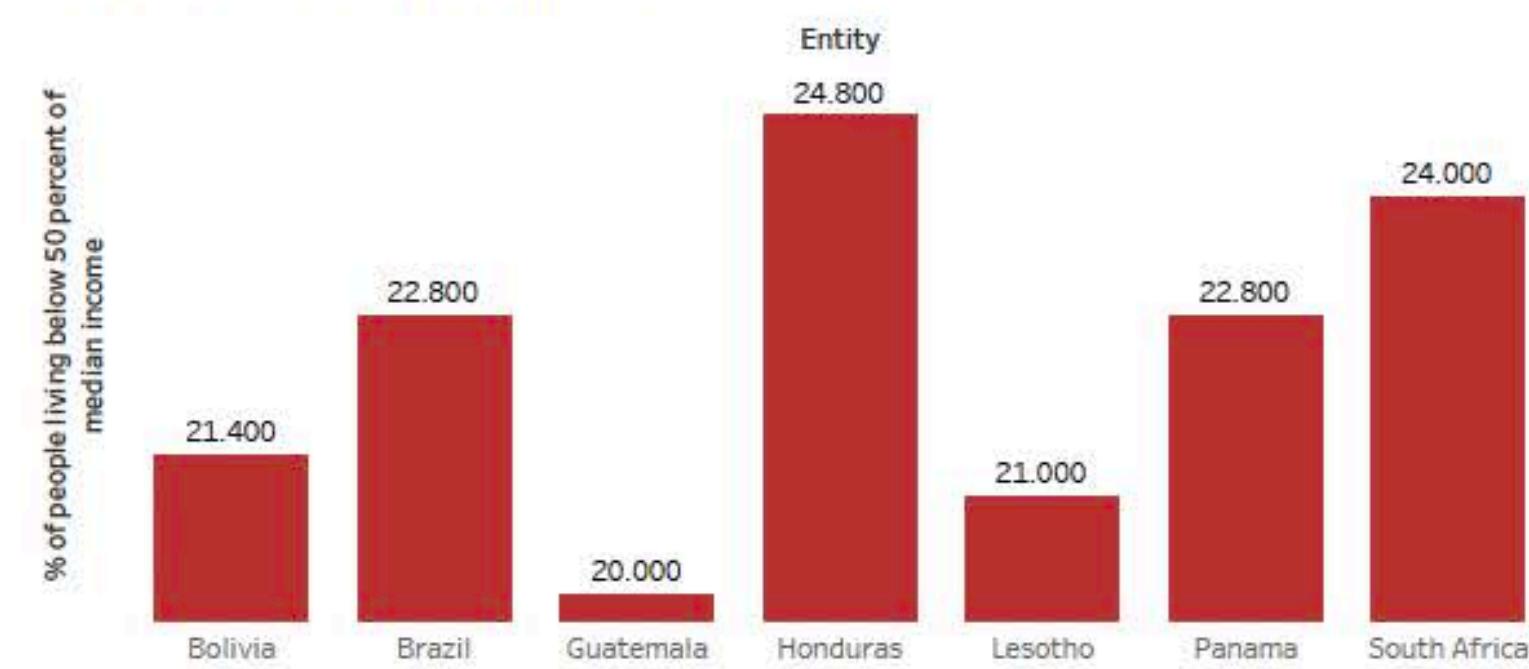# Reducing Inequalities by 2030

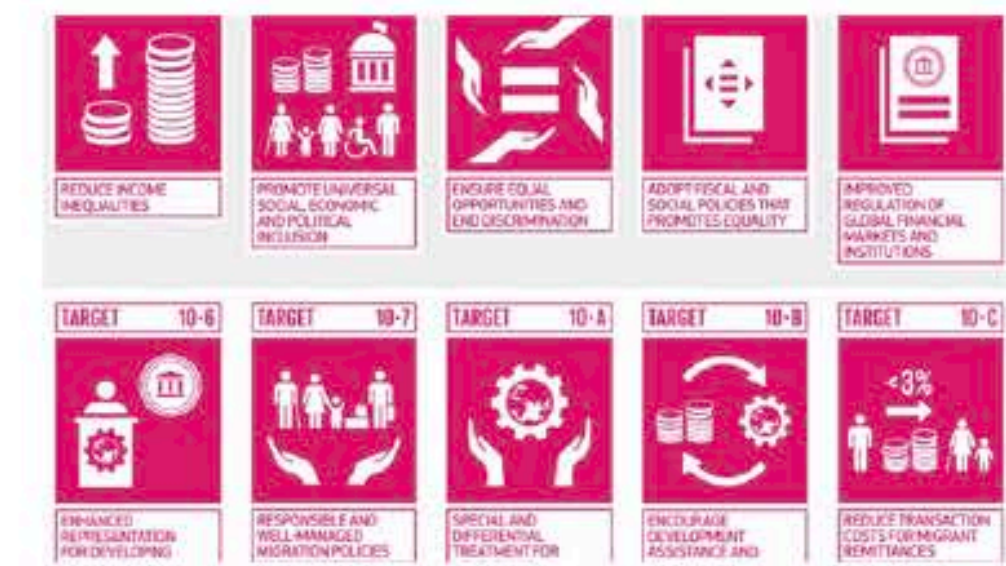## Average Income share held by the richest 10% across the globe (2011 to 2015)

Darker color in the map indicates higher concentration of wealth among the top 10% richest people
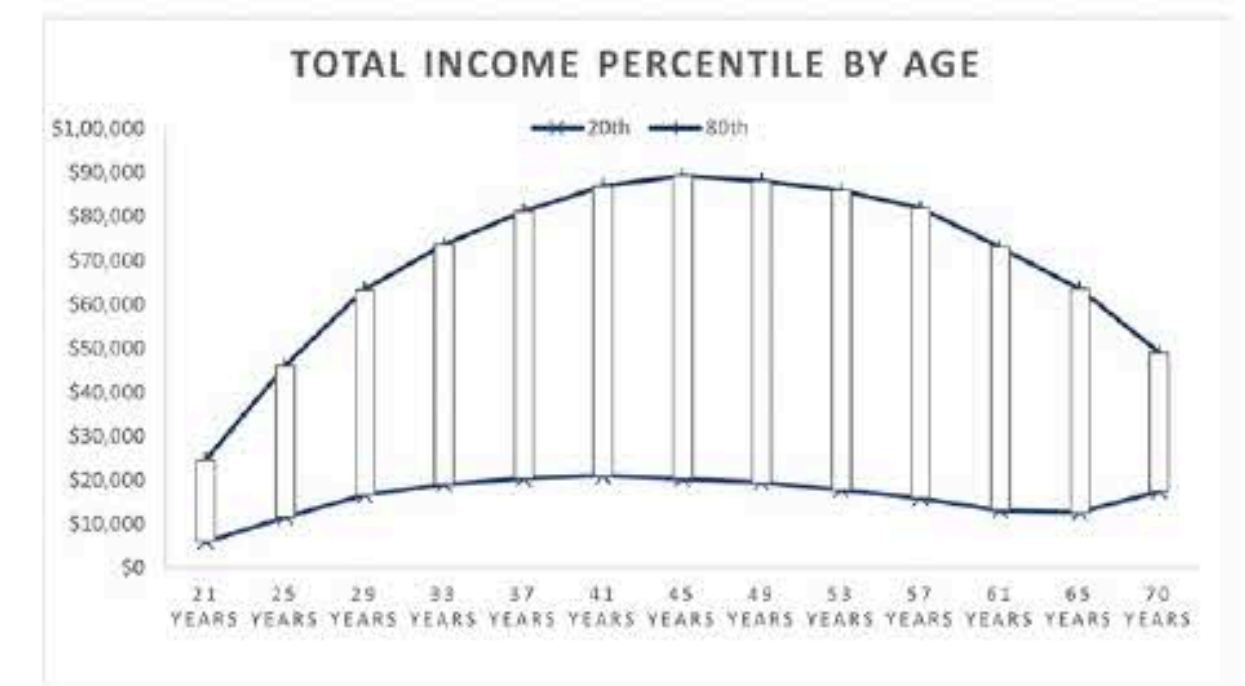


It is evident from the map that developed countries in North America and Europe demonstrate lesser inequality in income than developing and third world countries. However, China being a developing country has almost similar concentration of wealth in the top 10% people as the US (a developed nation).

South Africa, which is among most prosper countries in the African continent has 51% of wealth concentrated among the top 10% people. In addition to this, Central and South Amercia also seem to be doing very poorly on this front.

Avg. Income share held by highest 10%
20.98    51.30
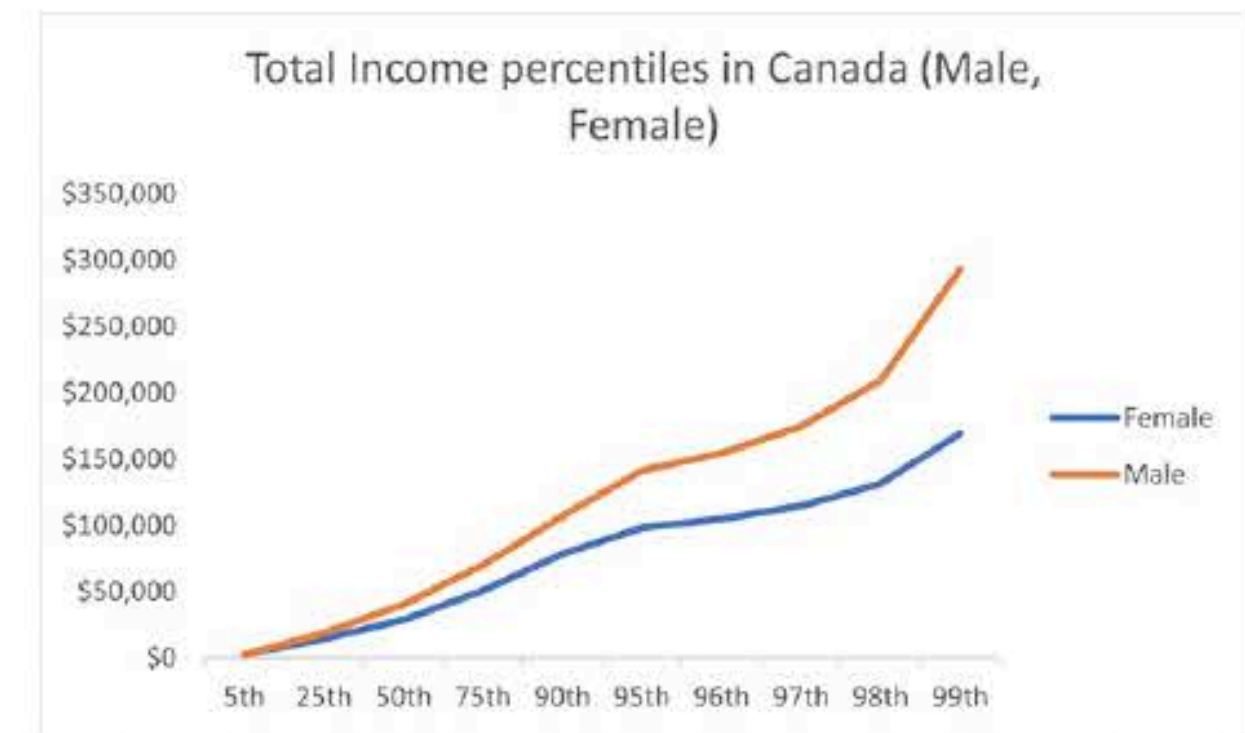
© 2021 Mapbox © OpenStreetMap

## Countries that have the highest no. of people living below less than half the median National Income (2014-18)



Another indicator demonstrating high level of income inequality amongst developing and third world nations. Notably, 5/7 countries in the list are from South America.
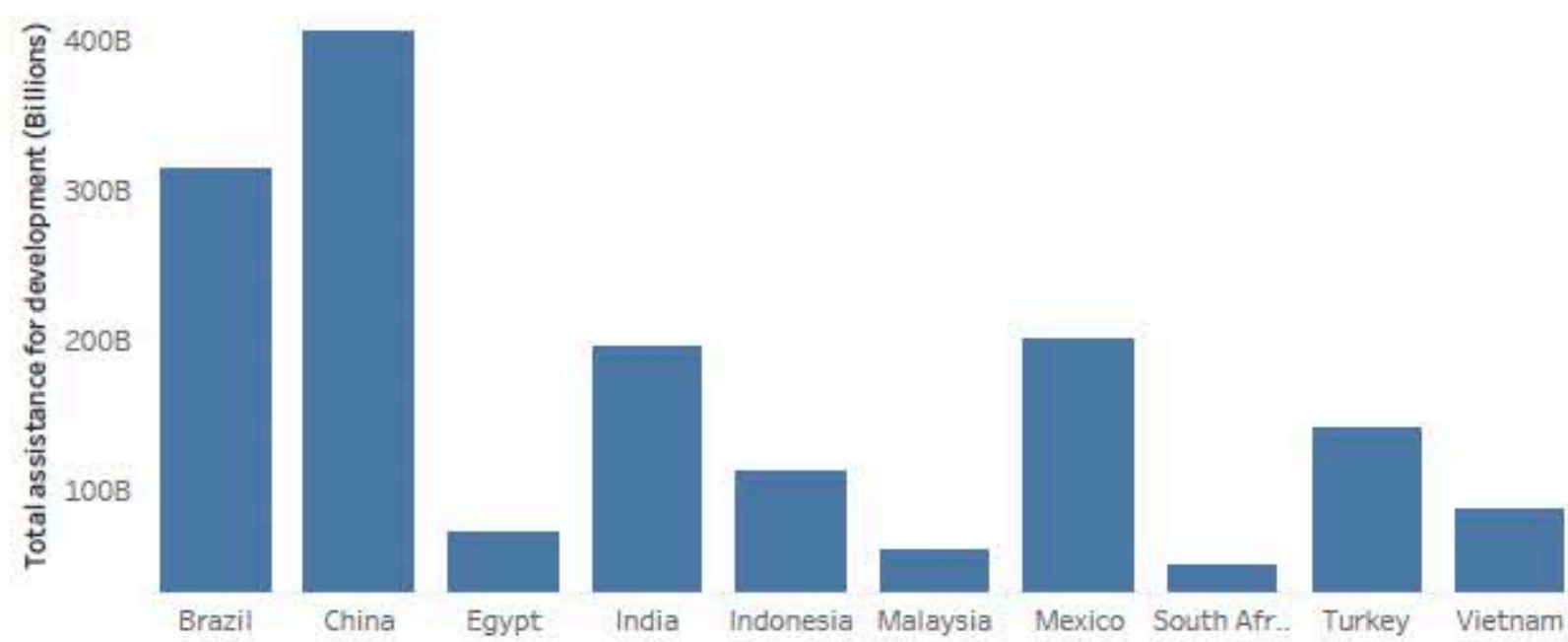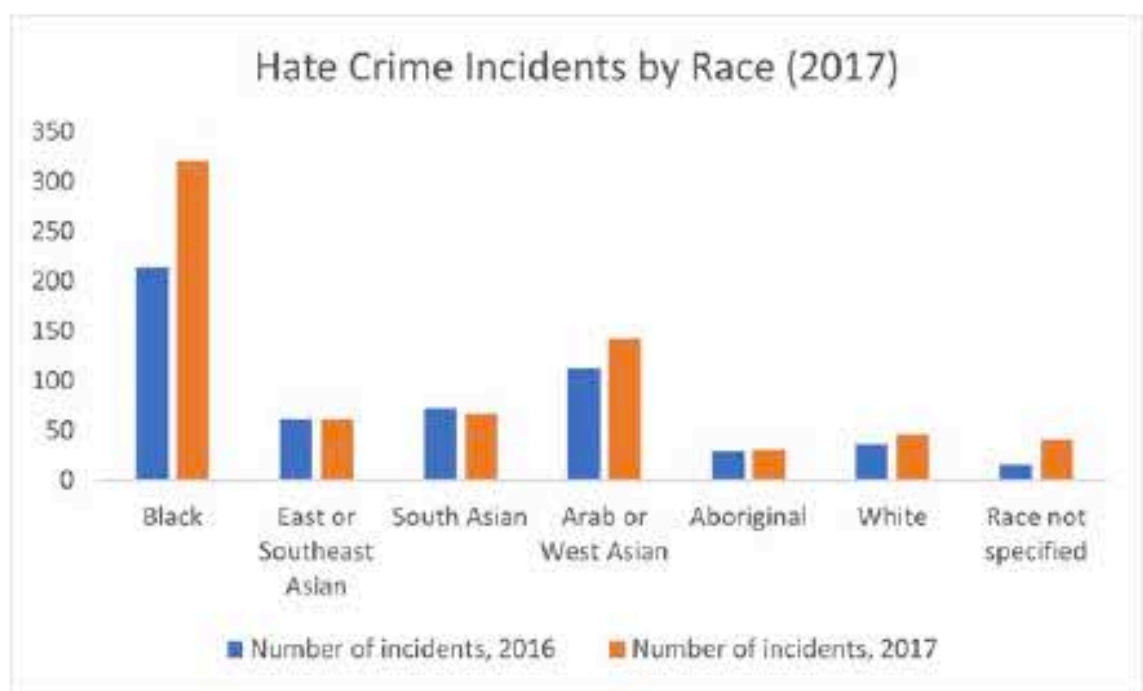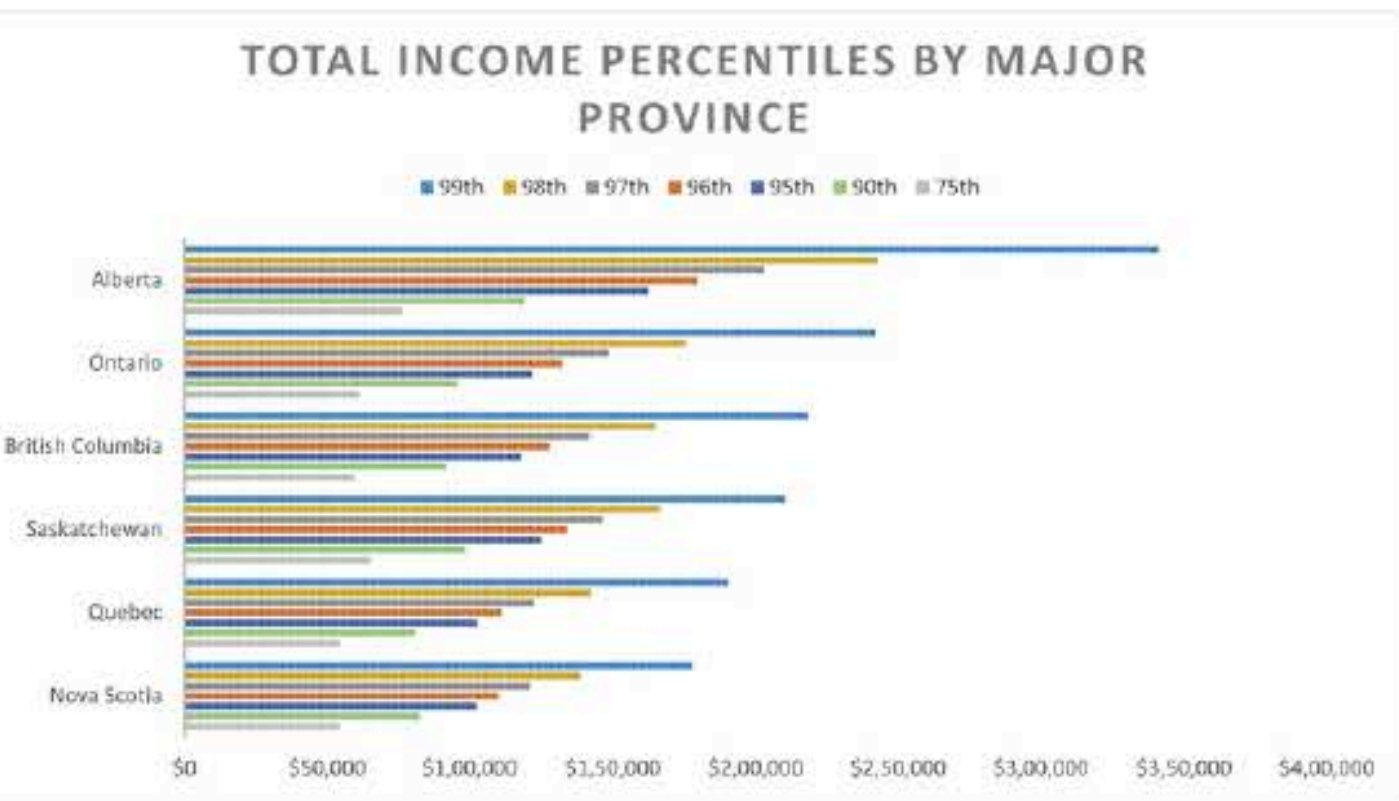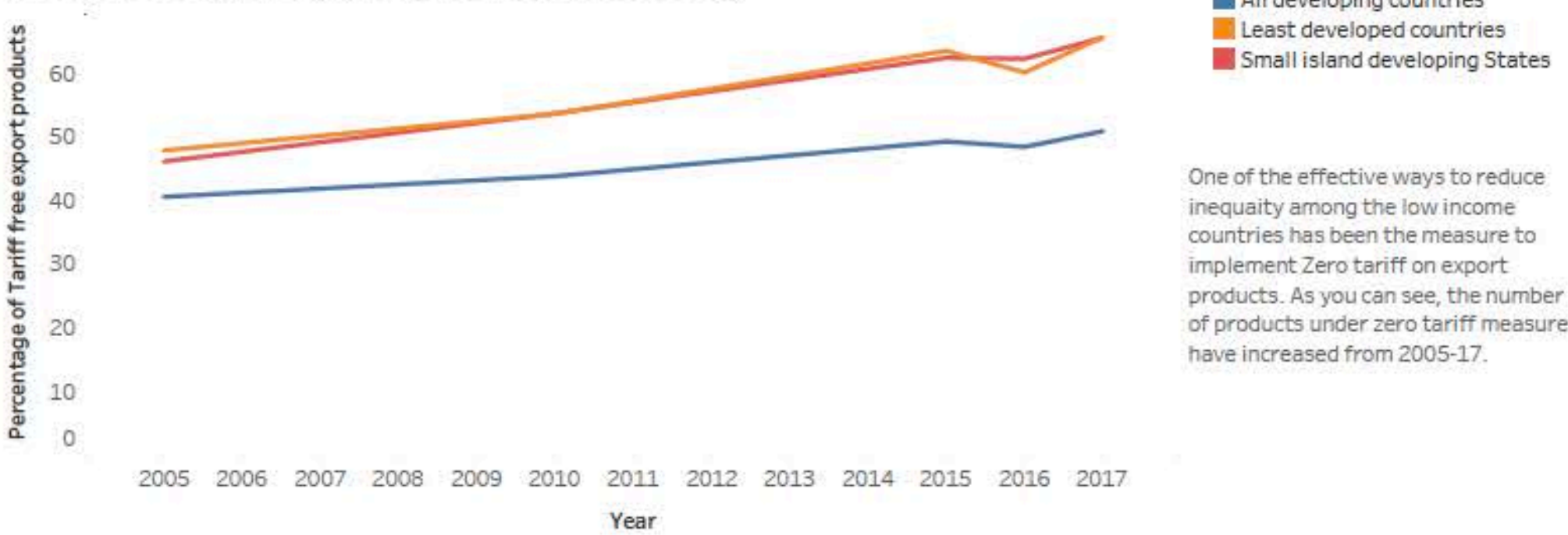
## Countries that have recived the highest assistance for development between 2010-2019



Out of 7 countries which have the highest inequality rate, only South Africa and Brazil appear in the list of top 10 countries that have received the highest amount of financial assistance in the years 2010-19.
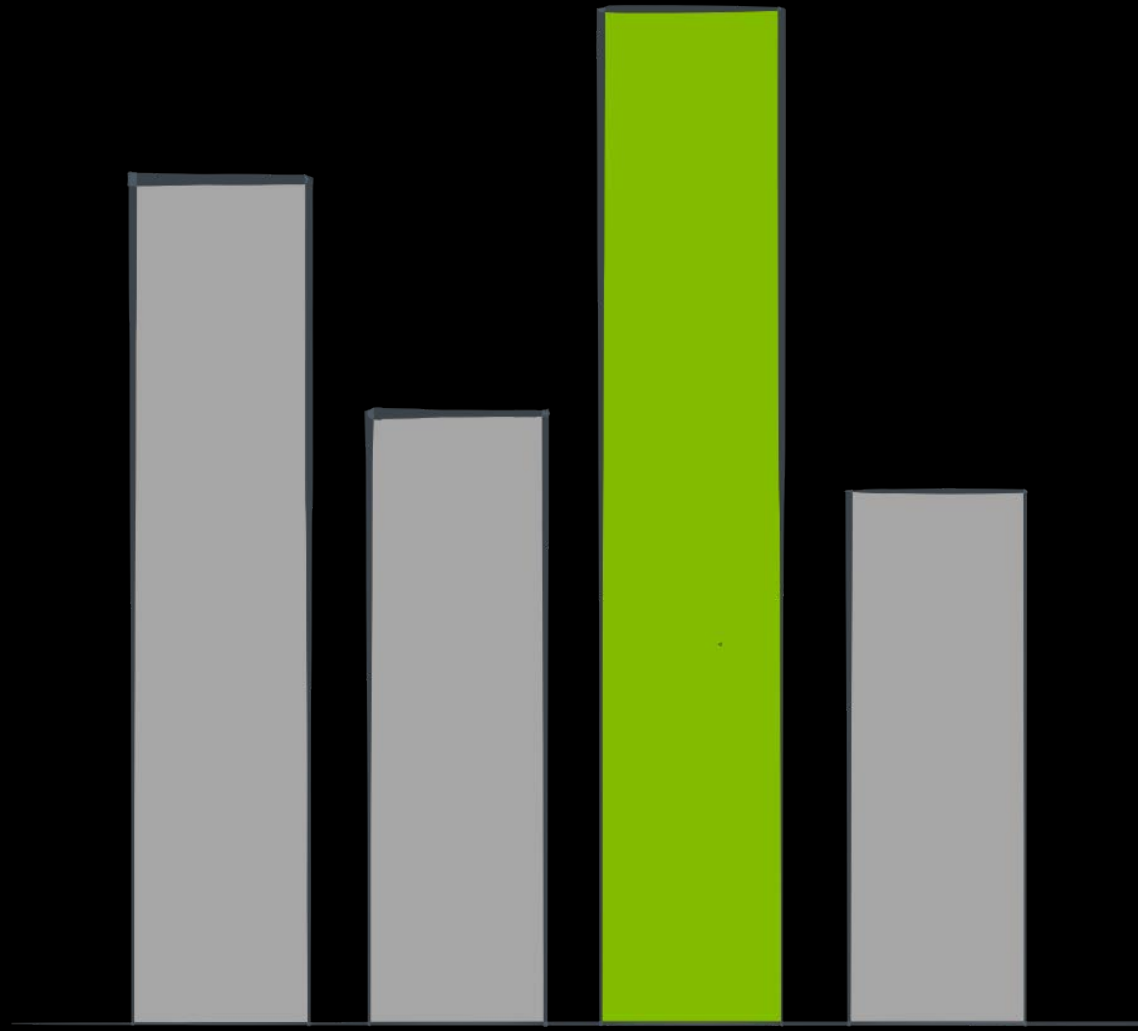
China, despite having a low income inequality has received the highest amount of assistance. Such inequality in granting assistance may further lead to higher income inequality.

## HOW DOES CANADA FAIR IN ACHIEVING THE GOAL OF REDUCING INEQUALITY?

## Tariff free export (%) of products (2005-17)

**Measure Names**
- All developing countries
- Least developed countries
- Small island developing States



One of the effective ways to reduce inequaity among the low income countries has been the measure to implement Zero tariff on export products. As you can see, the number of products under zero tariff measure have increased from 2005-17.

## Total Income percentiles in Canada (Male, Female)



Gender income inequalities acutely impacting those who are already disadvantaged, including girls and women

## TOTAL INCOME PERCENTILES BY MAJOR PROVINCE

99th  98th  97th  96th  95th  90th  75th



## TOTAL INCOME PERCENTILE BY AGE

20th    80th



Distribution of income by different ages demonstrate inequalities across different ages. The inequality is significant for people between the age of 37 and 53 years

## Hate Crime Incidents by Race (2017)



Number of incidents, 2016    Number of incidents, 2017

In 2017, 43% of all police-reported hate crime was motivated by race/ethnicity Whereas 50% increase seen in police reported hate crime motivated by black race

References:
https://ourworldindata.org/grapher/income-share-held-by-richest-10?time=2013
https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dv-vd/inc-rev/index-eng.cfm#chrt-dt-tbl

Submitted By: Team Datvision
Abhay Punia
Rohan Gupta

# DDJM

UNB | International Business & Entrepreneurship Centre
EST. 1785
UNIVERSITY OF NEW BRUNSWICK
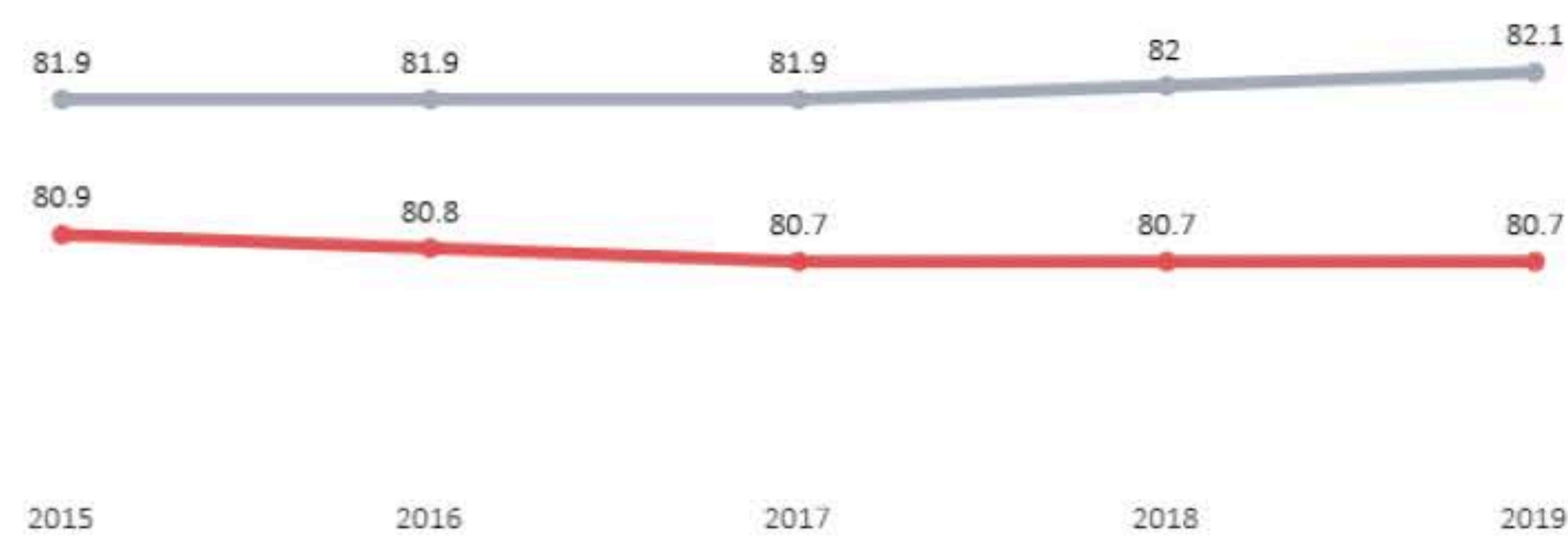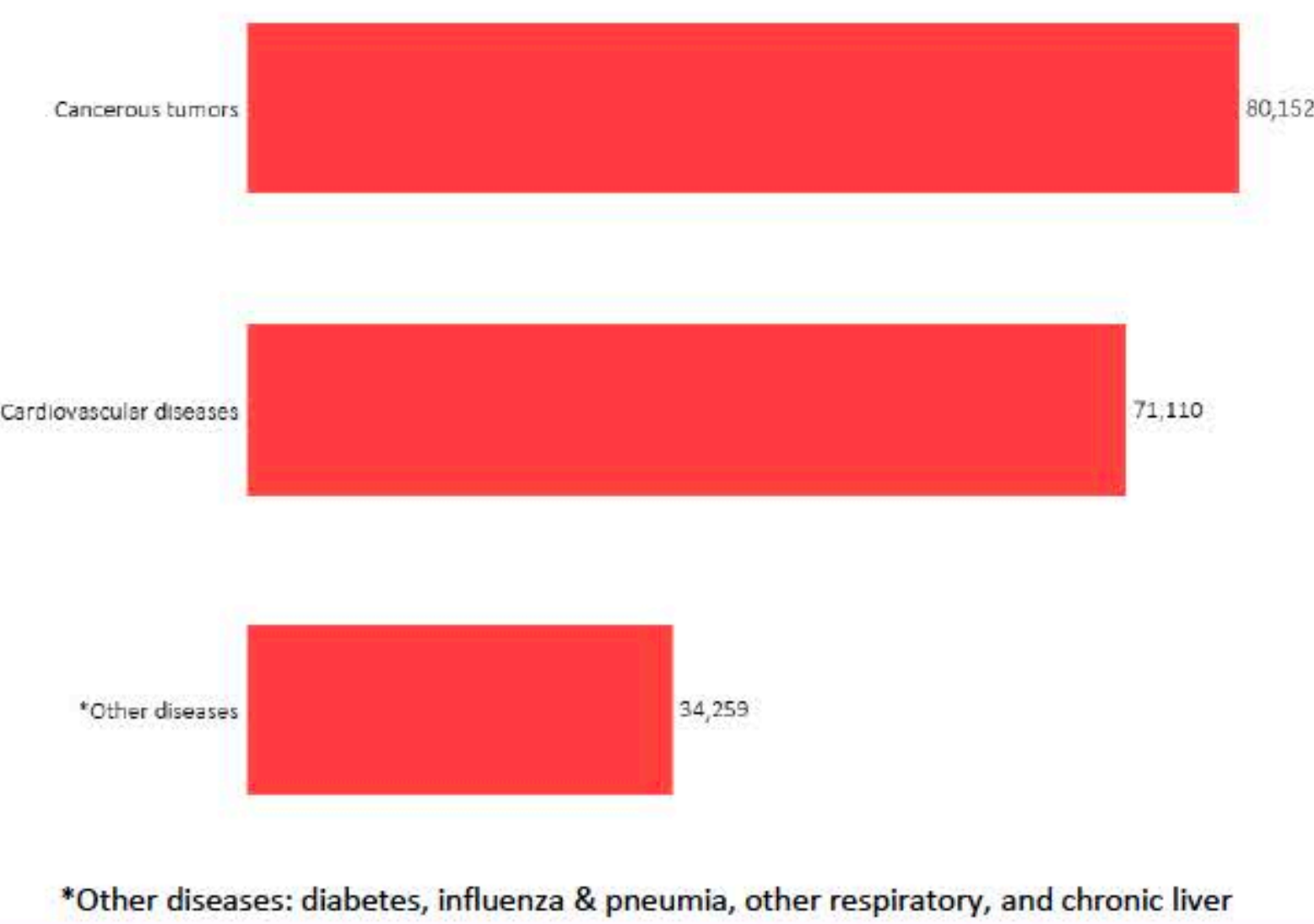
# How to Make New Brunswickers Healthier ?

New Brunswickers live approx. **1 year and 4 months** shorter than the average Canadian

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| | 81.9 | 81.9 | 81.9 | 82 | 82.1 |
| | 80.9 | 80.8 | 80.7 | 80.7 | 80.7 |

## Leading Causes of Death in Canada in 2019

Cancerous tumors — 80,152

Cardiovascular diseases — 71,110

*Other diseases — 34,259

*Other diseases: diabetes, influenza & pneumia, other respiratory, and chronic liver

## Preventable mortality rate per 10,000 people

| | 2013 to 2015 | 2014 to 2016 | 2015 to 2017 |
|---|---|---|---|
| Canada | 138.8 | 138.8 | 139.7 |
| NB | 170.8 | 179.7 | 178.9 |

Canada  NB
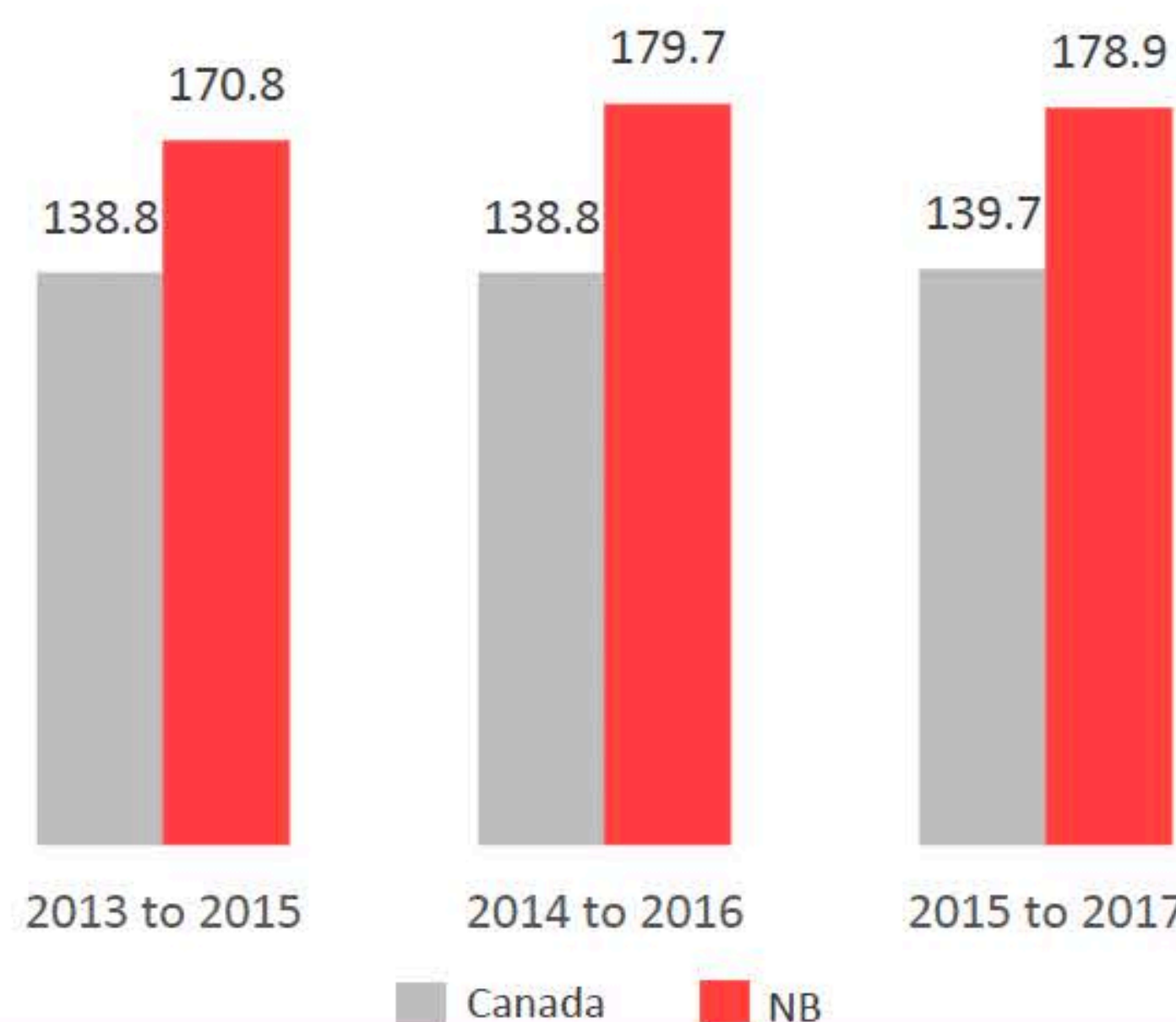
**49%** Have **NO** regular physical activity

**80%** Eat fruits and vegetables **less than** 5 times per day

**$7,082** Health expenditure per capita

## Recommendations

- Educate & promote healthy eating at a younger age
- Better access & pricing to healthier food products
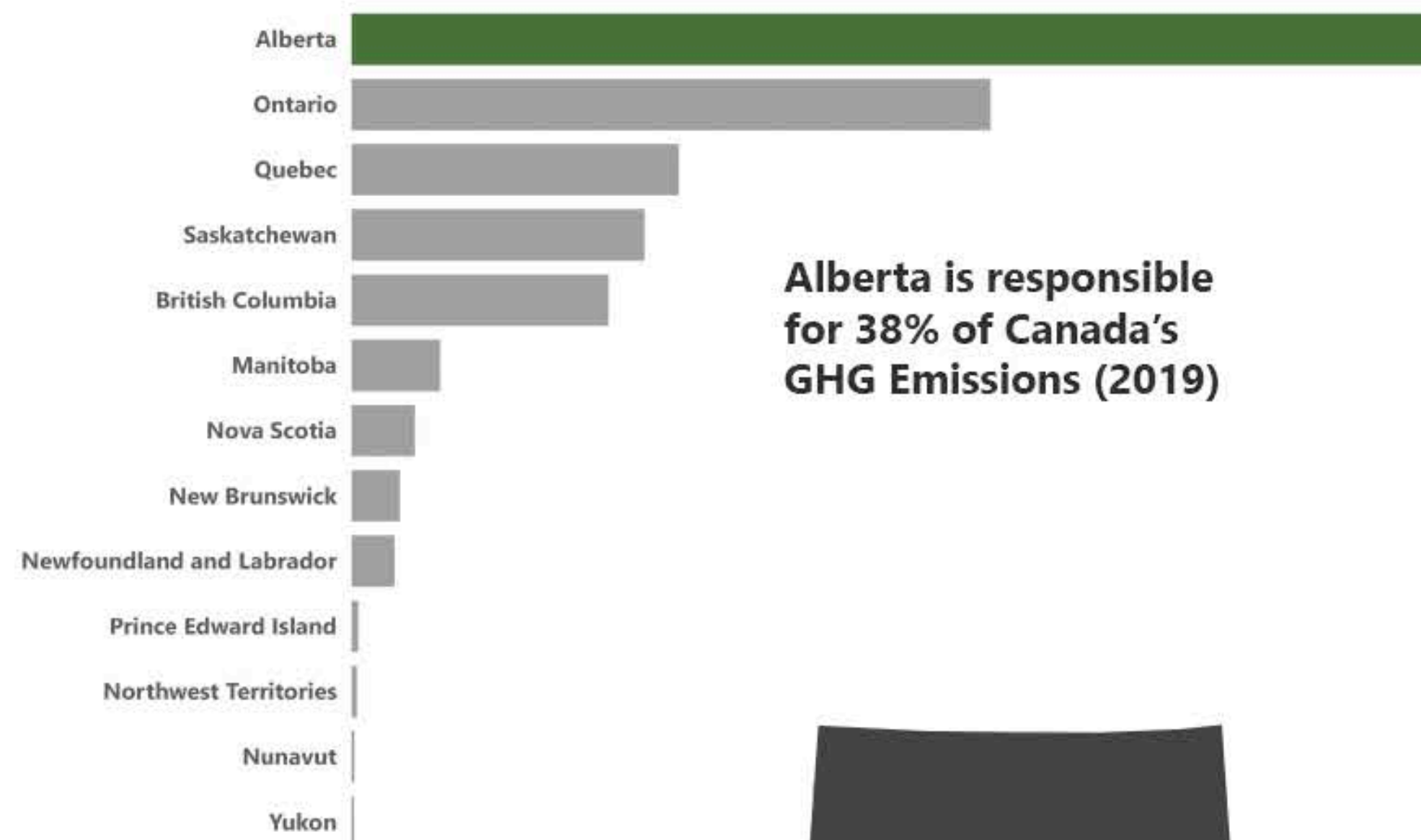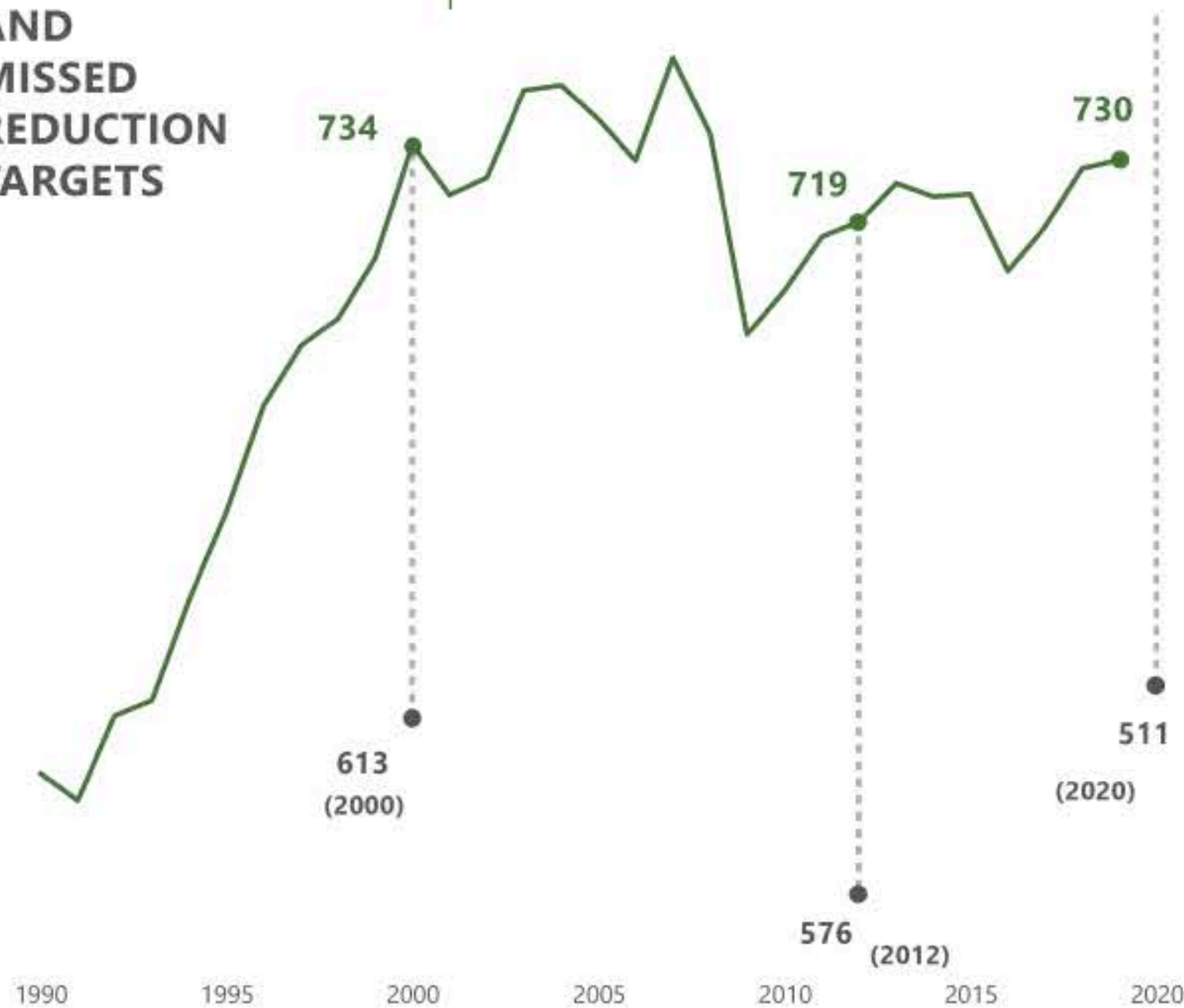- More affordable facilities
- Raise awareness through social media

Team: DDJM

Canadian Institute for Health Information
Institut canadien d'information sur la santé

Statistics Canada    Statistique Canada

# Decrypt OTU

UNB | International Business &
EST. 1785
UNIVERSITY OF NEW BRUNSWICK | Entrepreneurship Centre

# ALBERTA OIL SANDS

## OUR BIGGEST ECONOMY DRIVER, BUT AT WHAT COST?

**CANADA HAS MISSED EVERY REDUCTION TARGET (STARTING FROM 1992 RIO SUMMIT)**

**13 CLIMATE ACTION**

**MAJOR CHALLENGES REMAIN FOR CLIMATE ACTION SDG AND CANADA IS STAGNATING OR INCREASING AT LESS THAN 50% OF REQUIRED RATE**

**CANADA GHG EMISSIONS AND MISSED REDUCTION TARGETS**

- ● Actual GHG Emission (in Megatons)
- ● Target GHG Emission (in Megatons)

734
719
730
613 (2000)
511 (2020)
576 (2012)

1990  1995  2000  2005  2010  2015  2020

Alberta
Ontario
Quebec
Saskatchewan
British Columbia
Manitoba
Nova Scotia
New Brunswick
Newfoundland and Labrador
Prince Edward Island
Northwest Territories
Nunavut
Yukon

**Alberta is responsible for 38% of Canada's GHG Emissions (2019)**

## ALBERTA GHG EMISSION SOURCES

- ● Oil Sands
- ● Natural Gas
- ● Conventional Oil
- ● Other Sources

**Oil Sands are the biggest source of Alberta's GHG emissions and line beneath 142,200 sq km**

First Nation Reserve Lands

About 23,000 Indegenous people live in the oil sands region in Northeast Albera

Over the past 12 years, there has been an increase of 30% in cancer rates. in Fort Chipewyan (north of Fort McMurray - centre of Oil Sands)
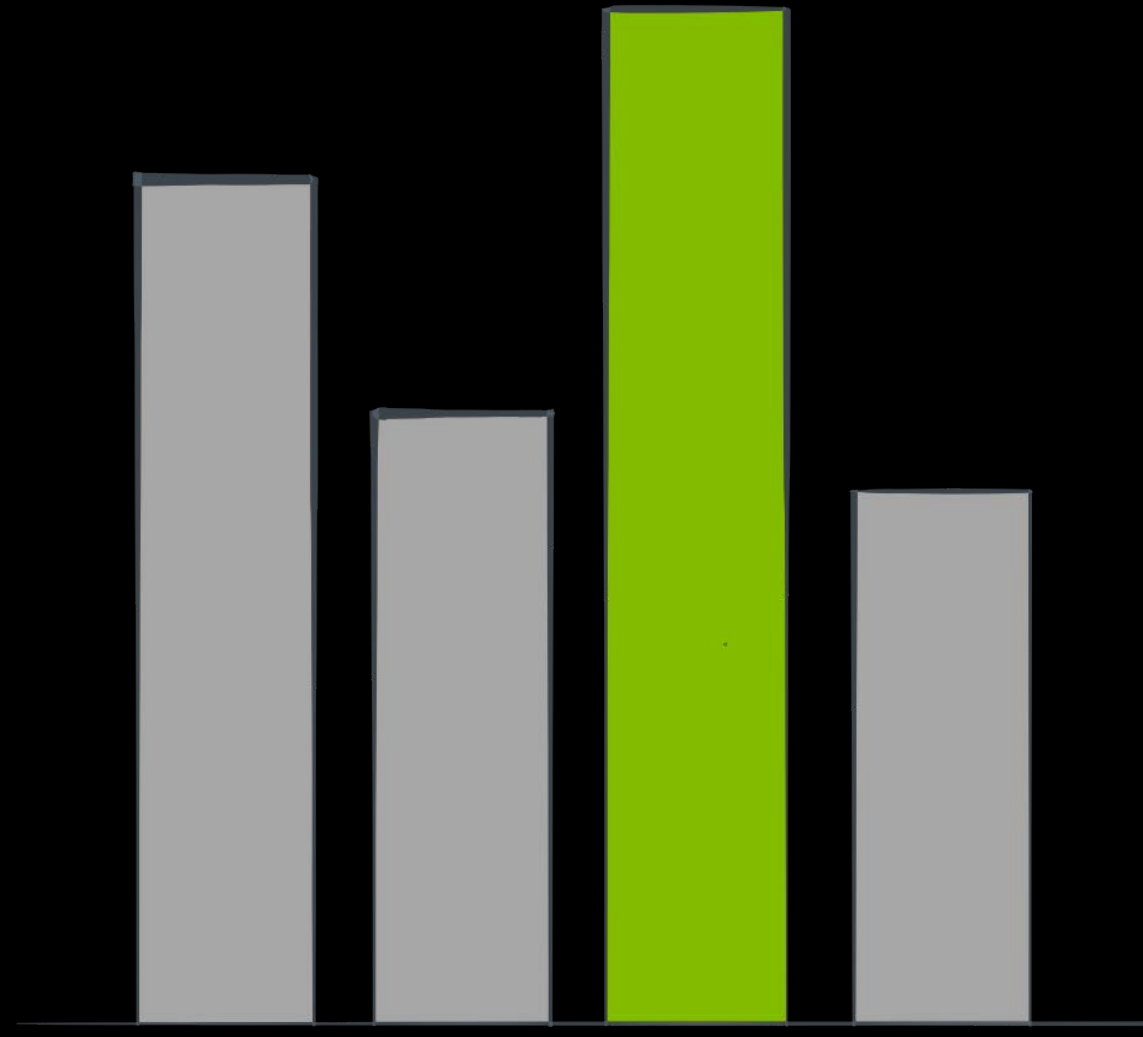
**Other SDGs affected:**
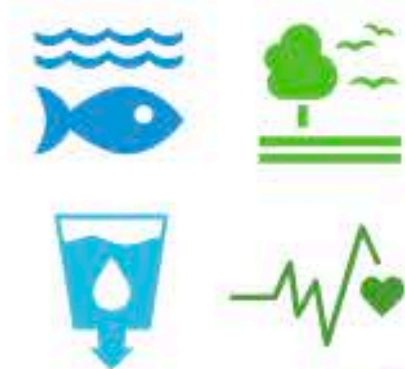
Industrial processes like tar sand mining creates toxic tailings lakes which poisons our canadian rivers and lakes. This also creates a negative impact on the species within the water bodies.

## RECOMMENDATIONS:

1. Investment in future leading technologies that are outlined by Provincial Energy Strategy to help slower the growth rate of the oil sands.

2. Establish a conservation offset program to protect areas in the oil sands region to help maintain and support provincial biodiversity and wetlands.

3. Collaborate with First Nations such as the Metis Settlement's in the oil sands region to obtain data on how the oil sands can impact Settlement land. Consult Aboriginal communities who are protected under section 35 to insure they are not impacted by the development of oil sands.

References:
https://open.alberta.ca/dataset/d1a56e4a-1b3d-40d5-94be-df0c042784c0/resource/4974c0fe-5bd7-4480-9801-4a681acfd740/download/4284820-2009-sse-responsible-actions-plan-albertas-oil-sands-2009-02.pdf
https://www.pembina.org/reports/briefingnotesonfoursep10.pdf
https://climateactionnetwork.ca/wp-content/uploads/2014/02/WaterandTarSandsReport_FINAL.pdf
https://dashboards.sdgindex.org/profiles/canada
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3060017/
https://www.cbc.ca/archives/entry/kyoto-a-very-real-deal
https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html
https://climateactiontracker.org/countries/canada/
https://commons.wikimedia.org/wiki/Category:Athabasca_oil_sands

# Eco-Minions

Team 15/27

UNB | International Business & Entrepreneurship Centre
UNIVERSITY OF NEW BRUNSWICK | EST. 1785
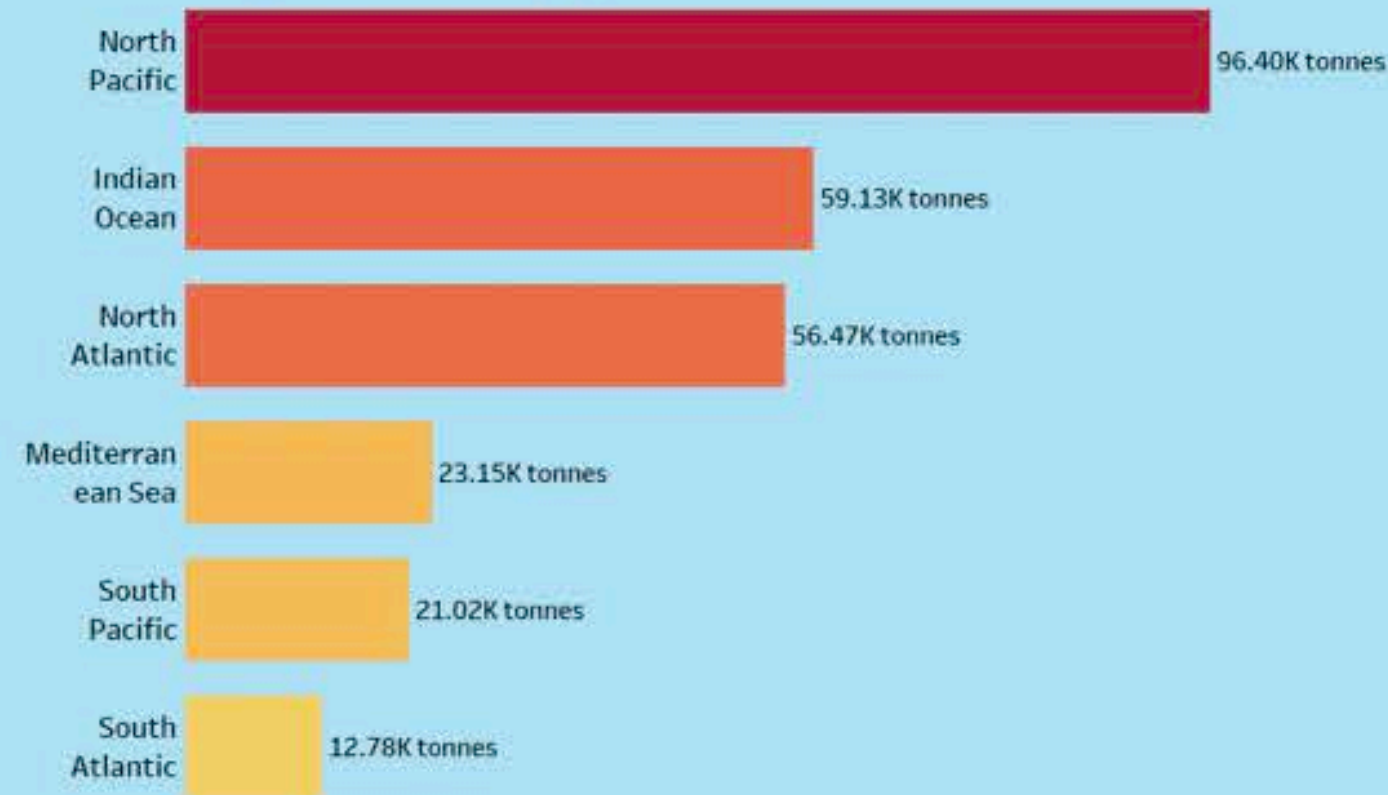
# Our Efforts Towards Plastic Reduction ARE THEY ENOUGH?

@Eco-Minions

## Drowning In Plastic?

**Ocean pollution by plastics**

| Region | Tonnes |
|---|---|
| North Pacific | 96.40K tonnes |
| Indian Ocean | 59.13K tonnes |
| North Atlantic | 56.47K tonnes |
| Mediterranean Sea | 23.15K tonnes |
| South Pacific | 21.02K tonnes |
| South Atlantic | 12.78K tonnes |

**80** % of Marine Pollutants is Plastic

**02** Most Polluted Oceans Surround Canada

*Based on reports for the year 2016

## Where Canada's plastic waste went?

**Incineration** 4%

**Recycling** 9%

**Unknown** 1.3%

**Unmanaged Dumps** 0.9%

**Landfill** 84.8%
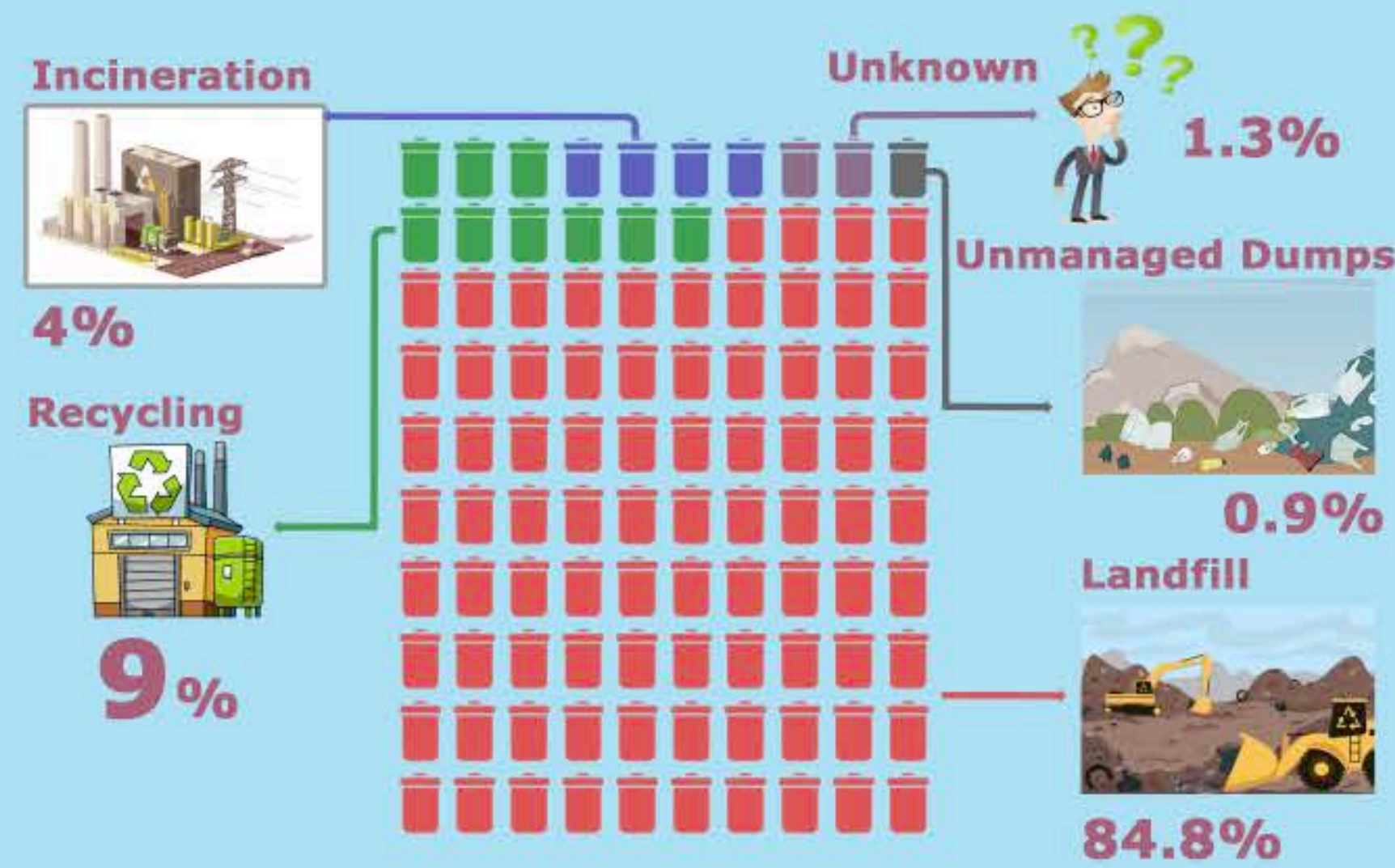
## New Brunswick lagged behind other provinces in Plastic Waste Recycling efforts

- Quebec 24.55%
- British Columbia 16.17%
- Ontario 8.33%
- Alberta 6.19%
- New Brunswick 2.10%

**9%** of Plastic Waste Recycled in Canada

**2%** of Plastic Waste Recycled in NB

*Based on reports for the year 2016

## New Brunswick became the third highest plastic consumer per capita in Canada

| Province | Kg |
|---|---|
| Alberta | 129 Kg |
| Ontario | 104 Kg |
| New Brunswick | 91 Kg |
| British Columbia | 84 Kg |
| Quebec | 68 Kg |

**45Kg** is global per capita plastic consumption (2015)

**121Kg** is Canada's is per capita plastic consumption

**91Kg** NB's per capita plastic consumption is higher than Global and larger provinces such as Quebec & BC
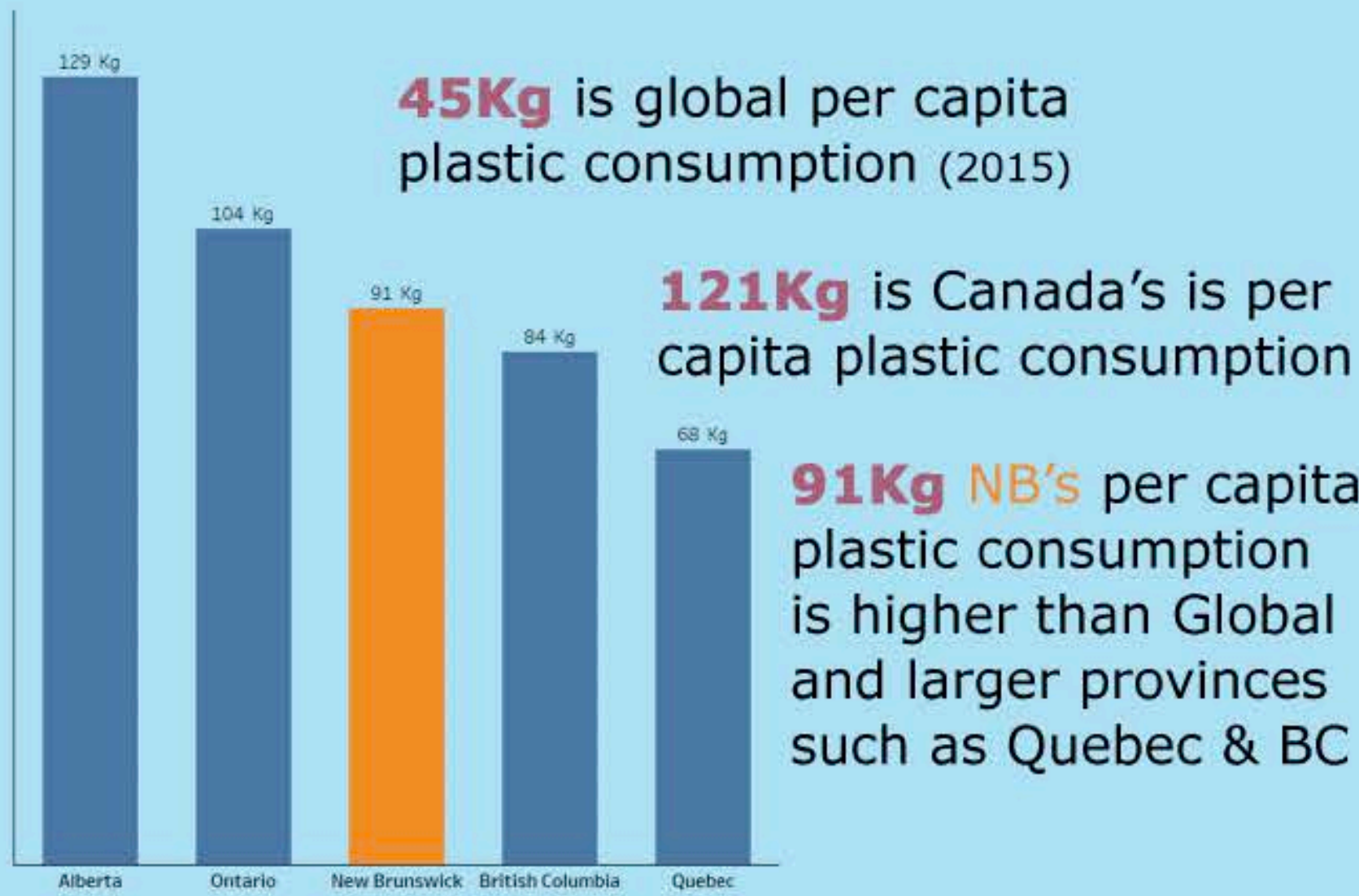
## What is driving the increase in plastic consumption in Canada?

**47%** (1,542 Million tonnes) plastic used in **Packaging**

**10%** (309 Million tonnes) plastic used in **Automotives**

**7%** (235 Million tonnes) plastic used in **Textiles**

**7%** (214 Million tonnes) plastic used in **Electronic Equipment**

**5%** (175 Million tonnes) plastic used in **Construction**

**4%** (130 Million tonnes) plastic used in **White Goods**

**20%** (662 Million tonnes) plastic used in **Other Sectors**
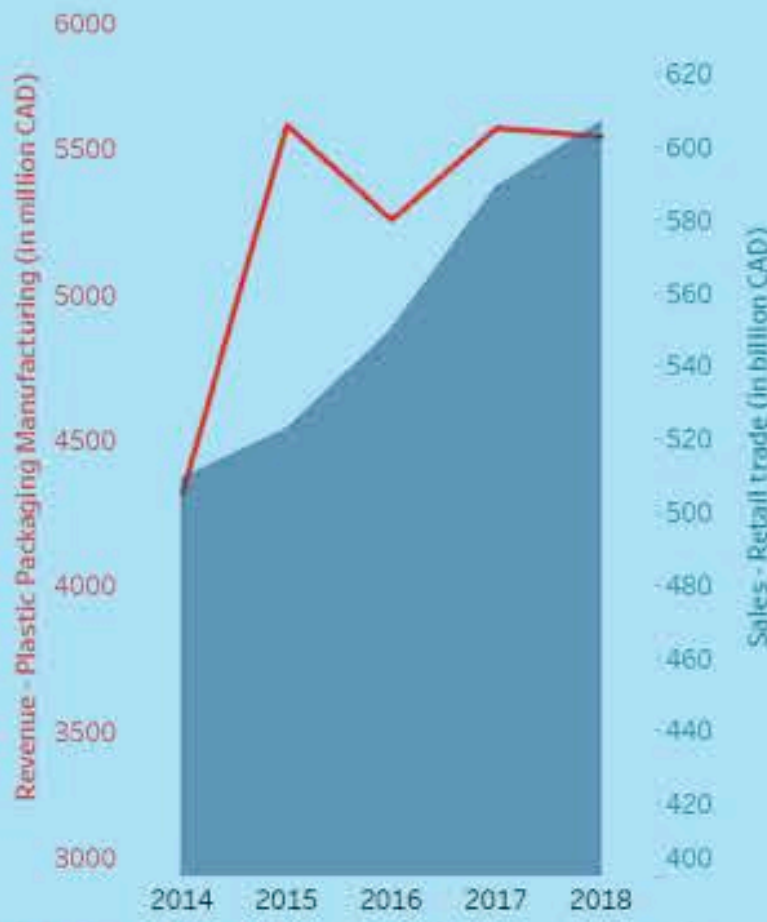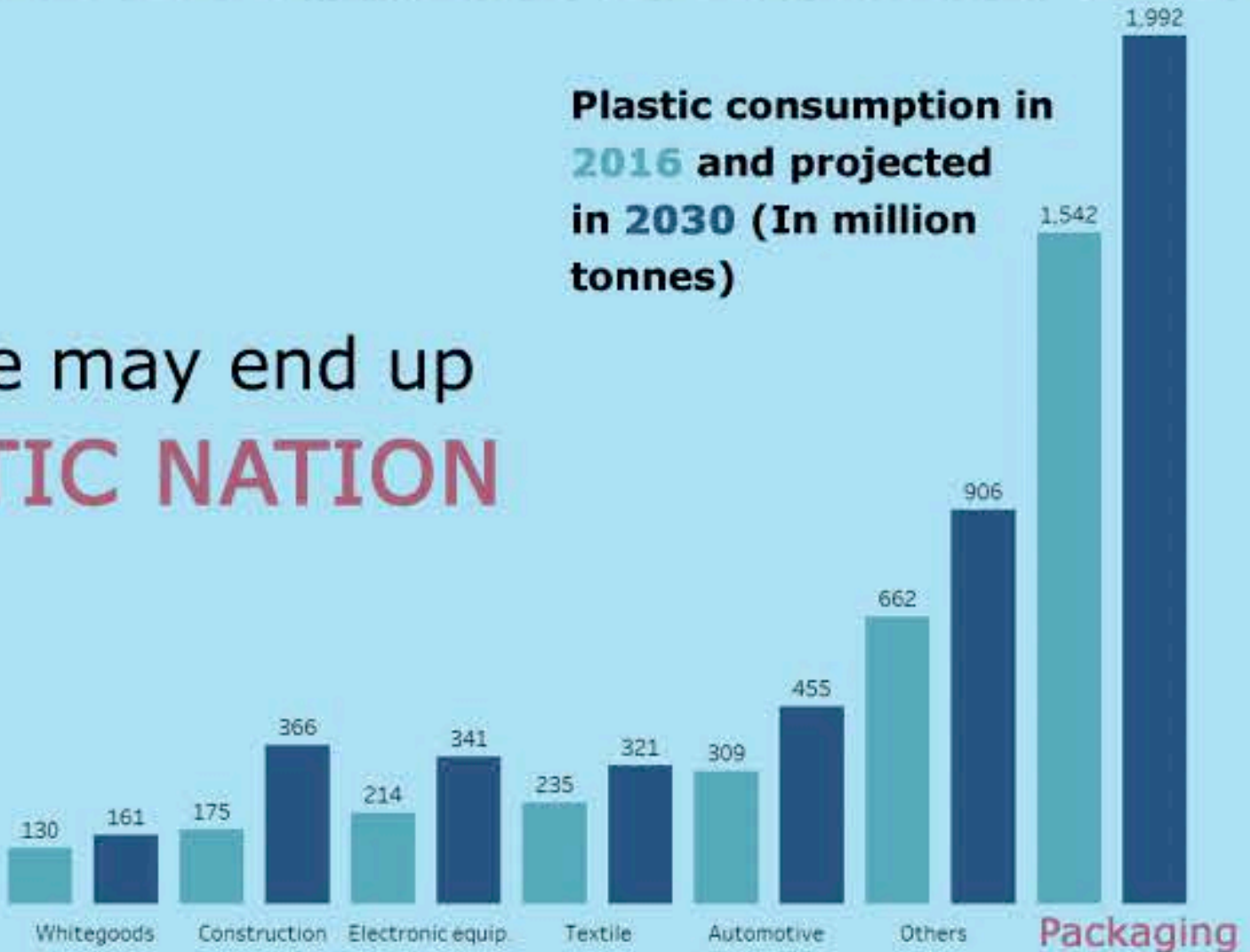
**Retail Sales** are increasing consumption of plastics

*Based on reports for the year 2016

## Everyone needs to-

- (X) **Refuse :** Single-use plastics
- (↓) **Reduce:** Provide plastic-free options
- (↻) **Reuse :** Increase recycling and reuse plastics
- (⊕) **Rethink:** Promote reduction-based solution

or By **2030**, we may end up as a **PLASTIC NATION**

**Plastic consumption in 2016 and projected in 2030 (In million tonnes)**

| Category | 2016 | 2030 |
|---|---|---|
| Whitegoods | 130 | 161 |
| Construction | 175 | 366 |
| Electronic equip. | 214 | 341 |
| Textile | 235 | 321 |
| Automotive | 309 | 455 |
| Others | 662 | 906 |
| Packaging | 1,542 | 1,992 |

**Prepared by:** Sumit Raju, Amber Chowdhury, Kashish Dargan, Rahul Sachdev

**Sources:** Ourworldindata.org, The Globe and Mail Environment and Climate Change- Canada, Statista.com, researchgate.net
National Waste Characterization Report- 2020, Environment and Climate Change- Canada, National Waste Characterization Report- 2020

# Fredericton Composting Consultants

Team 16/27

# FREDERICTON: DE-COMPOSING A SUSTAINABLE FUTURE

Presented by: The Fredericton Composting Consultants
Abhisarika Alagala, Alex Dandridge, Jason Currie, and Subomi Ishola-Iemomu

## 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

12.5: By 2030, substantially **reduce waste generation** through prevention, reduction, **recycling and reuse.**
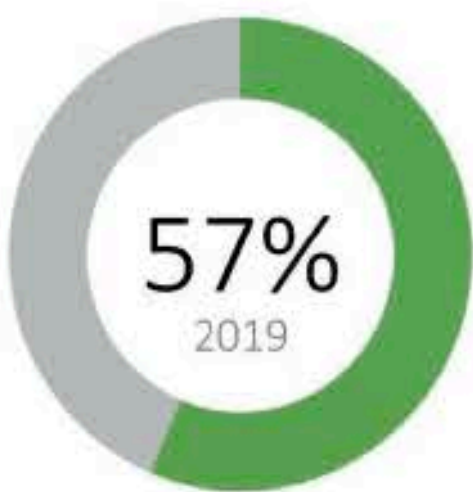
### What's In The Landfill?

26% Food Scraps

34% Other Recyclables

40% Actual Waste
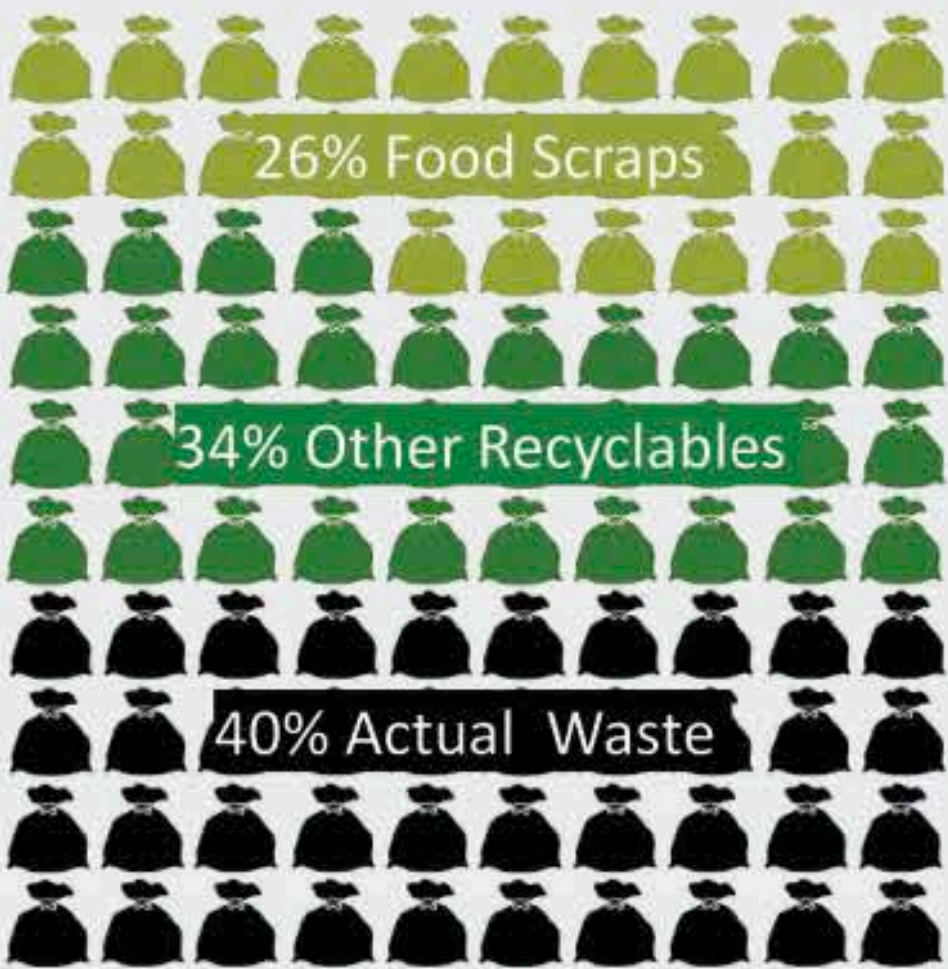
**26%** of landfill waste is **food scraps** that could be composted

### The Benefits of Curbside Compost

Extend Landfill Life by 10 Years

Reduce Use of Harmful Fertilizers

Profit From the Sale of Processed Compost Product

## Regional Service Commission by Population

Population
25812 — 178781

Regional Service Commission 11 is home to the City of **Fredericton** and **17%** of the **population** of New Brunswick, but the only major city without a compost program.
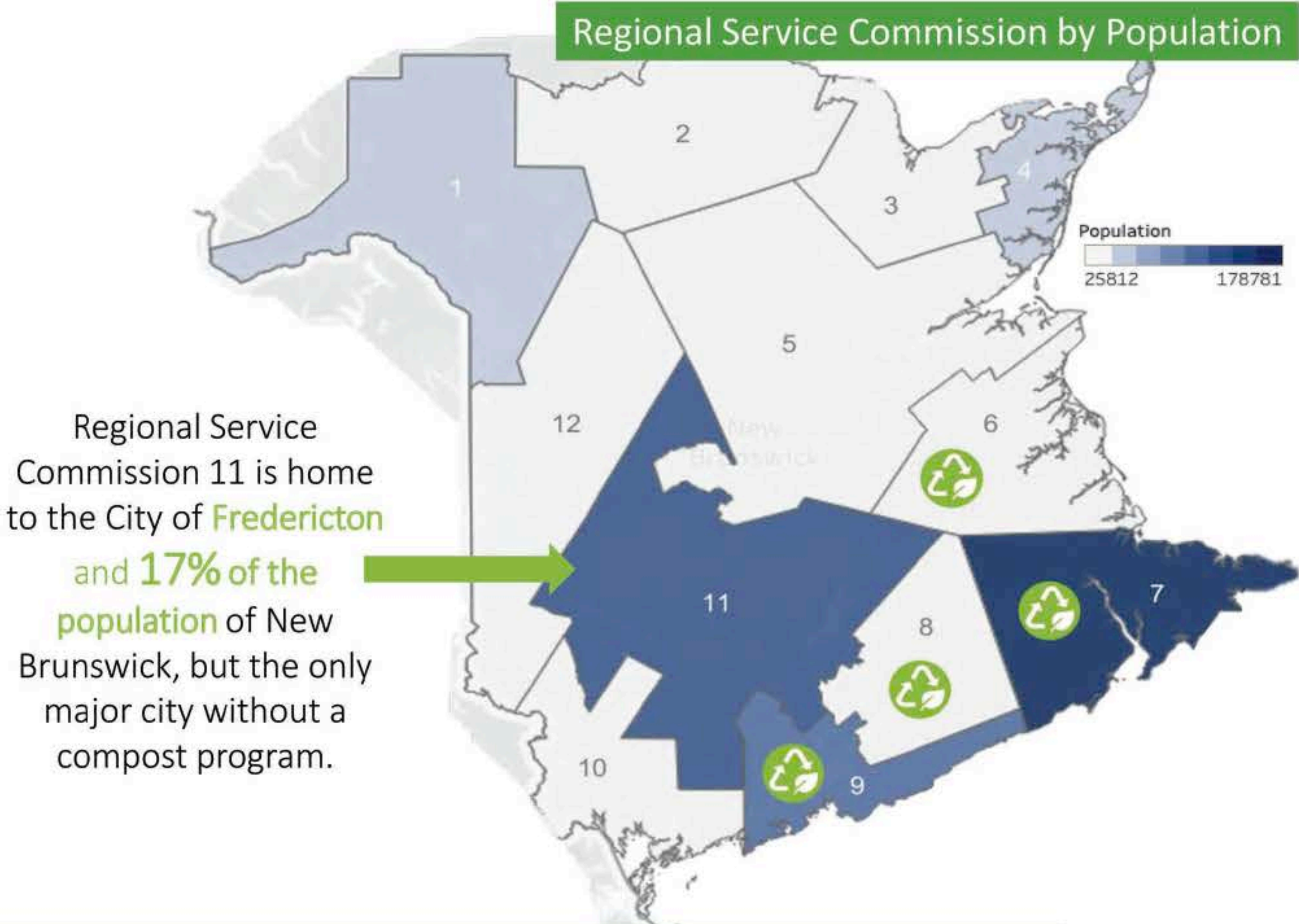
## A Local Case Study: If Halifax Can Do It, Why Not Fredericton?

**57%** 2019 — **Halifax** diverted **57% of residential waste** from the landfill through curbside recycling and compost.

**16%** 2020

**Fredericton** can divert at least **40% from the landfill** with a curbside compost program.

**40%** 2030
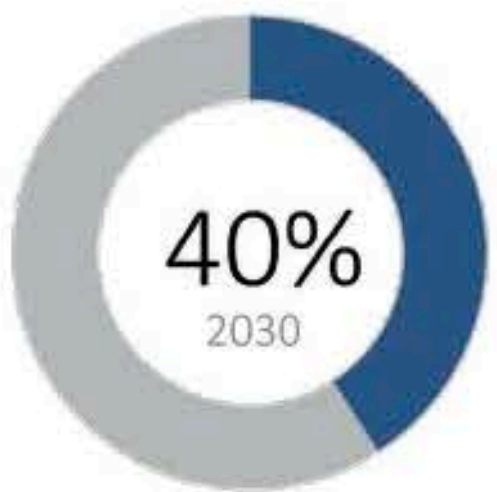
## Opportunity: What Does Residential Waste Collection Look Like With Compost?

In metric tonnes, forecasted after 2020

Diverting **food scraps** from the landfill is an equivalent of **215,000 tonnes diverted** over 30 years.

14,839 — Total Compost
13,360
11,772
13,458
12,818
12,920
Waste to Landfill
Recycled Waste

2000  2010  2020  2030  2040  2050

Private companies can work with municipalities to convert food scraps and other organics into compost that can be resold

AIM Environmental Group

Lifecycle™

peak compost

EcoPearl

## CALL TO ACTION: The City of Fredericton should implement a curbside compost program, modelled off similar programs in the Atlantic Region, to reduce waste generation and recycle and reuse organic waste.

# LAXA

UNB
EST. 1785
UNIVERSITY OF NEW BRUNSWICK

International Business &
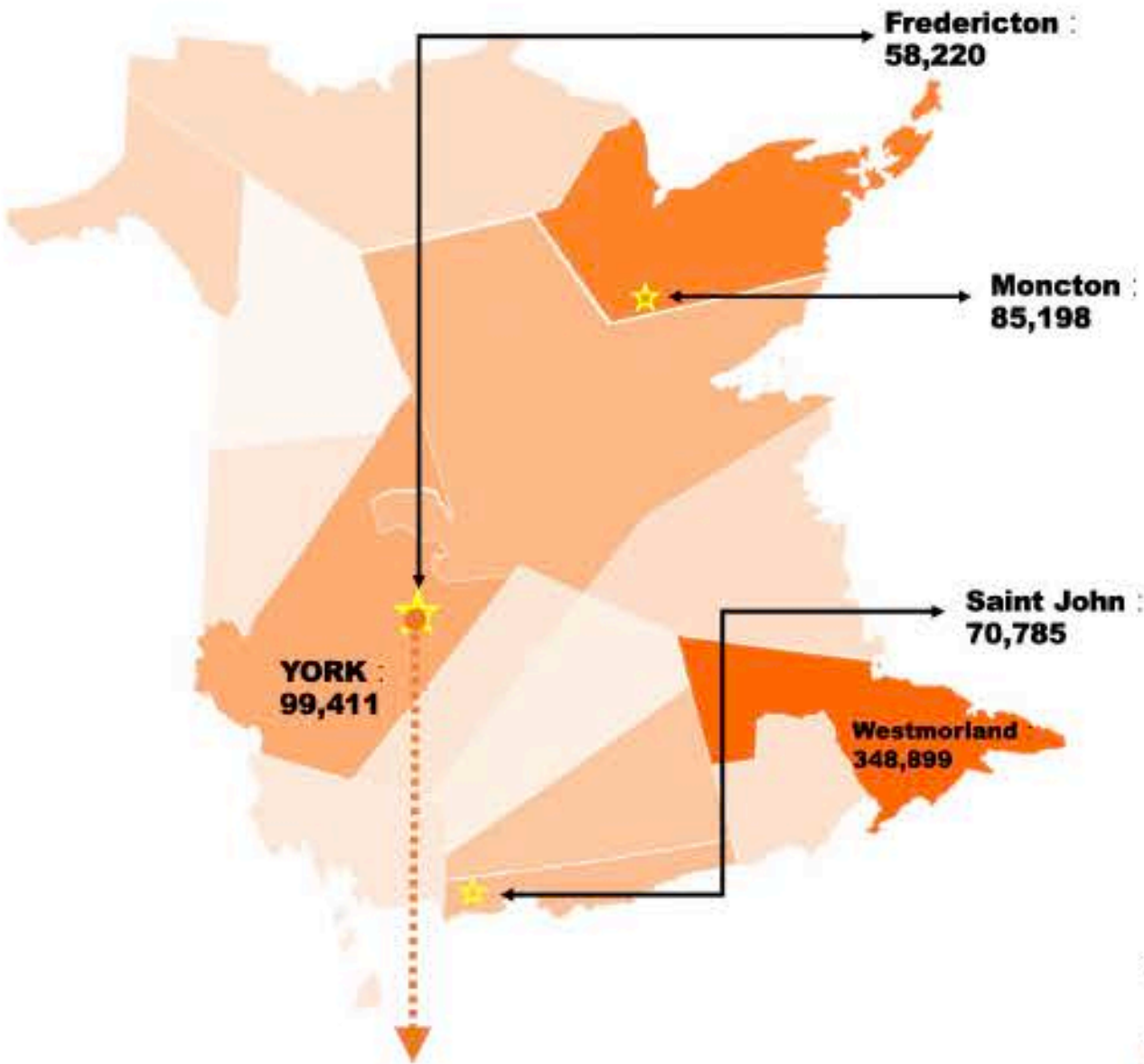Entrepreneurship Centre

# Face Masks: New Fashion? New Pollution!

Made by Group LAXA

Est. **3,000,000**
Disposable masks are being used **1 minute** globally

## How Many Masks Do New Brunswickers Use Per Week ?
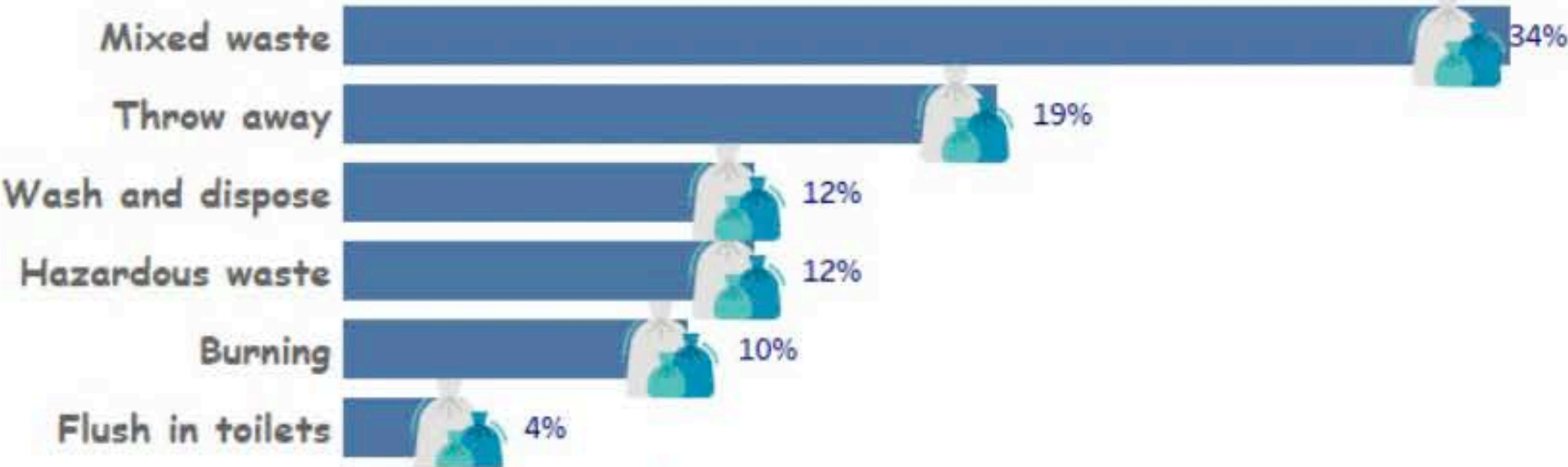
### Population of New Brunswick

Fredericton : 58,220
Moncton : 85,198
YORK : 99,411
Saint John : 70,785
Westmorland 348,899

**More** Mask Consumption

712,736 People

**60%** people will use **more than**

**X 3** masks per week

**=** Est. **2.1** million/week disposed masks

**Less** recycle efforts

*There is no official guidelines or regulations towards masks disposing or recycling in NB

In one week, Fredericton woman collects nearly 600 masks littering city

### How are the masks disposed ?

Mixed waste — 34%
Throw away — 19%
Wash and dispose — 12%
Hazardous waste — 12%
Burning — 10%
Flush in toilets — 4%

## Where Do All Masks Go ?

In Canada, less than **11%** plastic could be recycled
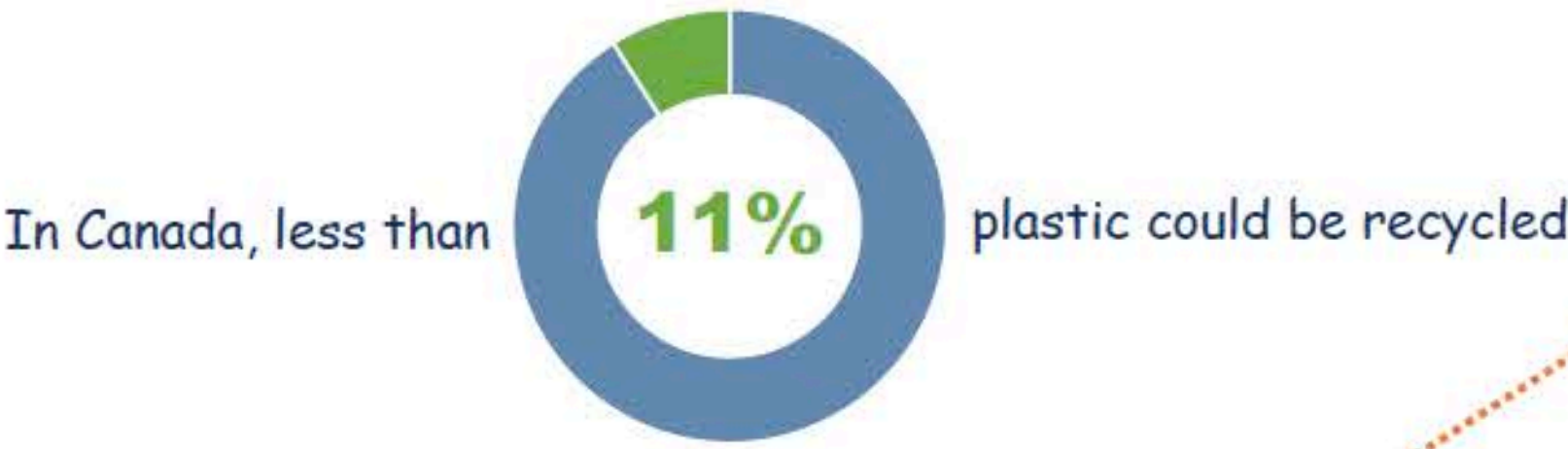
Approximately **63,000 tonnes** of COVID-19 related PPE could end up as waste

More than **1.56 billion** face masks could end up polluting oceans

## What Can We Do ?

### Properly Dispose & Recycle Our Masks

Plaxtil, a French company, has been recycling more than 50,000 face masks and produced up to 3,000 recycled items

### Strict Waste Management & More Financial Support

Service New Brunswick Nouveau

50,000

3,000

# LT <-> RT

UNB | International Business & Entrepreneurship Centre

EST. 1785
UNIVERSITY OF NEW BRUNSWICK

# Impact of Investment in Industrialization in New Brunswick

**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**

## Total Change observed in total investment. Why?

Investments reduced by $74 millions due to COVID crisis

- 2019: 1677
- 2020: 1603

## What was the major industries' contribution in 2020's economic impact?

- Construction 63%
- Information and Finance 21%
- Trade and Transportation 9%
- Manufacturing 8%
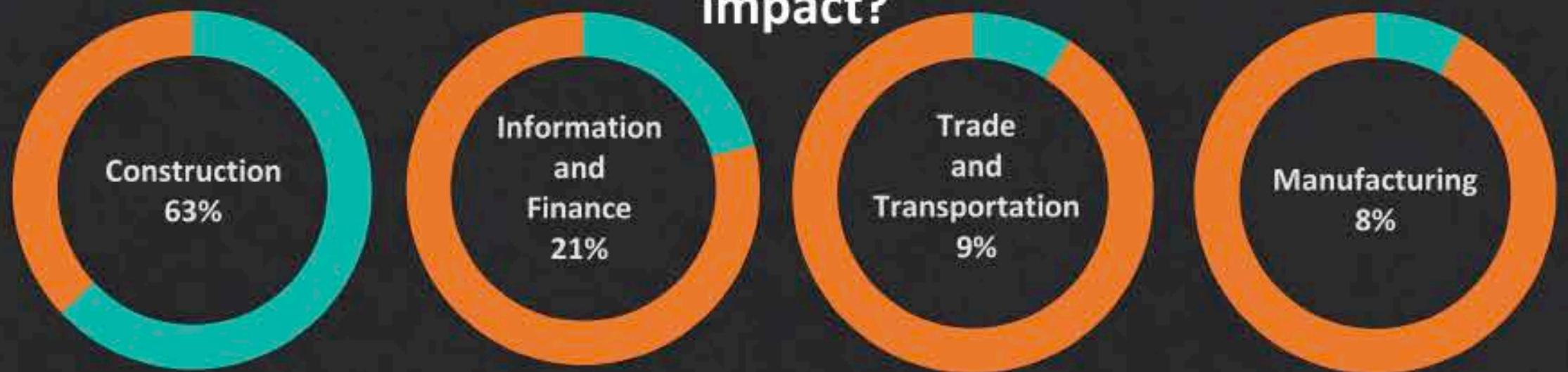
## How much invested? (in $ million)

- Electric Power Infrastructure
- Communication Networks
- Transportation Engineering
- Instituitional Buildings
- Commercial Buildings

**2020**
- 334
- 131
- 517
- 263
- 155

**2019**
- 391
- 153
- 497
- 255
- 170

**2018**
- 363
- 173
- 637
- 369
- 192
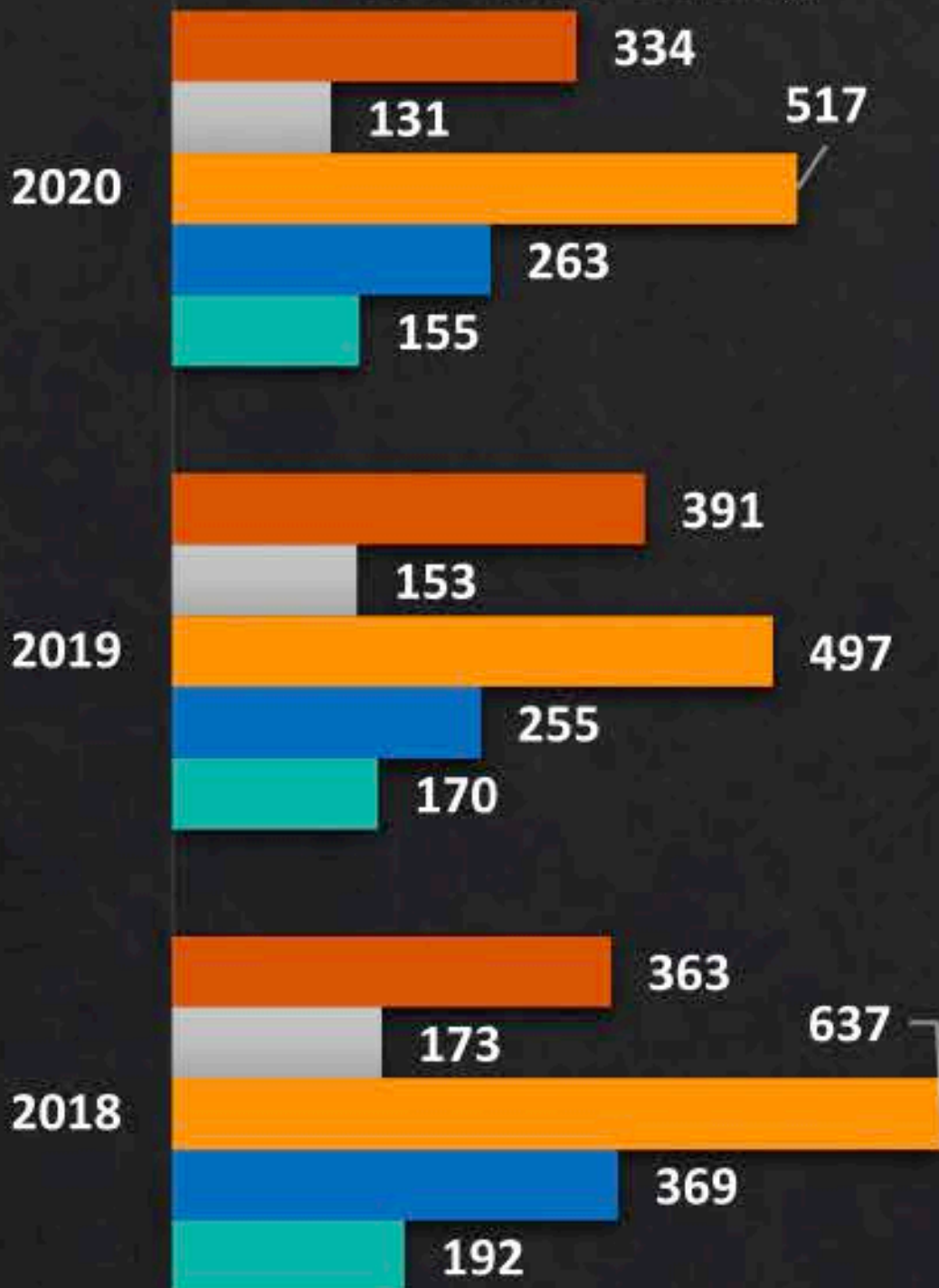
Transportation investment increased in 2020 by $20 million to keep the province functioning and connected at the time of crisis

12148 New Jobs in 2020

154% Startup's revenue growth in 2020

### Key Insights

Shutdown of Manufacturing industry imbalanced the Supply and Demand chain in 2020.

In 2020 the total impact of infrastructure investment was $1245 million.

Primary Industries' contribution of $36 million remains unaffected by COVID-19 due to their pivot towards the digital market.

## How much industrial push in economy? (In M$)

- Construction
- Information
- Manufacturing
- Transportation
- Primary industries

(Line chart axis: 0, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000; years 2018, 2019, 2020)
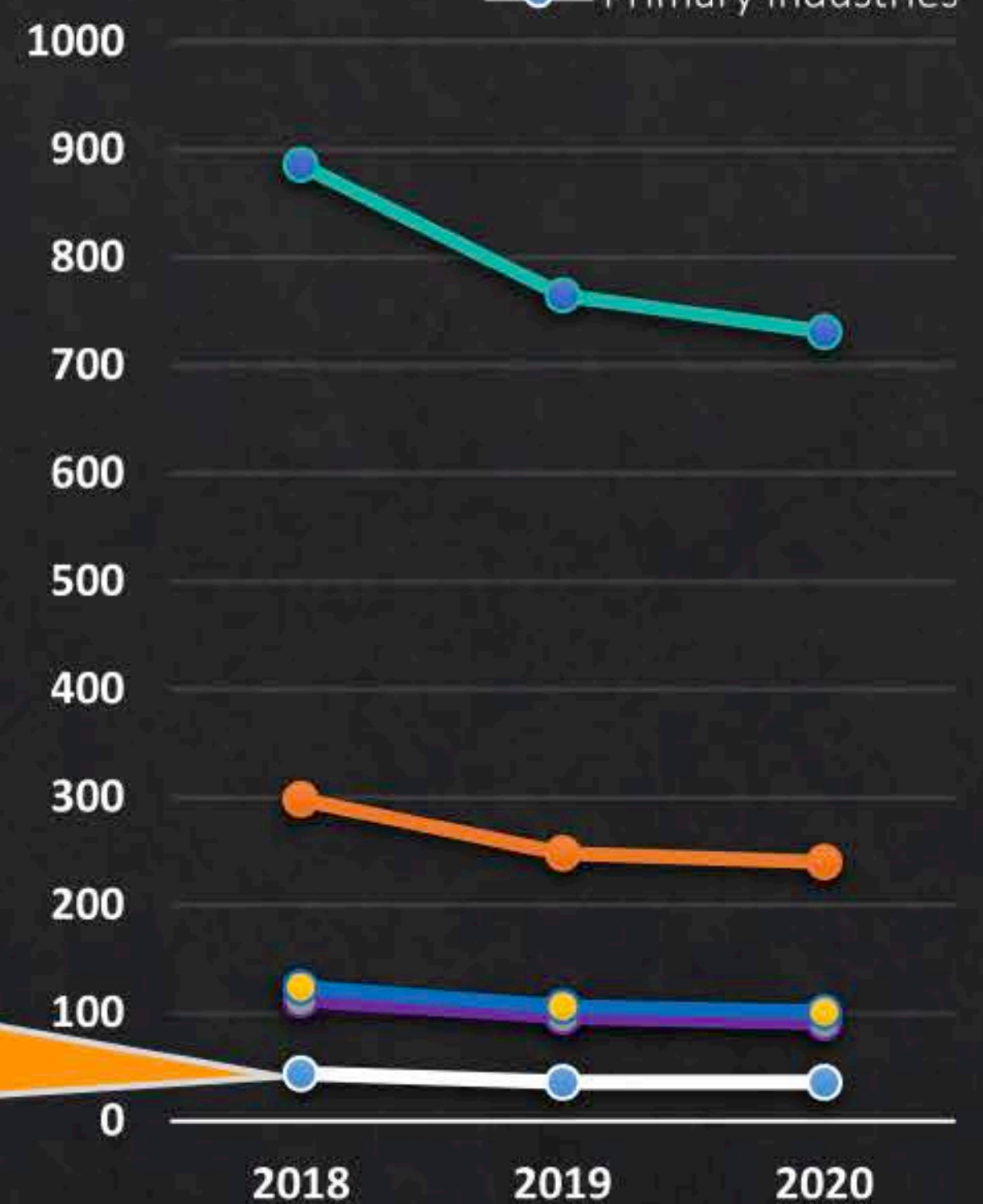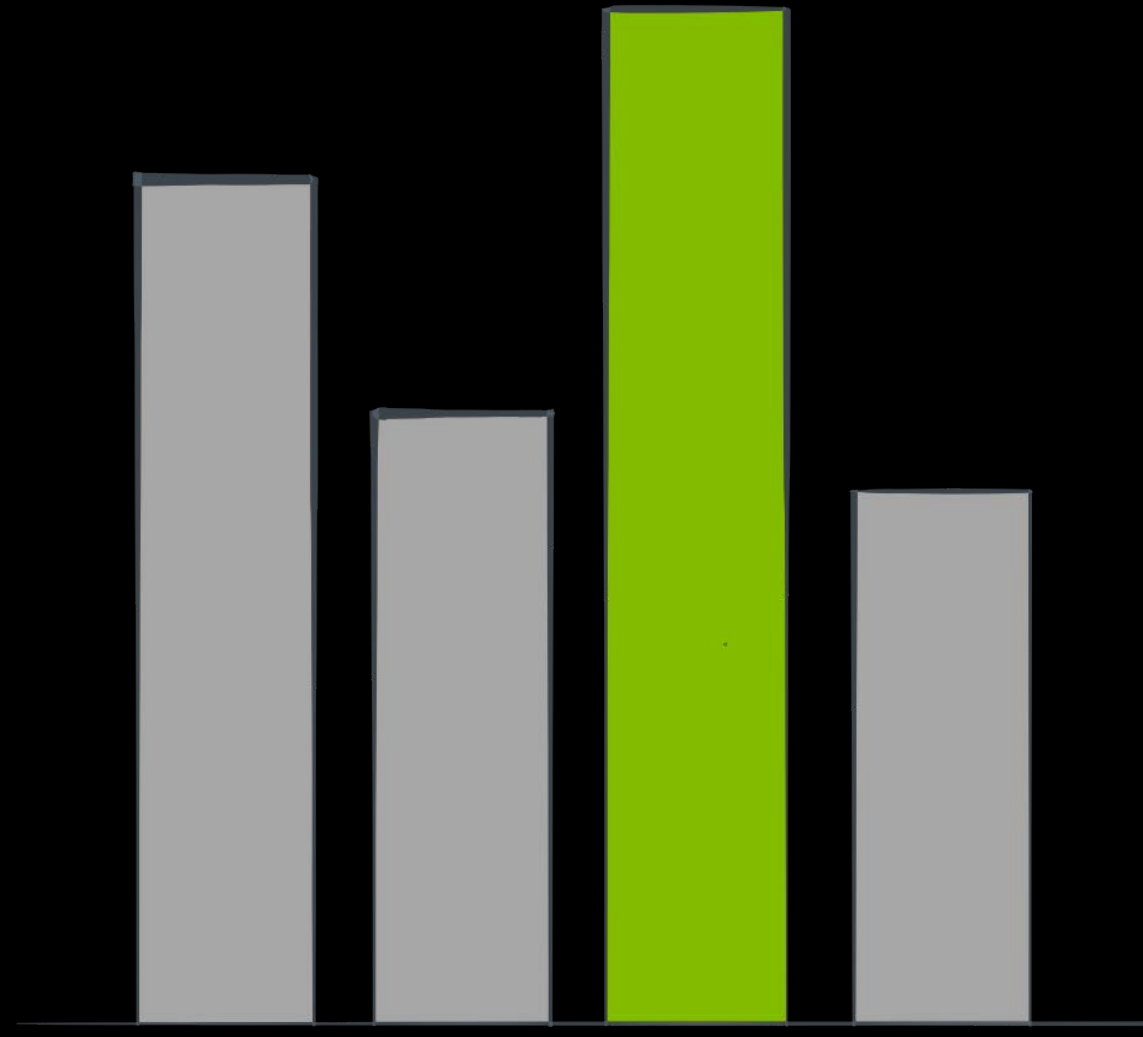
## Call to action

Support and recognise start-ups to promote local business.

Increase industrial and infrastructural investment to create more jobs and boost the economy after the pandemic.

Emphasize more on Research & Sustainable Development

# Nimmy Patil

Team 19/27

# THE SILENT EPIDEMIC in Nunavut

**Team Nimmy**

## World's Highest Suicide Rate in 2019

if Nunavut were to be an independent country at

**78.1** / 100,000

## Suicide Age

**97%** Below 40

**69%** Below 30

## 4th Leading Cause of Death

1 Cancer
2 Circulatory Disease
3 Respiratory Disease
4 Suicides

## Suicide Trend

**1.7x** times increase from 2018 to 2019

## Per capita Health Expenditure in government sector

**The Irony!!!**

It has been consistently high in the last few years, compared to other provinces/territories in the rest of Canada

About **3x** more than the average in Canada

# Elements that multiply the risk of suicide

## Low Education

**No** Diploma or Degree or Certificate

**50.7 %**

## Family Violence

Canada **308**  Nunavut **1913**

**Child Victims** Per 100,000

## Food Insecurity

**3 in 5** households are food insecure

**79%** of children are food insecure

## Violent Crime Rate

**8x** more than Canada

## Sexual Assault

Victims Per 100,000

**9x higher** than that of Canada

## Housing Insecurity

**5 in 10** live in social housing

**Of Which**

**38%** live in overcrowded conditions

## National Highest Unemployment

Nunavut **14%**

Canada **9.5%**

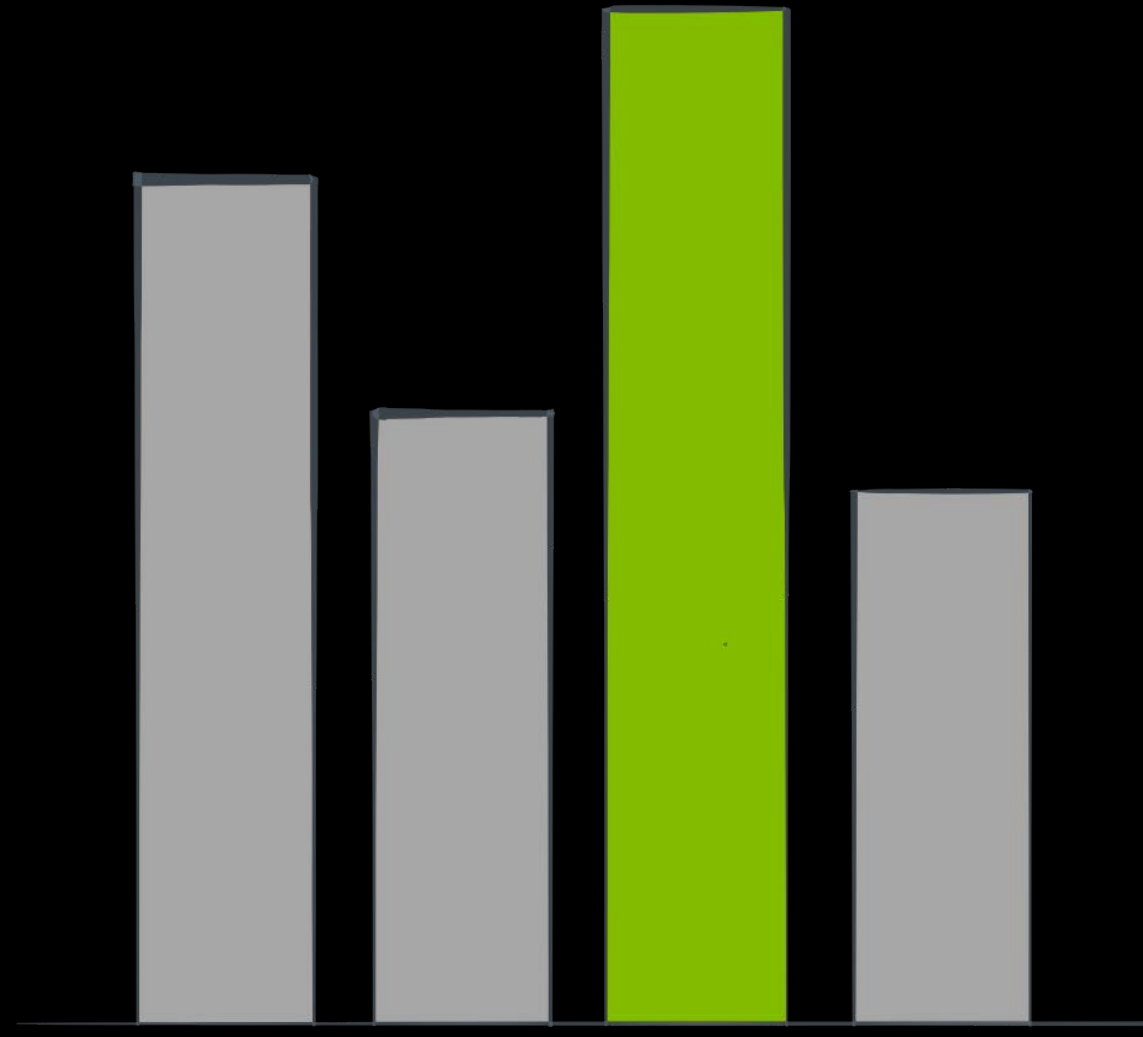## National Lowest Median Annual Family Income

**87,930** Canada

Nunavut **76,900**

# Poverty Data Visualizers

**Team 20/27**

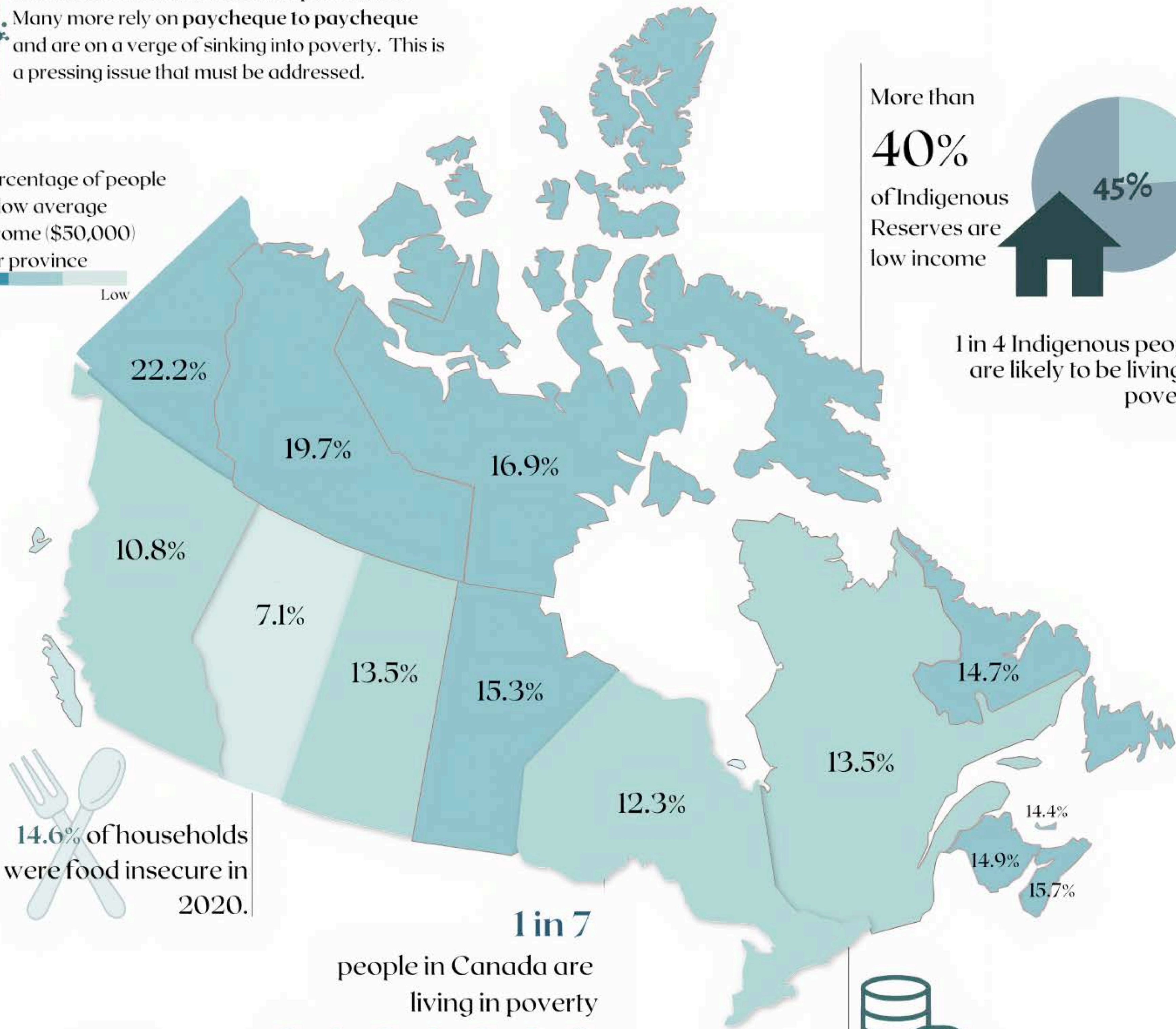UNB | International Business & Entrepreneurship Centre
EST. 1785
UNIVERSITY OF NEW BRUNSWICK

# THE UNCOMFORTABLE TRUTH

The truth cannot be **denied**. In light of Canada's richness and resources, a disproportionate amount of Canadians remain **impoverished**. Many more rely on **paycheque to paycheque** and are on a verge of sinking into poverty. This is a pressing issue that must be addressed.

Percentage of people below average income ($50,000) per province

High      Low

22.2%

19.7%

16.9%

10.8%

7.1%

13.5%

15.3%

12.3%

13.5%

14.7%

14.4%

14.9%

15.7%

More than **40%** of Indigenous Reserves are low income

45%

1 in 4 Indigenous people are likely to be living in poverty
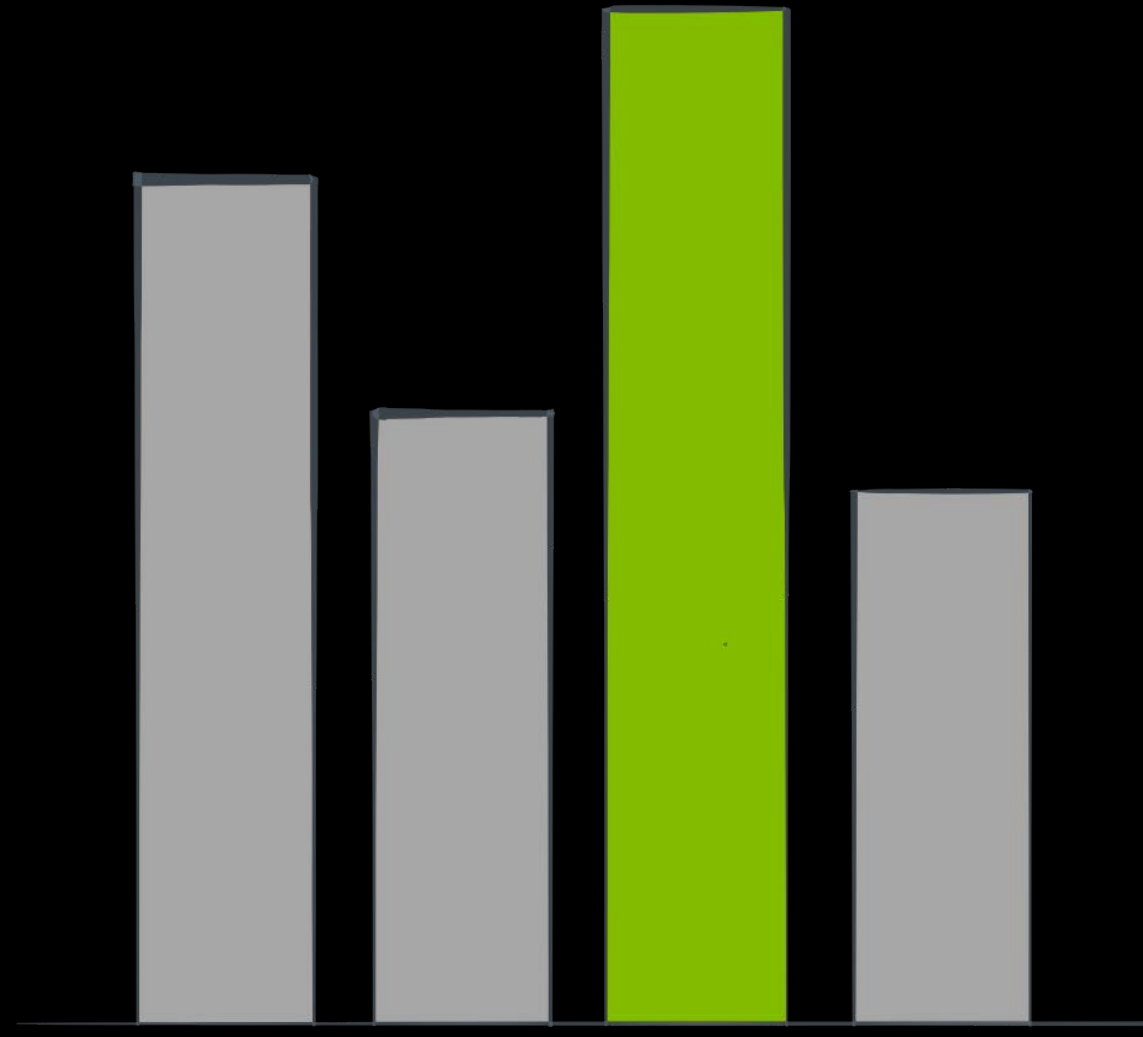
**14.6%** of households were food insecure in 2020.

**1 in 7** people in Canada are living in poverty

Canadian households owed an average of **$1.71** for every dollar of disposable income

more than **50%** of Canada's poverty line makes up of children

1,897.4

1,358.7

Unemployment Increased by **39.7%** over 5 years.

↑ 2%

35.1%

36.8% (2019)

The average poverty gap has been **increasing** since 2017 by 2% every 2 years
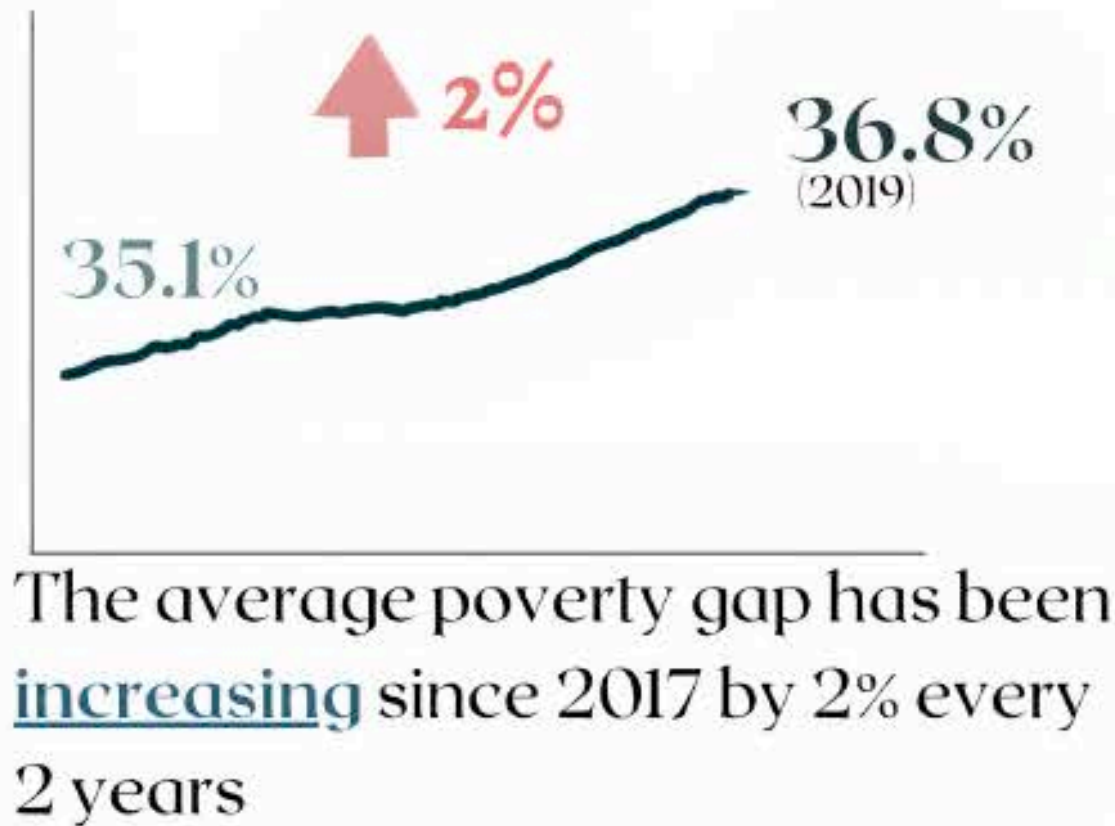
## POVERTY IS NOT AN ACCIDENT.
## TOGETHER WE CAN PUT AN END TO IT.

By: Nawal Mahrat
Sri Sanjana Baddukonda
(Poverty Data Visualizers)
Sources : Statcan.gc.ca

# Team Glean

UNB
EST. 1785
UNIVERSITY OF NEW BRUNSWICK | International Business &
Entrepreneurship Centre

# A Call-to-Action Pathway to a Sustainable Environment

Our call-to-action is to create awareness about ending fossil fuel subsidies. Creating green tech & clean tech more accessible for all in NB

## • Gasoline Usage v/s Gasoline Price •
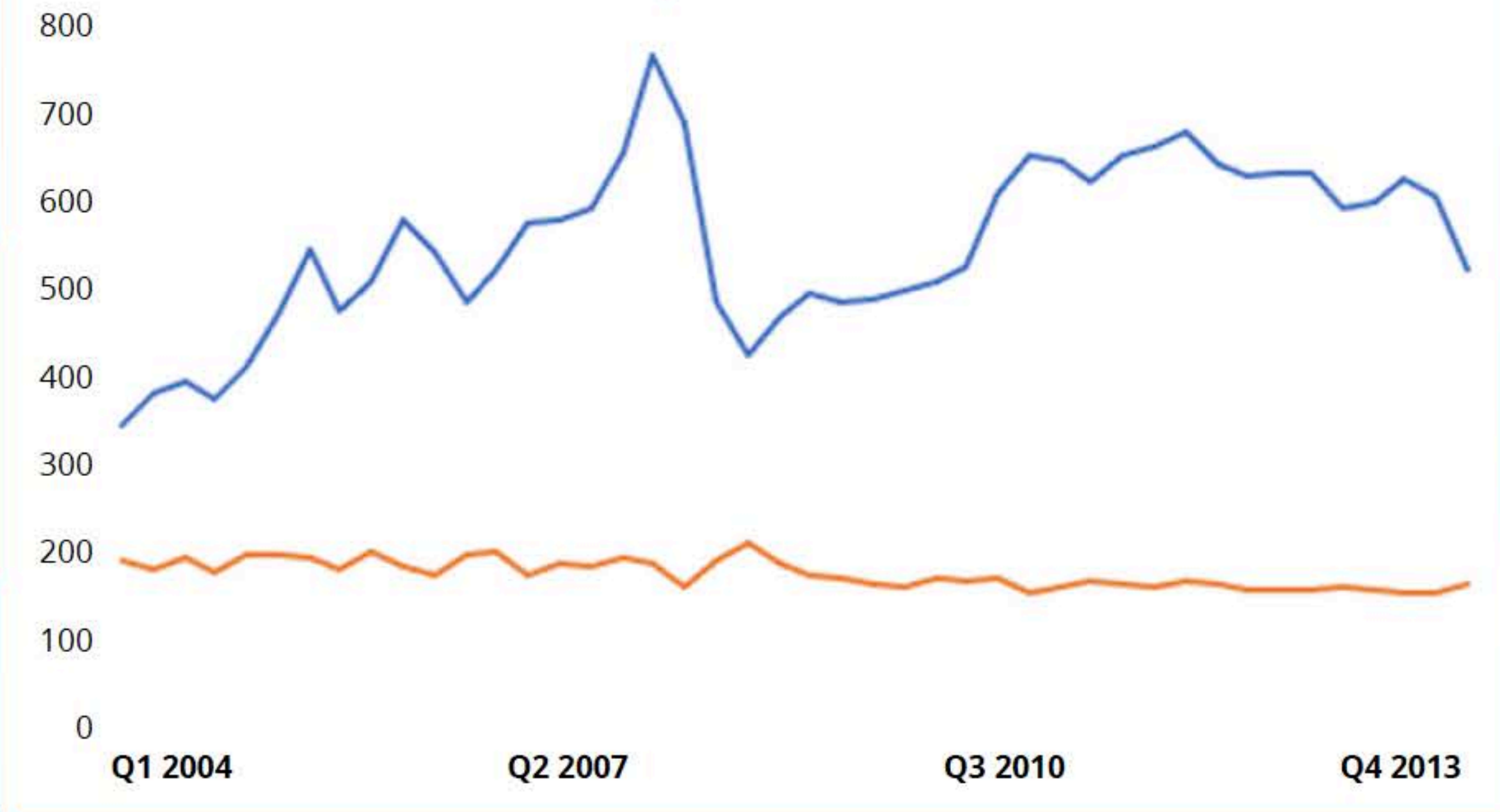


## • Impact of Dow Jones Industrial Average on Polaris •
(Quarterly)



Fossil Fuel subsidies need to be discontinued and clean & green tech start-ups need to be empowered with those subsidies. E-Vehicles need to be subsidized. An ecosystem needs to be set up in New Brunswick for a successful harboring of E-Vehicles & electric transit system.

18 BILLION
4.8 BILLION
0.96 B

## • 2020 Fossil fuel subsidies v/s Average of Previous Years v/s Green Energy Subsidies •

2% → 6%
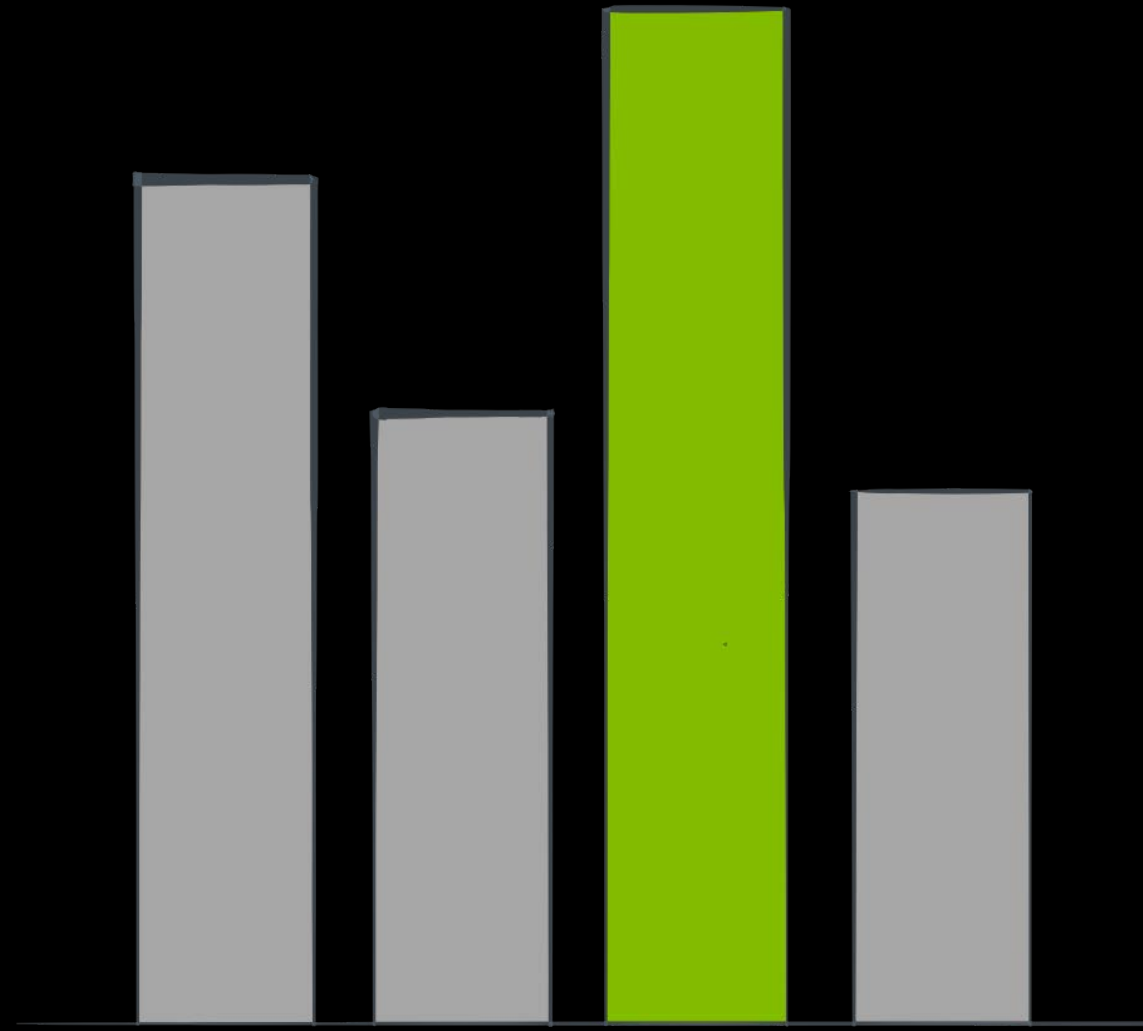Electric Vehicles registrations in **NB** jumped from 2020 to 2021

### Total Population of NB: 747,100
2.3% depend on a public transit system that currently runs on fossil fuels. If this transit system goes green, approx 17000 people's carbon footprint will reduce. An average Canadian produces 14.2 tonnes of $CO_2$.



2.3%  5.1%
16.2%
76.4%

- Single User
- Multiple Users
- Public transit
- Active transport
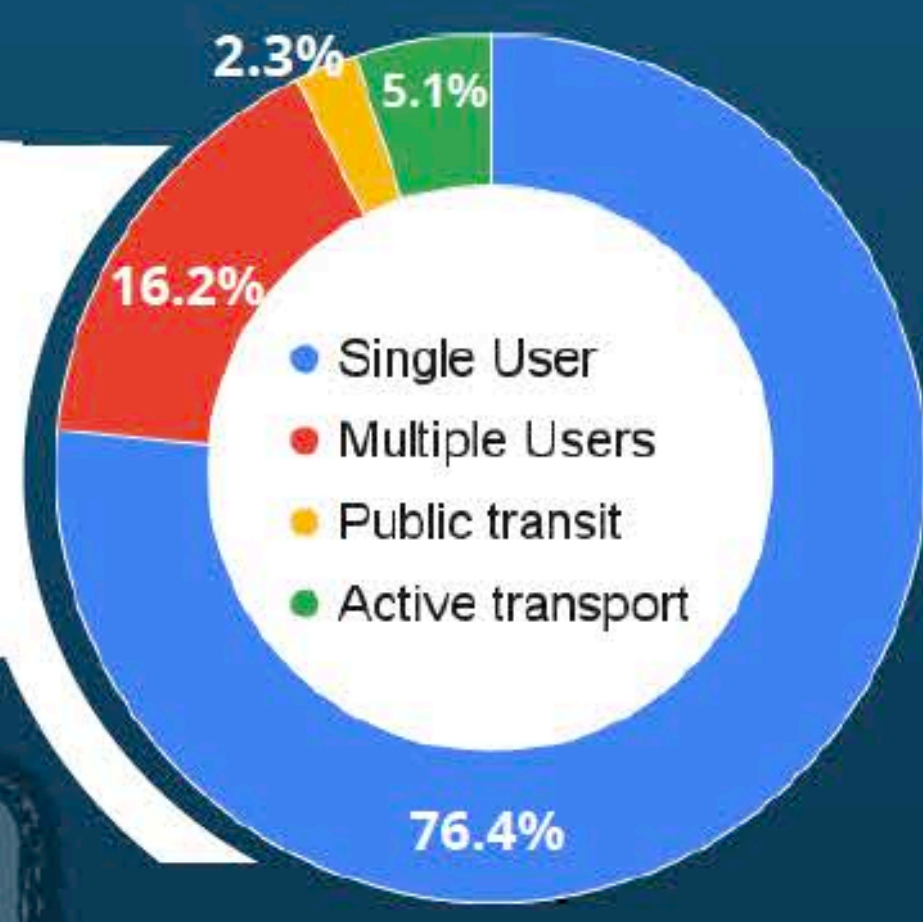
### • Call-to-Action for NB •
- Reduce Fossil Fuel Subsidies
- Subsidize Sustainable & Green Tech more
- Make Electric & Clean Transport Accessible.
- Mandate: Right to repair, Safe discarding off Li-ion batteries, Lower Maintenance Cost.

# Team Majestic

UNB | International Business & Entrepreneurship Centre

EST. 1785
UNIVERSITY OF NEW BRUNSWICK

DESIGNED BY:
TEAM MAJESTIC

# GLOBAL WARMING

## WHAT IS IT?

The rapid increase in Earth's average surface **temperature** over the past century, primarily due to the **Greenhouse Gases (GHG)** released by **burning fossil fuels.**

## WHY A CONCERN?

Global land and ocean temperature, 1880 - 2020

↑ 0.08 °C per decade since 1880

↑ 0.18 °C (2 X more) per decade since 1981

The earth's surface temperature in 2020 was around 0.98 °C **warmer** than the 20th century average.
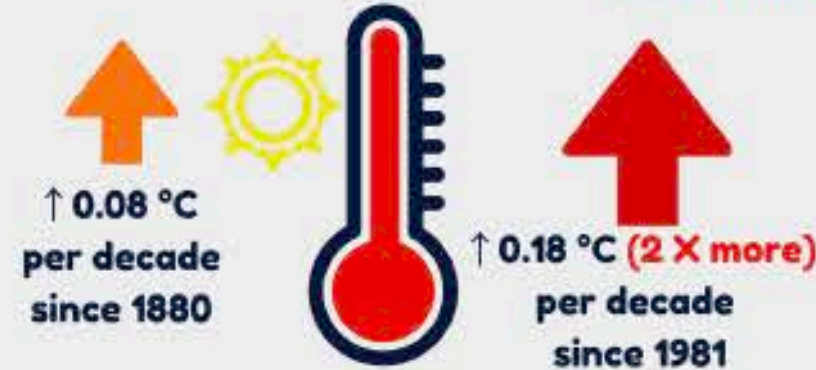
The global atmospheric carbon dioxide ($CO_2$) in 2020 was 412.5 ppm, setting a **new high** despite economic slowdown due to the Covid-19 pandemic.
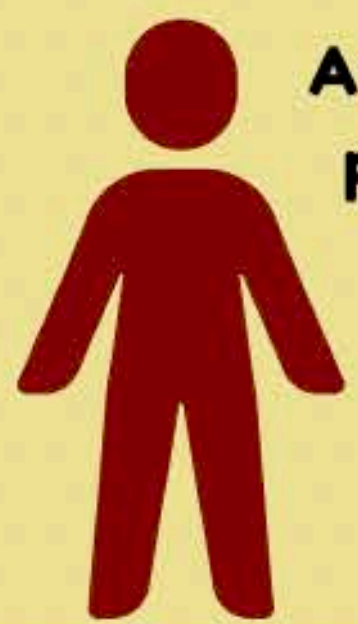
In 2020, approximately **84%** of the world's energy consumption needs were met through fossil fuels.
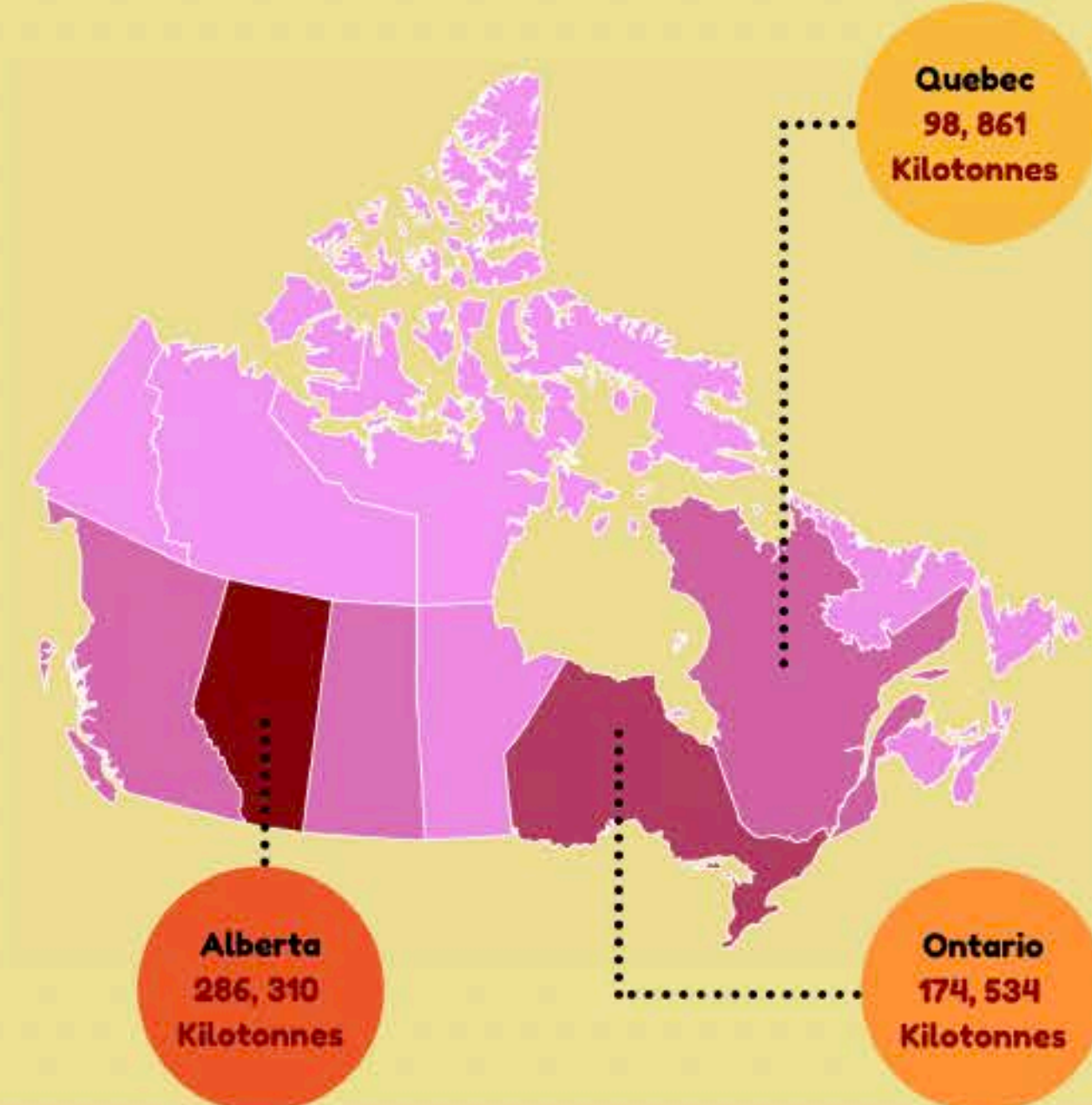
# CANADA WHERE DO WE STAND?

Average energy use per person in 2019

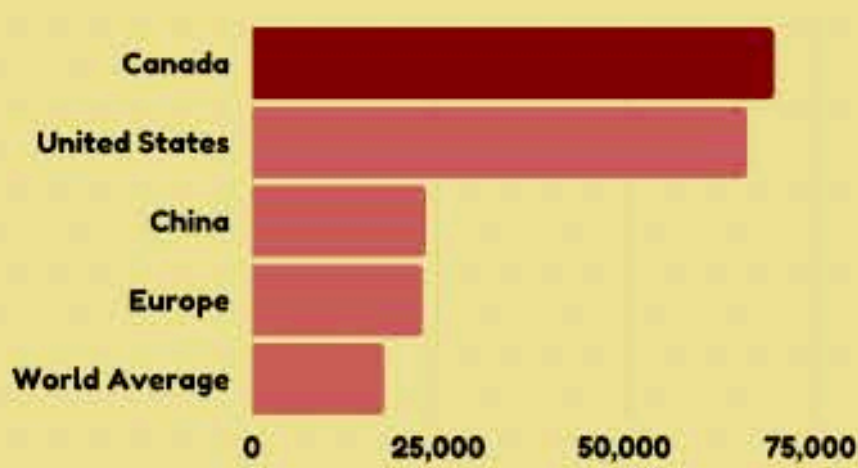**105, 540 kWh**

≈ 5 X

of the world average usage per person
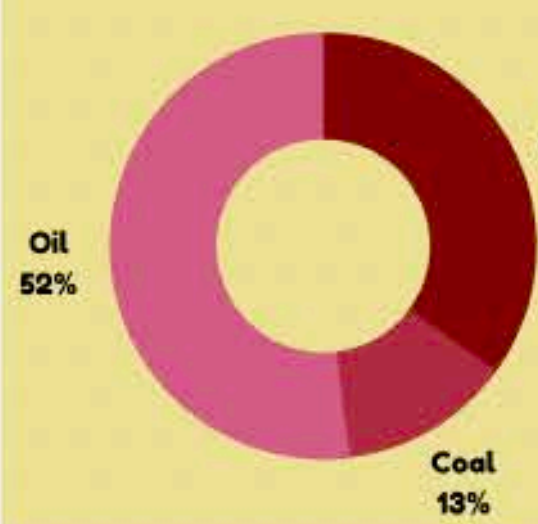
**1.5% | TOP 10**

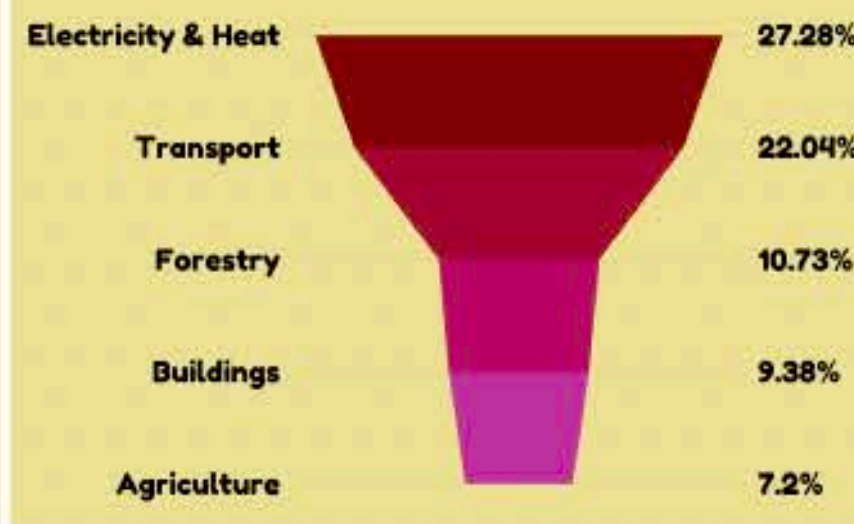of world's total GHG emission, 2018

### GHG emission by State, 2018

Quebec 98, 861 Kilotonnes

Alberta 286, 310 Kilotonnes

Ontario 174, 534 Kilotonnes

### Fossil Fuel Consumption per Capita (kWh), 2019

| | |
|---|---|
| Canada | |
| United States | |
| China | |
| Europe | |
| World Average | |

0    25,000    50,000    75,000

### Fossil Fuel Consumption by Type, 2019

Gas 35%
Oil 52%
Coal 13%

### Top 5 GHG emission by Sector, 2016

| | |
|---|---|
| Electricity & Heat | 27.28% |
| Transport | 22.04% |
| Forestry | 10.73% |
| Buildings | 9.38% |
| Agriculture | 7.2% |

## ⊘ BARRIERS

**Private Sector Businesses**
**16%** say clients are not willing to pay a higher price.

**Non-Profit Organizations**
**28%** say they lack financial resources.

Adopting Green Practices

**Government Agencies**
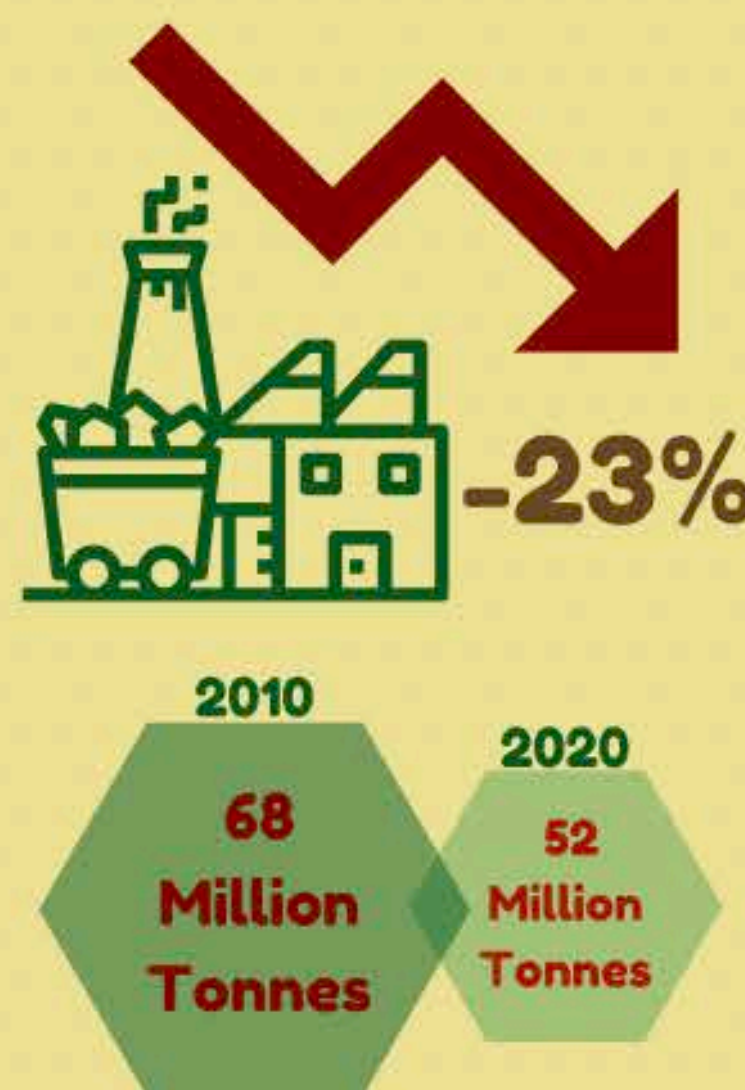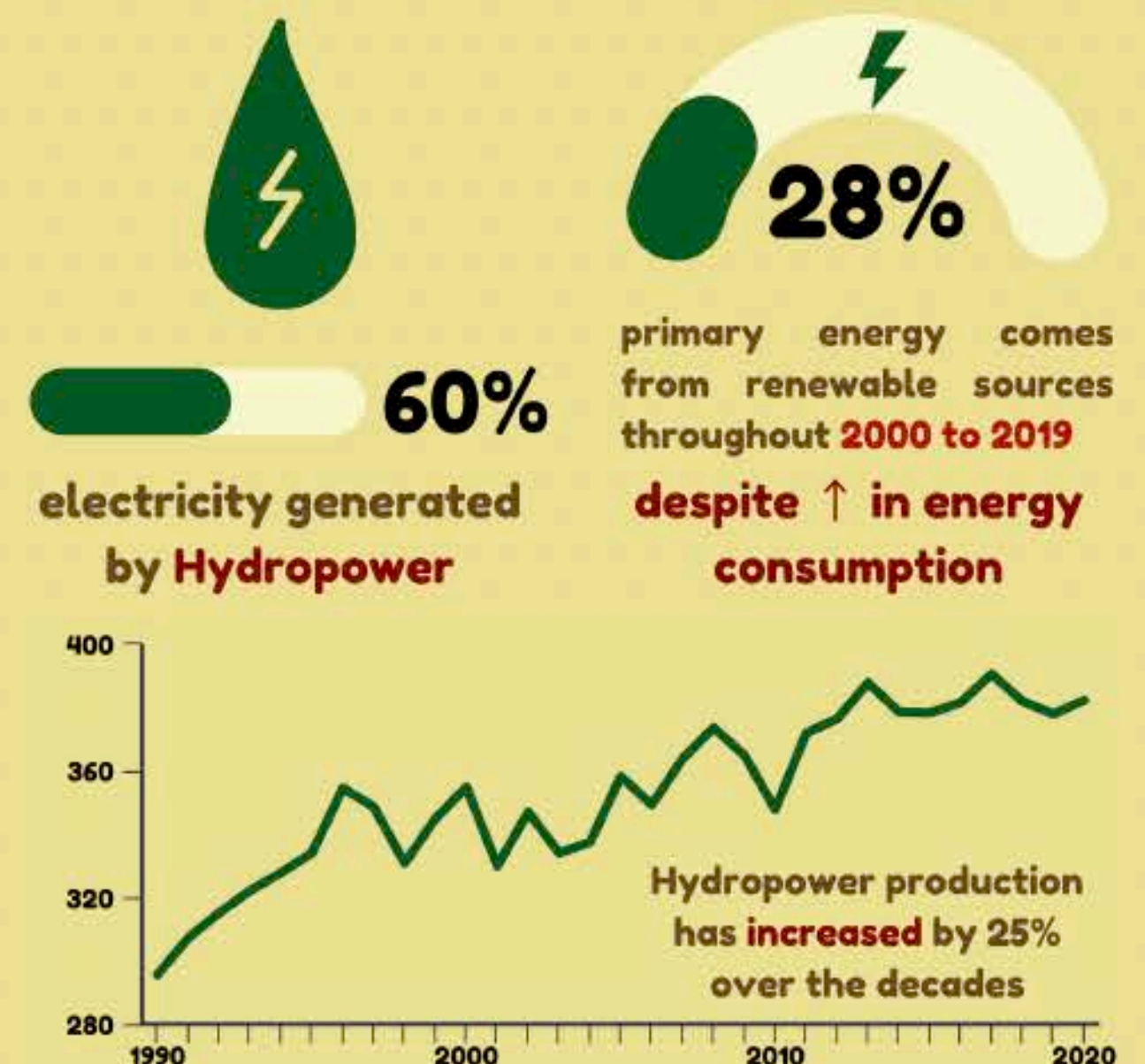**5%** say COVID-19 caused delays.

**7 out of 10** Canadians **did not** engage in activities aimed at conservation or protection of the environment without pay

## ✓ PROGRESS

**Coal Production**
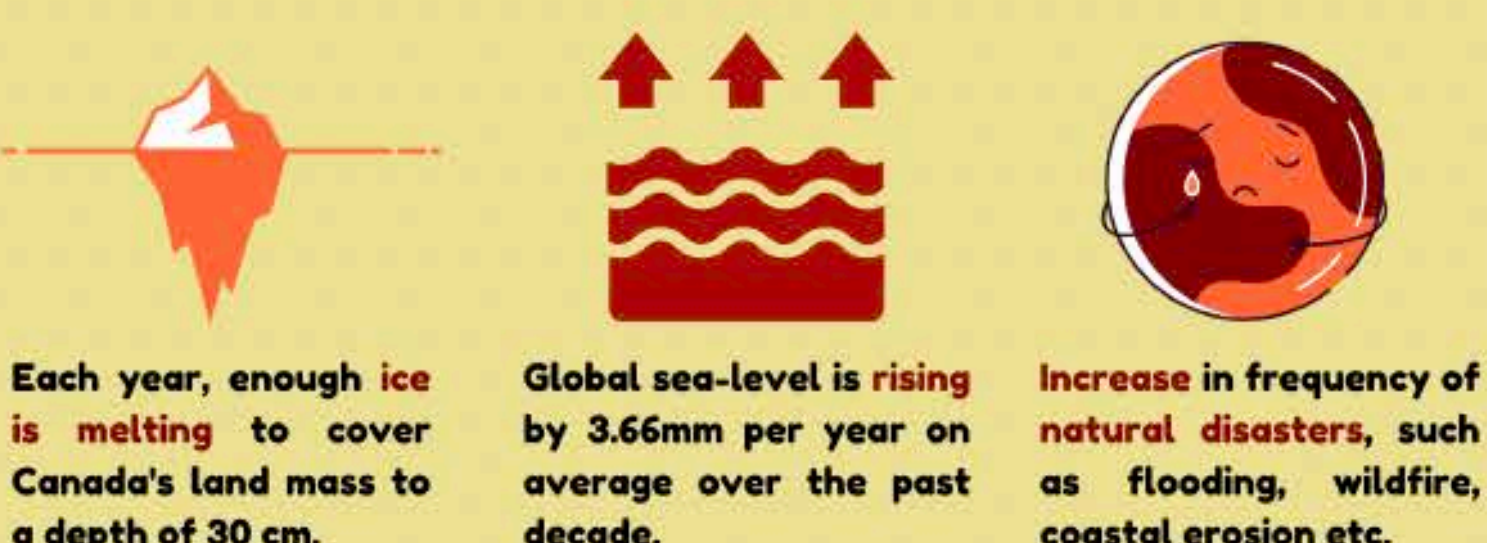
-23%

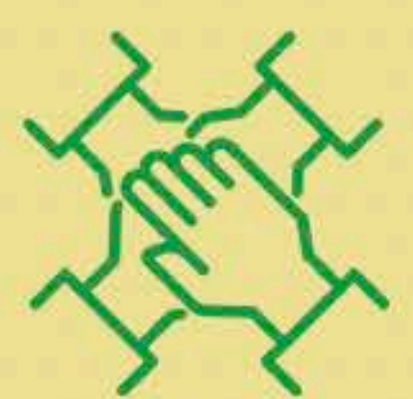2010 **68 Million Tonnes**

2020 **52 Million Tonnes**

**Renewable Energy**

**28%** primary energy comes from renewable sources throughout **2000 to 2019** despite ↑ in energy consumption

**60%** electricity generated by Hydropower

Hydropower production has **increased by 25%** over the decades

## ⚠ RISKS

Each year, enough **ice is melting** to cover Canada's land mass to a depth of 30 cm.

Global sea-level is **rising by 3.66mm per year** on average over the past decade.

**Increase** in frequency of **natural disasters**, such as flooding, wildfire, coastal erosion etc.

## PROPOSITION

**Incentivize**

**Substitute**

**Embrace**

Sources: StatisticsCanada | OurWorldInData | NASA | NOAA | Statista | CBCNews | OffshoreTechnology | RoyalSociety
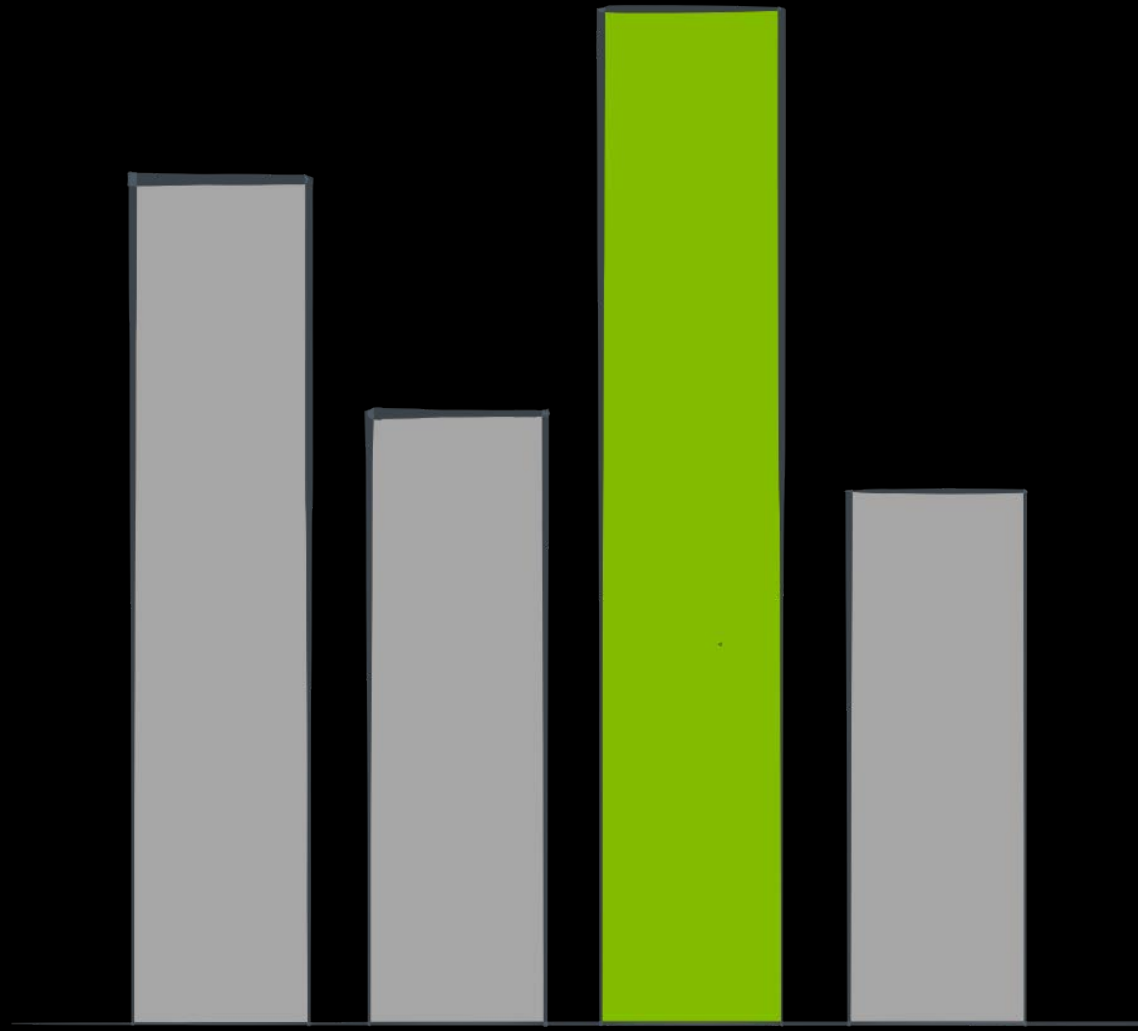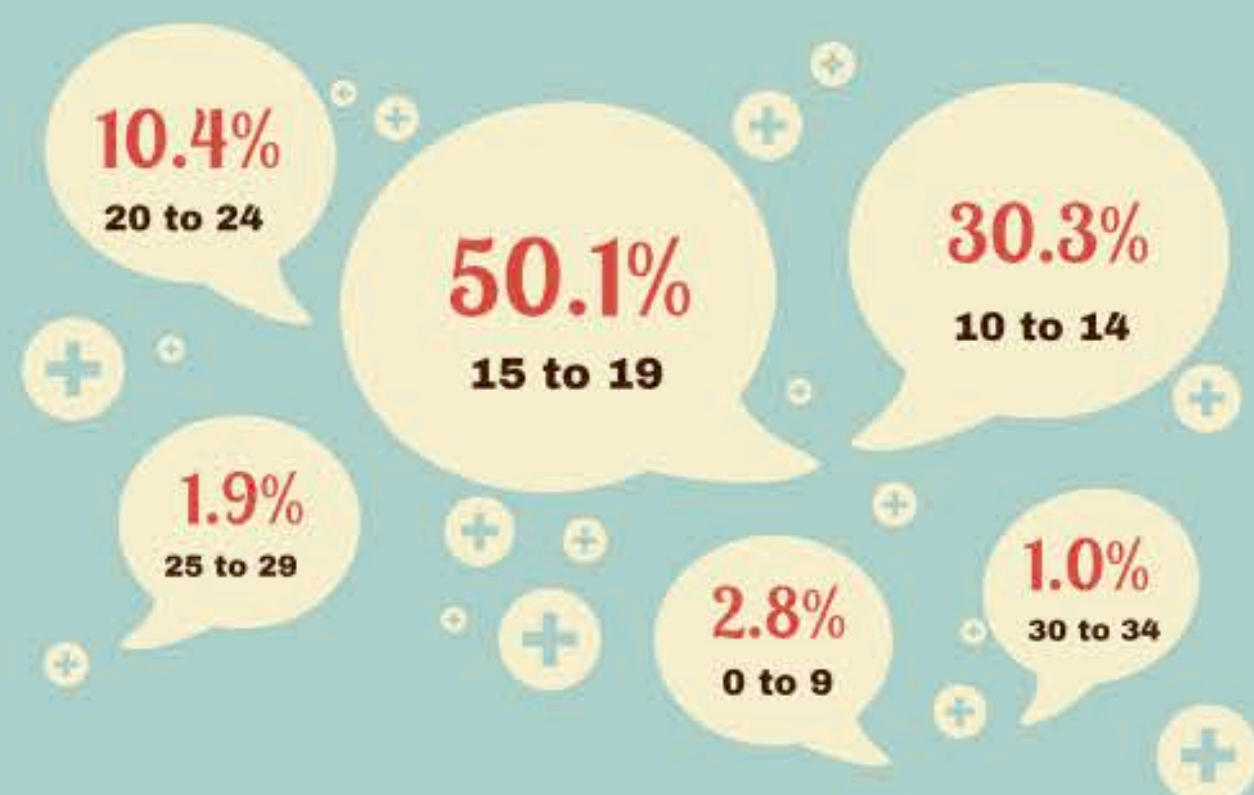
# Team Robust

Team 23/27

# Tobacco control in Canada —
## Starting from reducing tobacco exposure in teenage groups
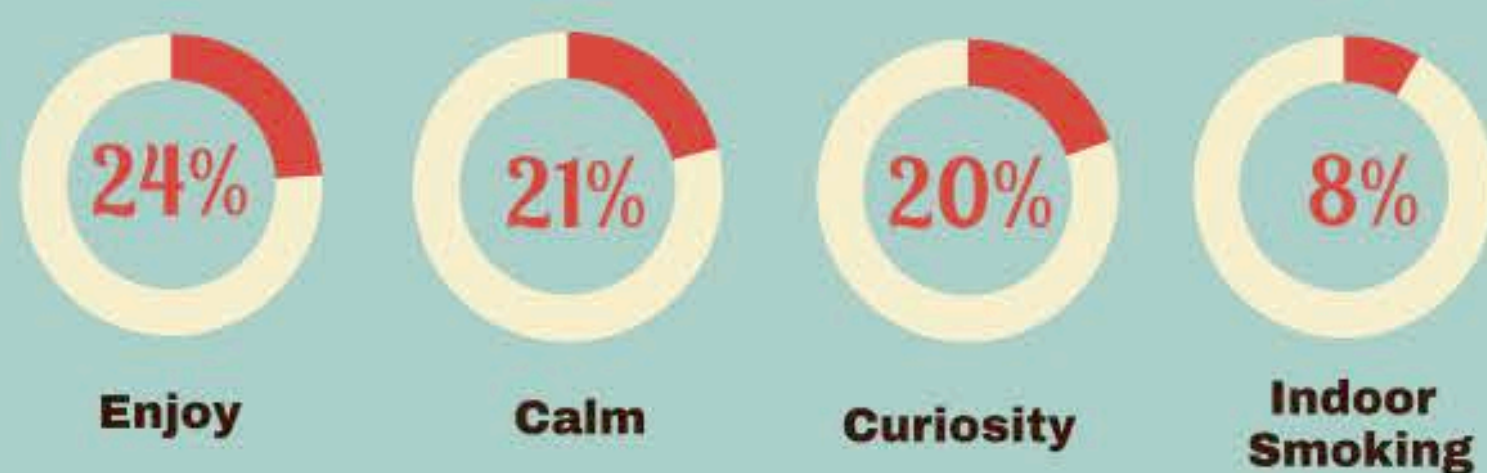
## 87% Started Smoking / Vaping from 19 or Younger

- 10.4% 20 to 24
- 50.1% 15 to 19
- 30.3% 10 to 14
- 1.9% 25 to 29
- 2.8% 0 to 9
- 1.0% 30 to 34

**Age Distribution of First-time Smoker**

## Teenagers: Major Reasons for Vaping

- 24% Enjoy
- 21% Calm
- 20% Curiosity
- 8% Indoor Smoking

## Where do they obtain vaping device?

*Most of vaping device come from...*

| | |
|---|---|
| 1. Family and friends | 37.1% |
| 2. Vaping shop | 26.8% |
| 3. Convenience store | 15.3% |

## Attitudes towards vaping vs smoking?

- 43% Less Harmful Than Smoking
- 26% Same Level of Harm
- 18% More Harmful Than Smoking
- 13% Don't know

## Potential Ways to Quit Smoking

- Nicotine Replacement
- Exercise
- Cessation Program
- Phone apps

## Smoking Population Proportion by Province(%)

- BC 6.32
- AB 7.14
- SK 8.36
- MB 9.84
- ON 8.33
- QC 10.3
- NL 12.4
- PEI 9.65
- NS 11.8

## Smoking HABITS

- 21.4% at least once a week
- 78.6% Daily
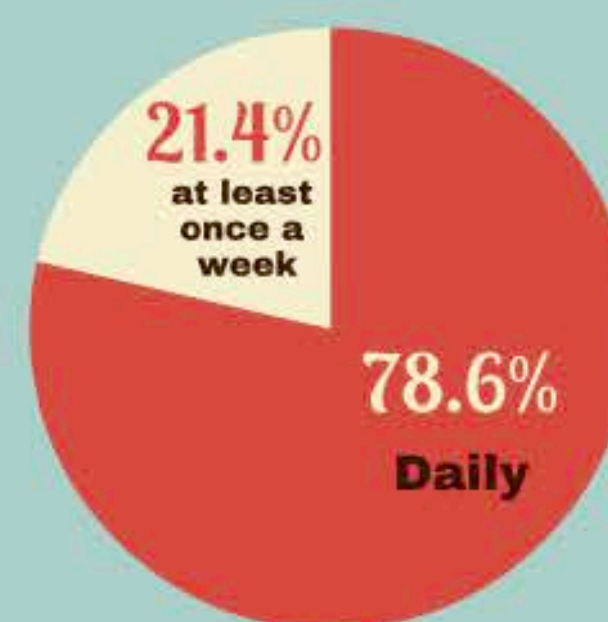
*Majority of people*
## Smoke Everyday

## First Tobacco Products Tried by Teenagers

| Product | Value |
|---|---|
| Vaping | 25 |
| Cannabis | ~8 |
| Smoking | ~3.5 |
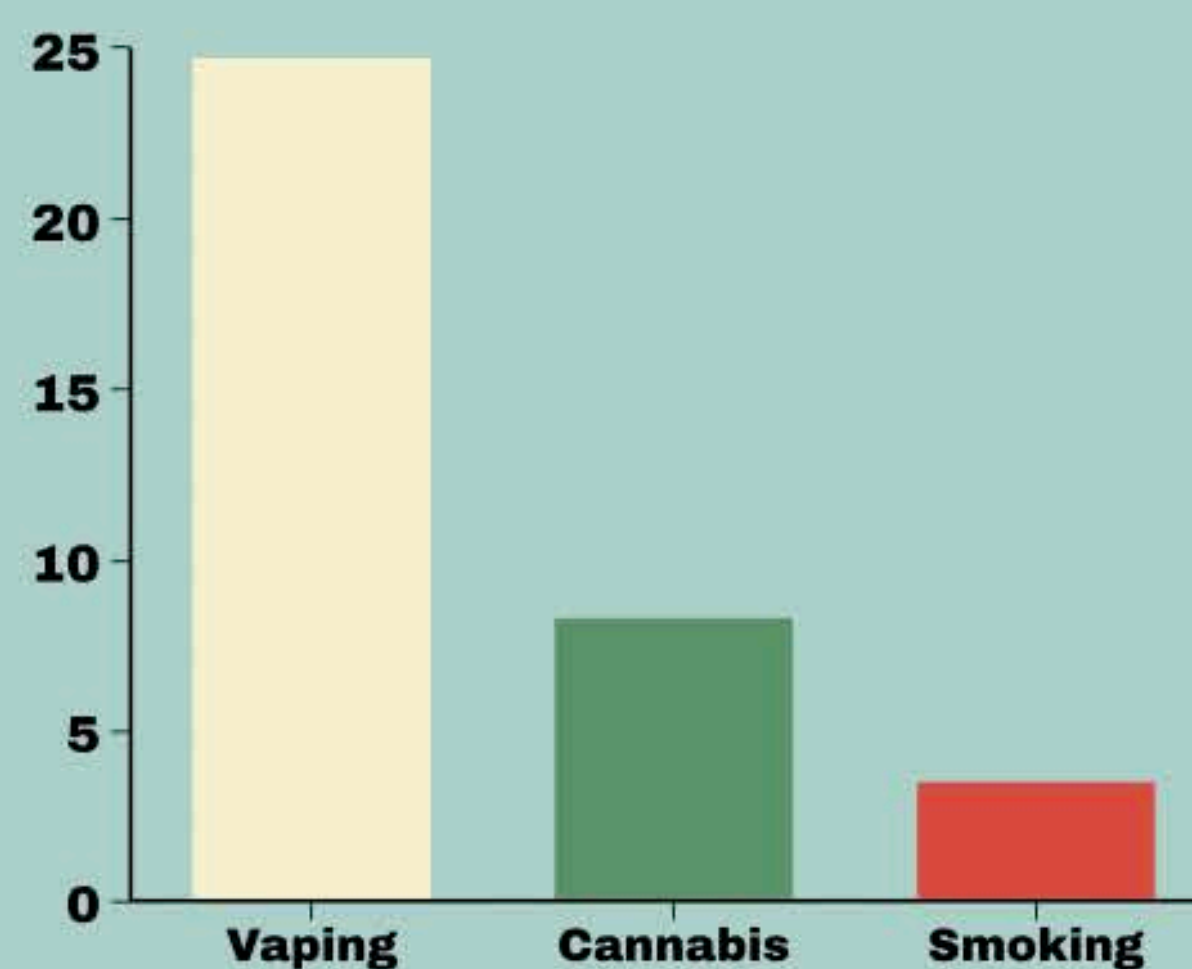
**01 CONTROL VAPING ADVERTISING & SALES PROTOCOL**

Vaping has become the main trigger for teenagers to smoke; 25% of teenagers tried vaping as their first tobacco product and 42% **directly** obtain vaping devices from shops.
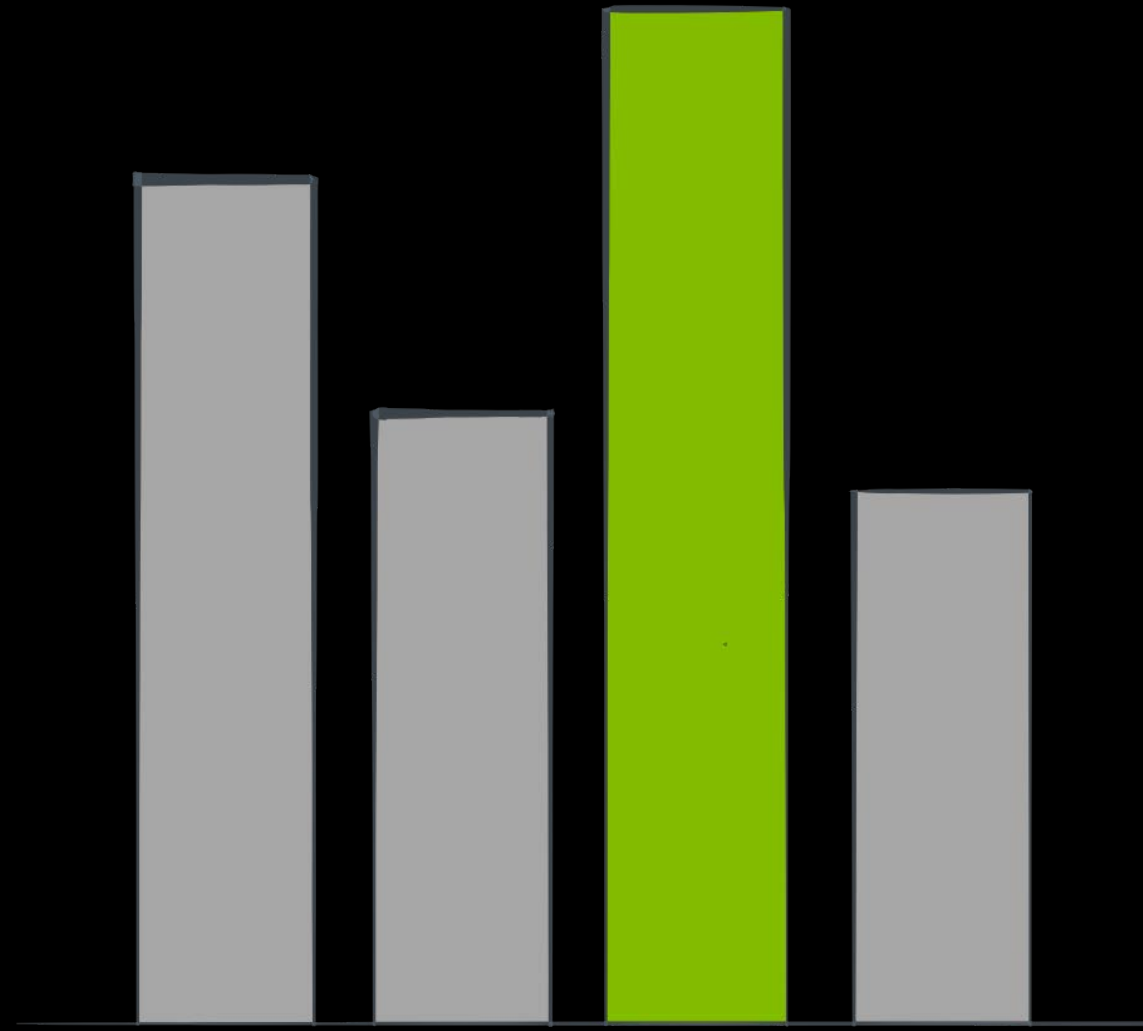
**02 EDUCATING PARENTS & TEENAGERS ON TOBACCO'S DAMAGE**

37% of teenagers tried vaping from family and friends' vaping devices, and 43% of teenagers think vaping is less harmful than smoking.

**03 INITIATE SMOKING CESSATION PROGRAM & DECREASE TOBACCO PRODUCTS EXPOSURE ON SOCIAL MEDIA**
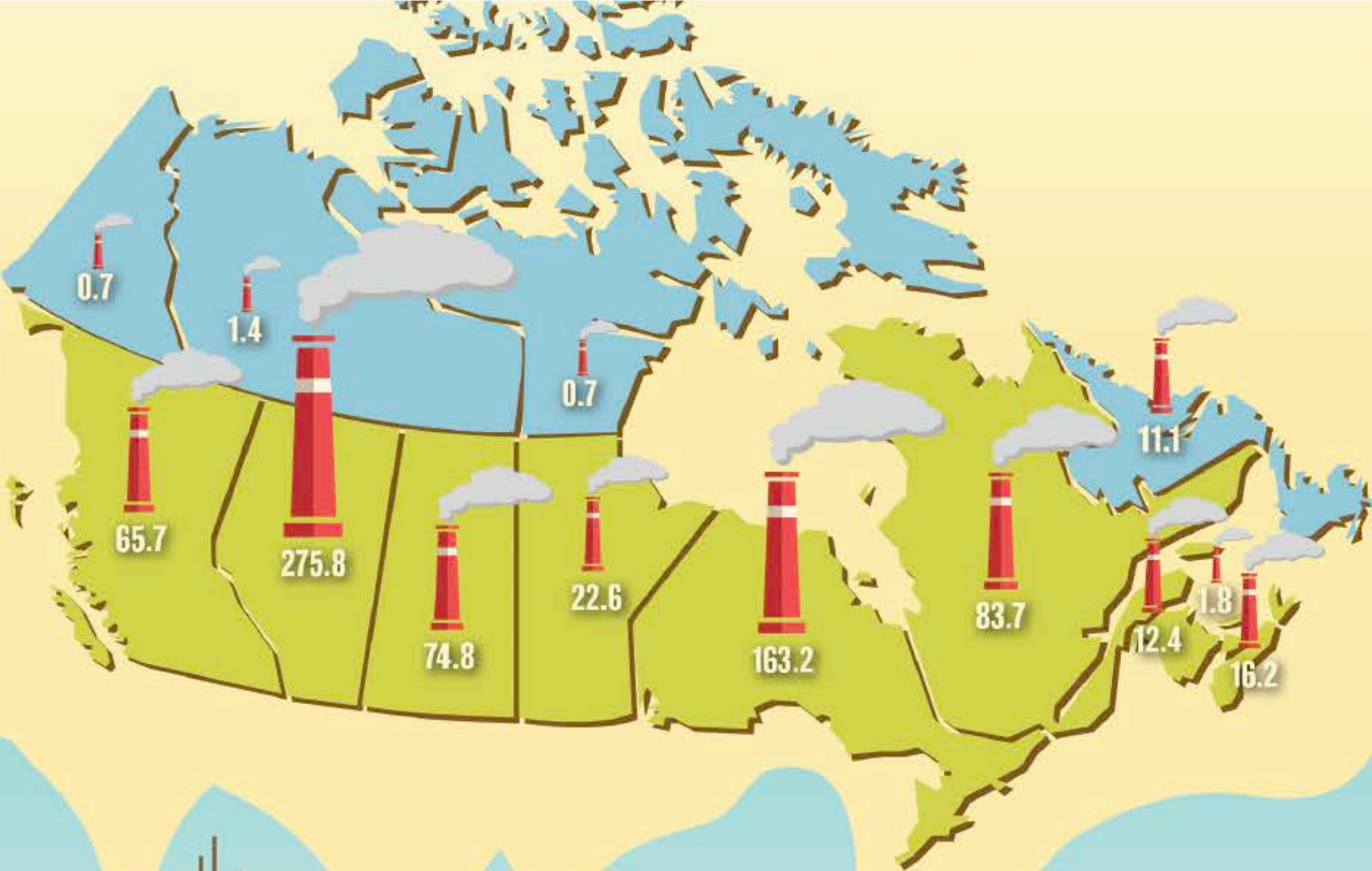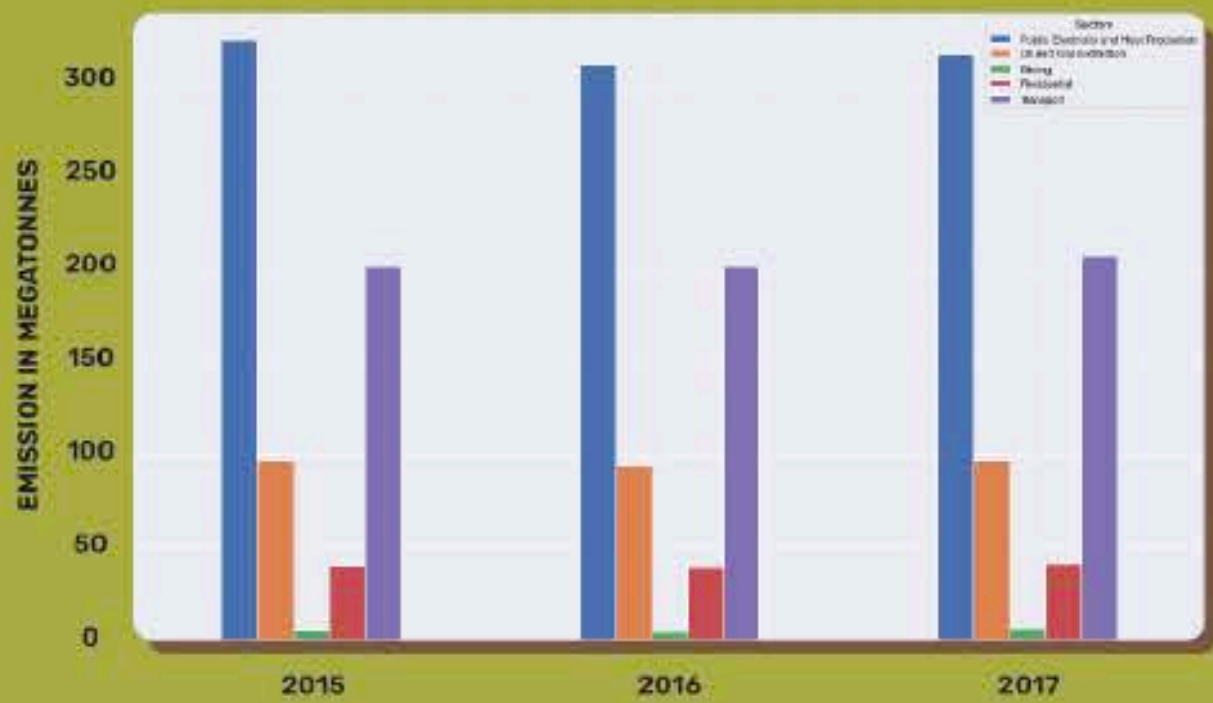
# Team Rocket

UNB | EST. 1785 | UNIVERSITY OF NEW BRUNSWICK | International Business & Entrepreneurship Centre

# CANADA
## GREENHOUSE GAS EMISSION STUDY
### (EMISSION IN MEGATONNES)



Map emission values: 0.7, 1.4, 0.7, 11.1, 65.7, 275.8, 22.6, 83.7, 1.8, 12.4, 74.8, 163.2, 16.2
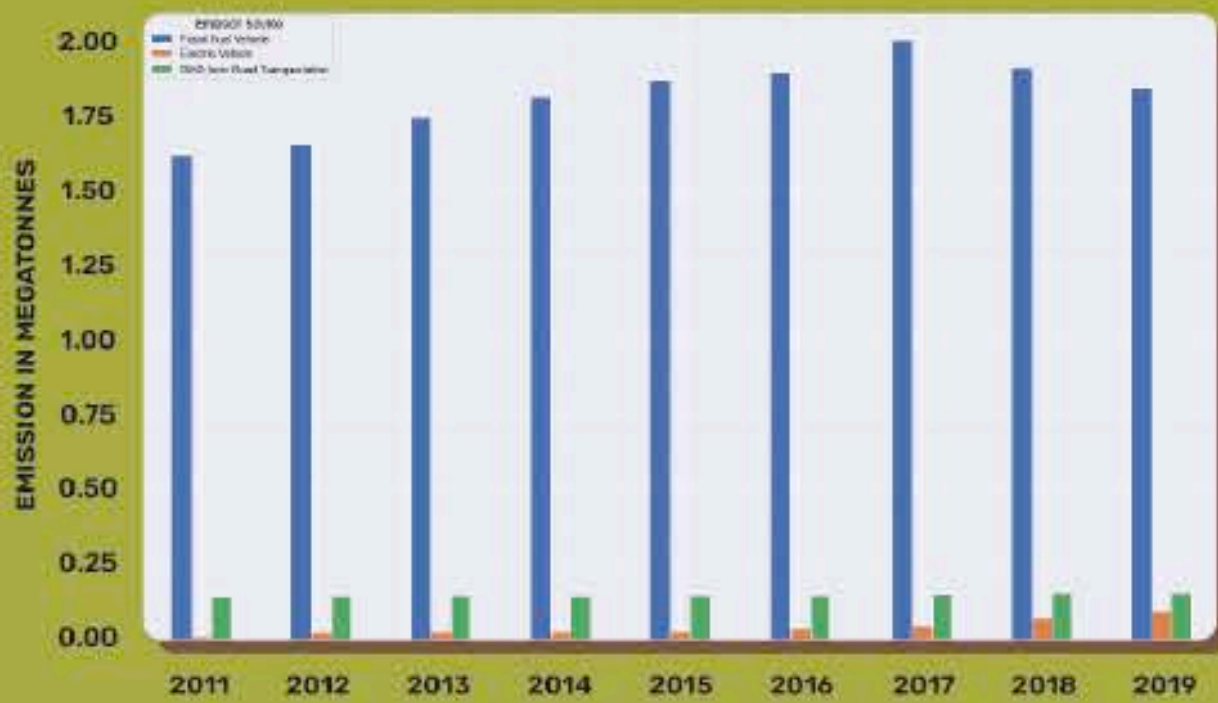
## 2015-2017 GHG EMISSION BY SECTORS



In general, public electricity and heat production and transportation count as the largest portations for GHG emmision in Canada.

## 2011-2019 GHG EMISSION BY SOURCE



While emision from EV has been increasing year by year possibly due to the incentives, the emission from fossil fuel vehicle has only been decreasing since 2017.

## OAD TRANSPORTATION GHG EMMISION BY VEHICLE TYPE 2010 V.S. 2019
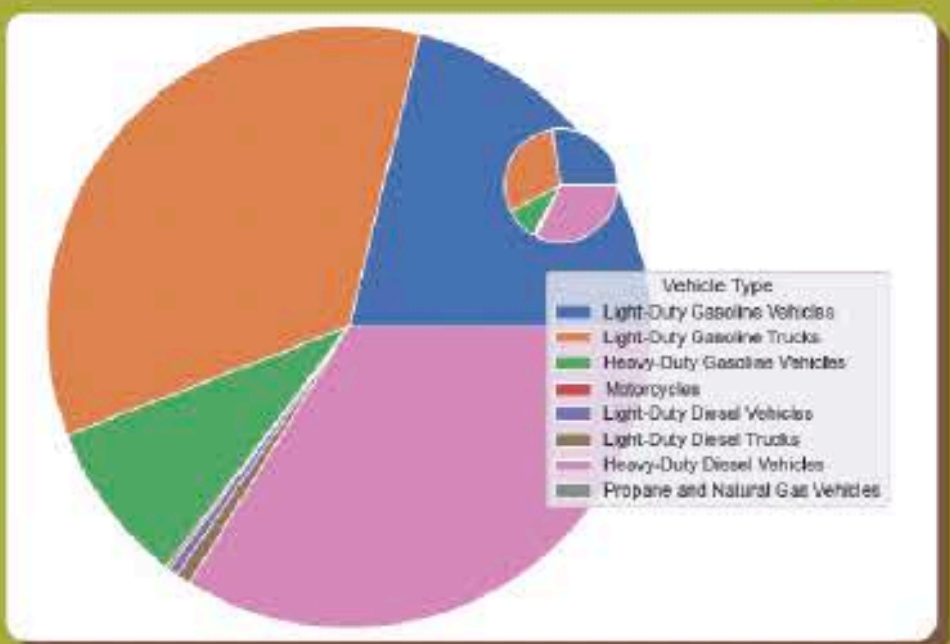


There has been a shift in the emmision by vehicle type from 2010 to 2019: light-duty gas vehicles decreased from 28% to 21% while light-duty gas trucks increased from 30% to 35%.

## 2011-2019 GHG EMISSION LIGHT-DUTY GASOLINE VEHICLES VS LIGHTODUTY GASOLINE TRUCKS
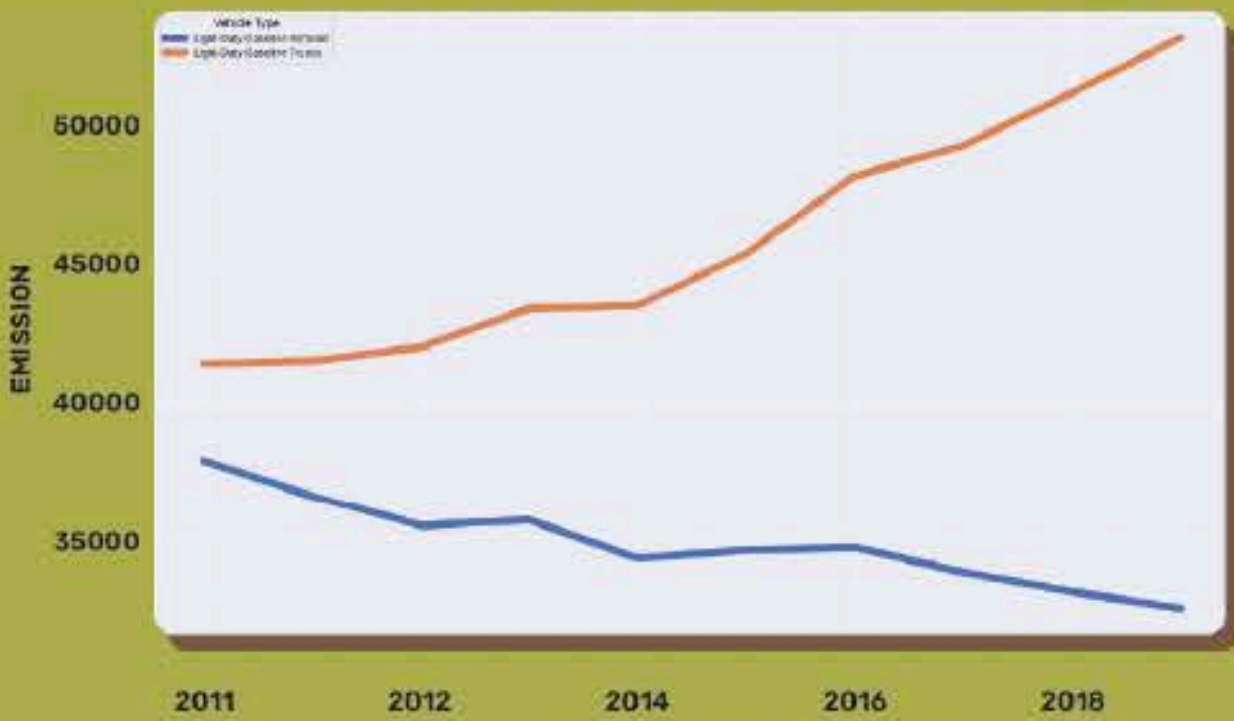


Despite the decrease of emission from gas vehicles, the emission from gas trucks has been increasing drastically through the years.

## EMISSION BY CATEGORY 2014-2019 IN BC & AB
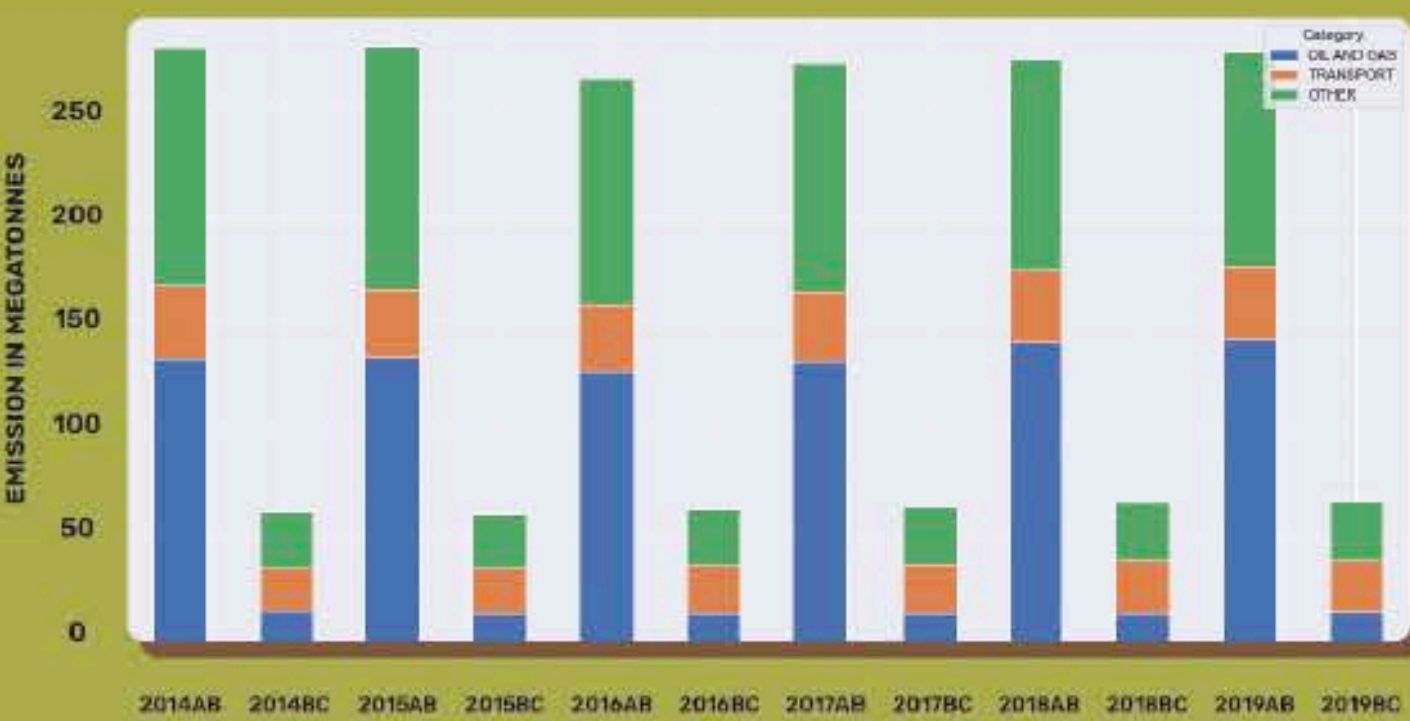


Even though AB and BC have similar population, the green house emission levels are significantly different.

## 2019 CANADA POPULATION BY PROVI-ENCES V.S. EMISSIONS BY PROVIENCES
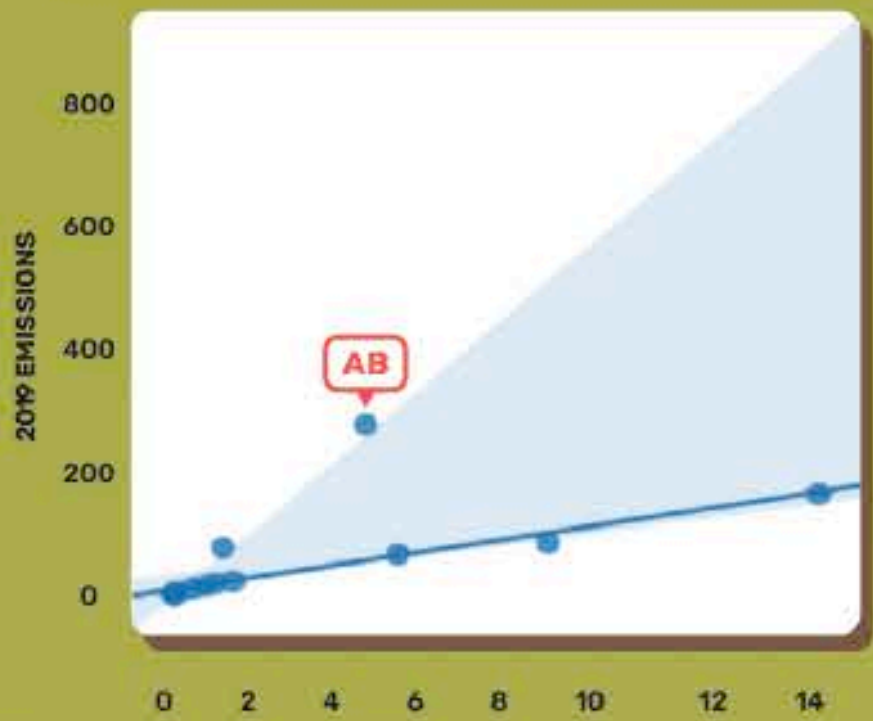


Linear regression model of population v.s. emission by proviences indicating Alberta as the only outlier despite the assumption that the population and emission are positively correlated. Possible explanation could be the dominance of oil and gas industry in Alberta.

## 2019 GHG EMISSION BY CATEGORY BC VS AB
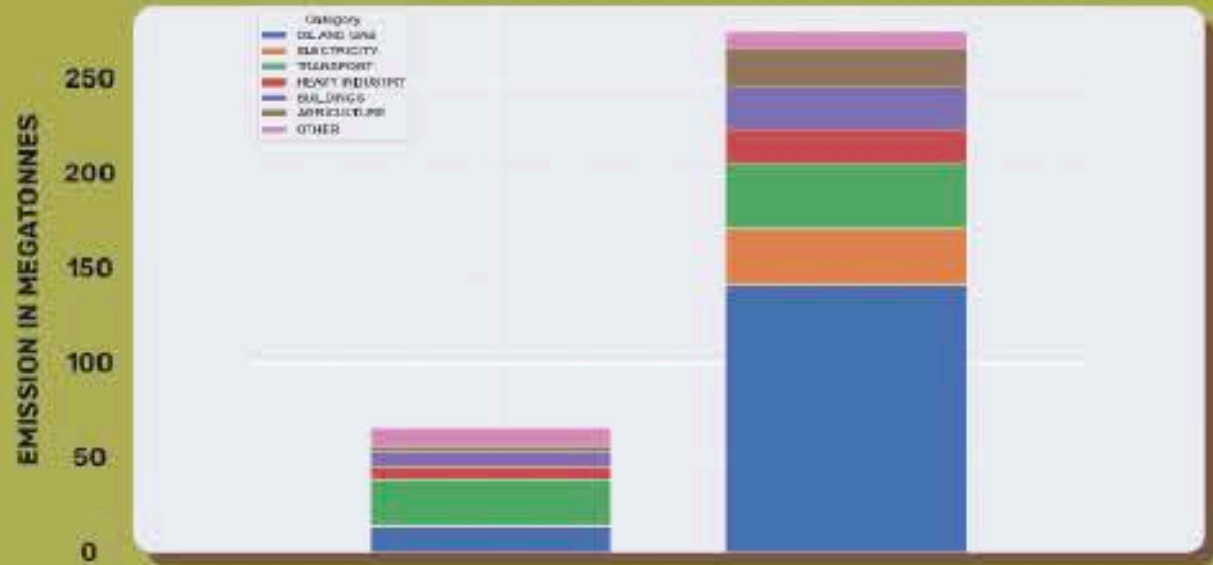


While the emmision by category in BC is nearly evenly distributed with emmision from transpotation being the largest, a signifcant portion of emmision in AB is from oil and gas. This can be justified since AB is known as the oil and gas province in Canada.

## DATA SOURCES:

Government of Canada. (2021). Greenhouse gas sources and sinks: executive summary 2021. Government of Canada.

Environment and Climate Change Canada. (2021). National Inventory Report 1990 – 2019: Greenhouse Gas Sources and Sinks in Canada. Government of Canada, Environment Canada, Greenhouse Gas Division.

Team Rocket:
Adrian Peng, Winston Peng, Eva ma, Jack Hong

# The Visionaries

UNB
EST. 1785
UNIVERSITY OF NEW BRUNSWICK

International Business & Entrepreneurship Centre

# How is internet access affecting remote learning in NB?

## By: The Visionaries

## Does the level of income affect the internet access in Canada in 2018?

■ Have internet access
■ Have no internet access
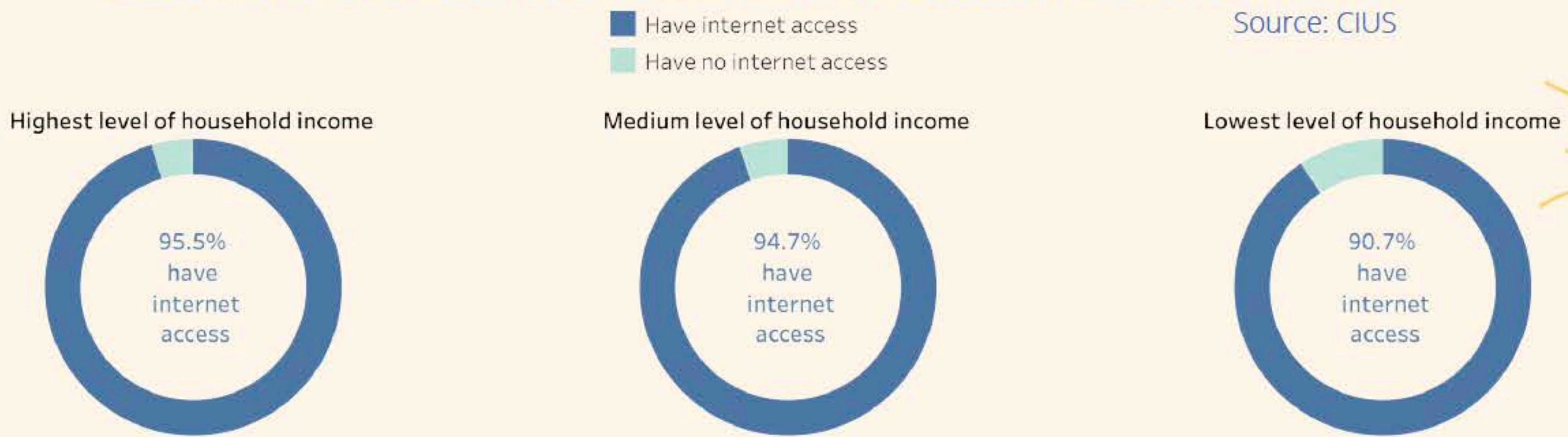
Source: CIUS

Highest level of household income

95.5% have internet access

Medium level of household income

94.7% have internet access

Lowest level of household income

90.7% have internet access

■ STUDENTS
■ TEACHERS

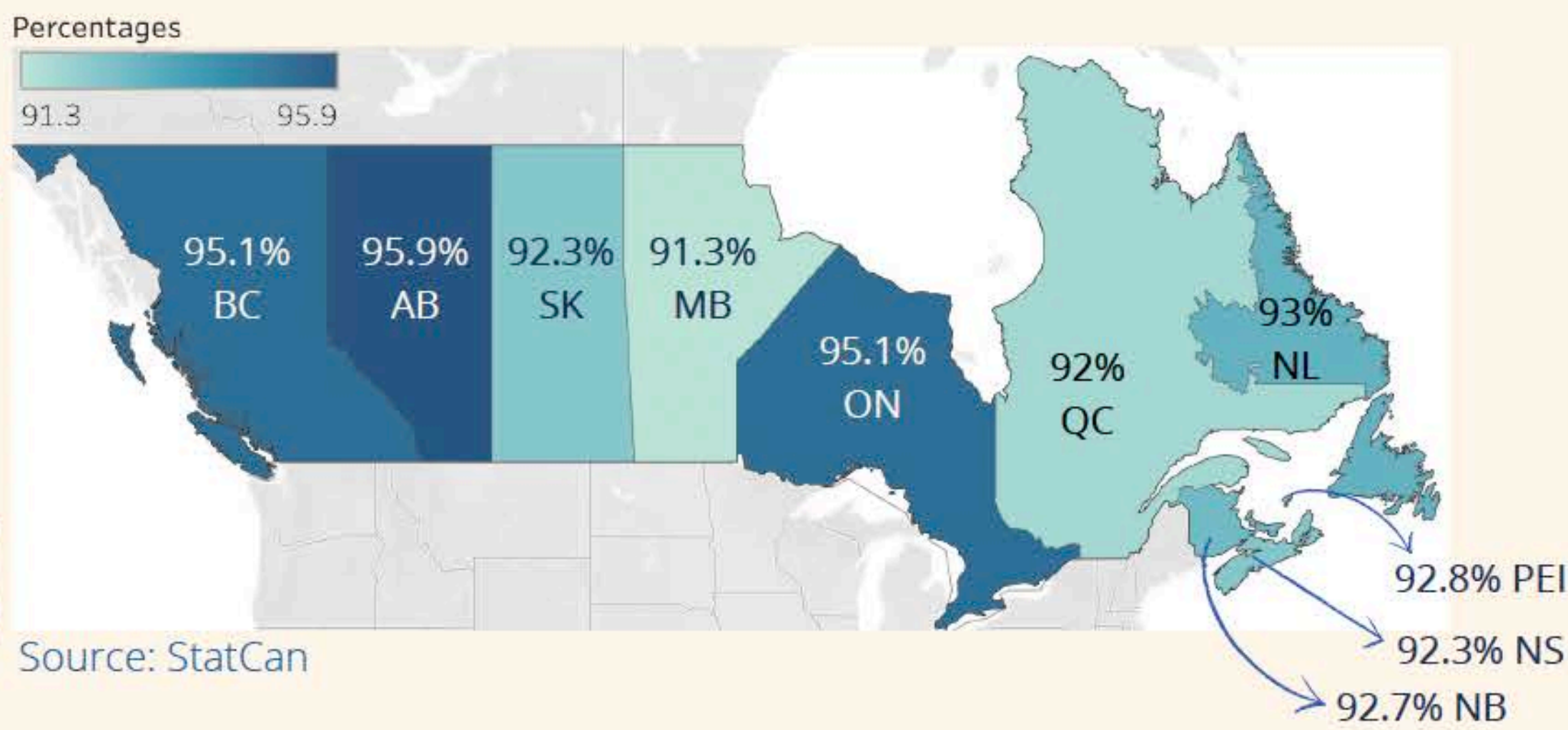| | STUDENTS | TEACHERS |
|---|---|---|
| 2008/09 | 0.39 | 4.7800 |
| 2009/10 | 0.39 | 4.7500 |
| 2010/11 | 0.39 | 4.7500 |
| 2011/12 | 0.39 | 4.7200 |
| 2012/13 | 0.40 | 4.7200 |
| 2013/14 | 0.38 | 4.7200 |
| 2014/15 | 0.38 | 4.7300 |
| 2015/16 | 0.38 | 4.7500 |
| 2016/17 | 0.39 | 4.8100 |
| 2017/18 | 0.39 | 4.8600 |
| 2018/19 | 0.40 | 4.9200 |

Is it sufficient enough to have approximately the same number of teachers for the increasing trend of student enrollment in public elementary and secondary school in Canada for better Quality of Education? Students and teachers are in Millions.
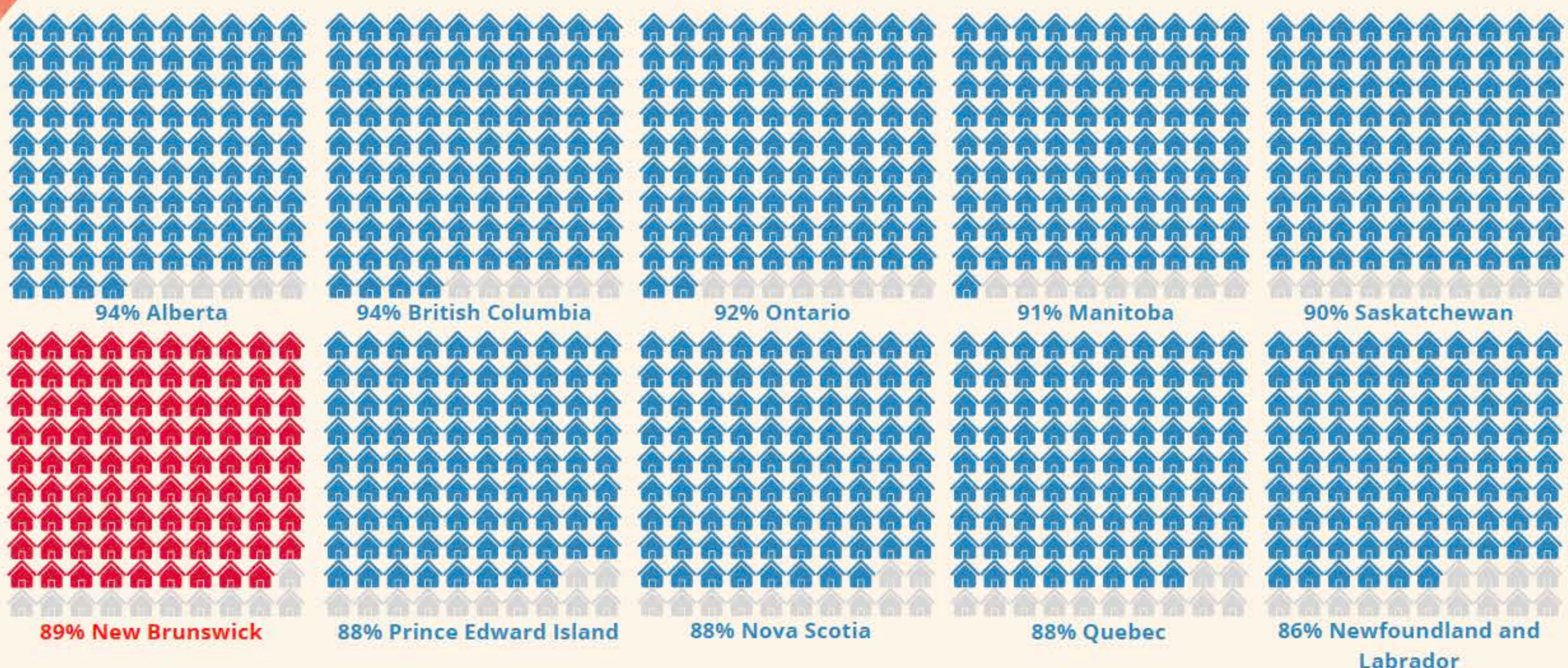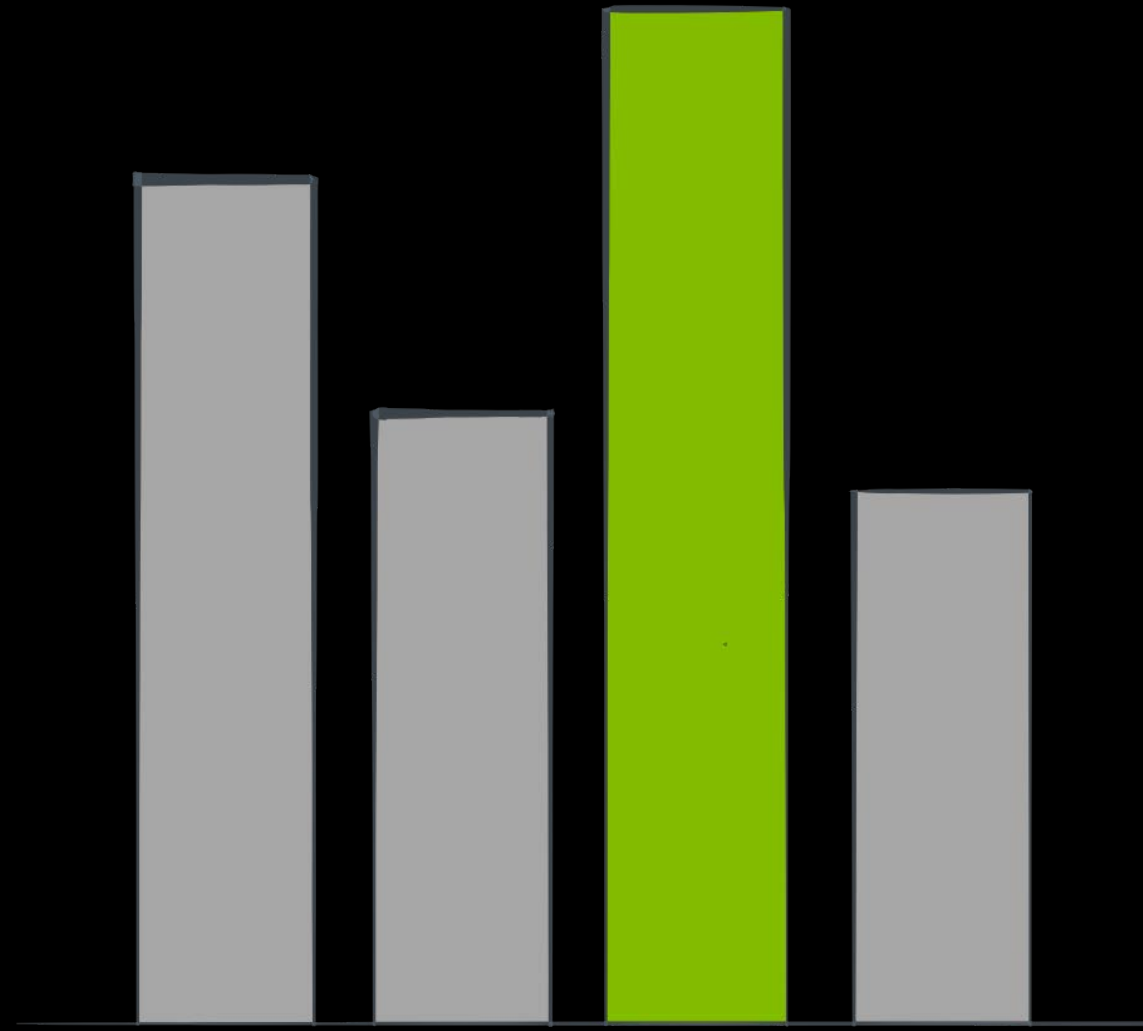
Source: Statista

## Is the poor network coverage a reason for New Brunswickers to have less access to the internet at home in Canada compared to other provinces in 2020?

Percentages

91.3    95.9

95.1% BC
95.9% AB
92.3% SK
91.3% MB
95.1% ON
92% QC
93% NL

92.8% PEI
92.3% NS
92.7% NB

Source: StatCan

NEW BRUNSWICK
NOUVEAU-BRUNSWICK

Source: nPerf

## Based on internet usage by province, New Brunswick is at bottom five (2018)
### Source: StatCan

94% Alberta
94% British Columbia
92% Ontario
91% Manitoba
90% Saskatchewan

89% New Brunswick
88% Prince Edward Island
88% Nova Scotia
88% Quebec
86% Newfoundland and Labrador

# VizEx

UNB | University of New Brunswick | EST. 1785

International Business & Entrepreneurship Centre

# NB : Stuck in Loop?

## Minimum Wage



**3 DAYS** MORE THAN REST OF THE CANADA TO EARN $1000

## Income vs Savings : Households (2019)

High Savings & High Disposable Income
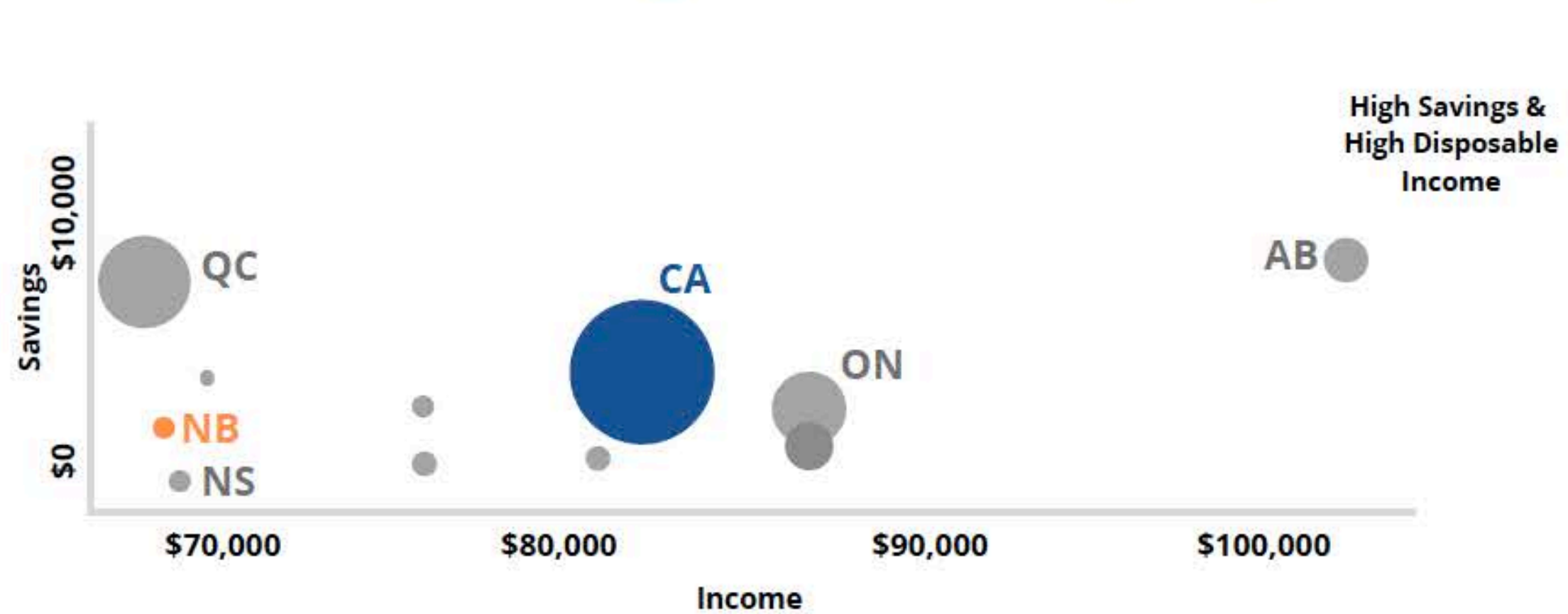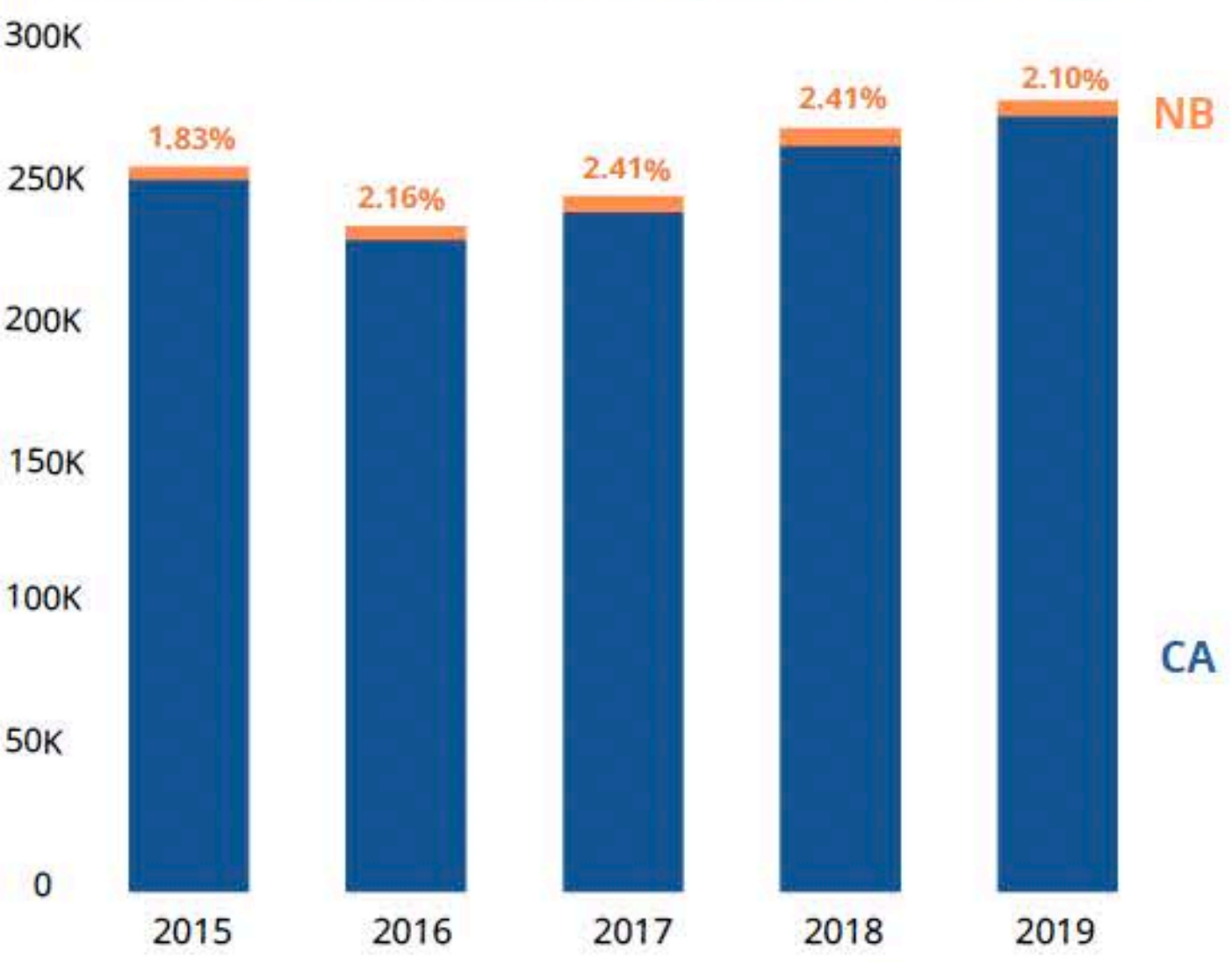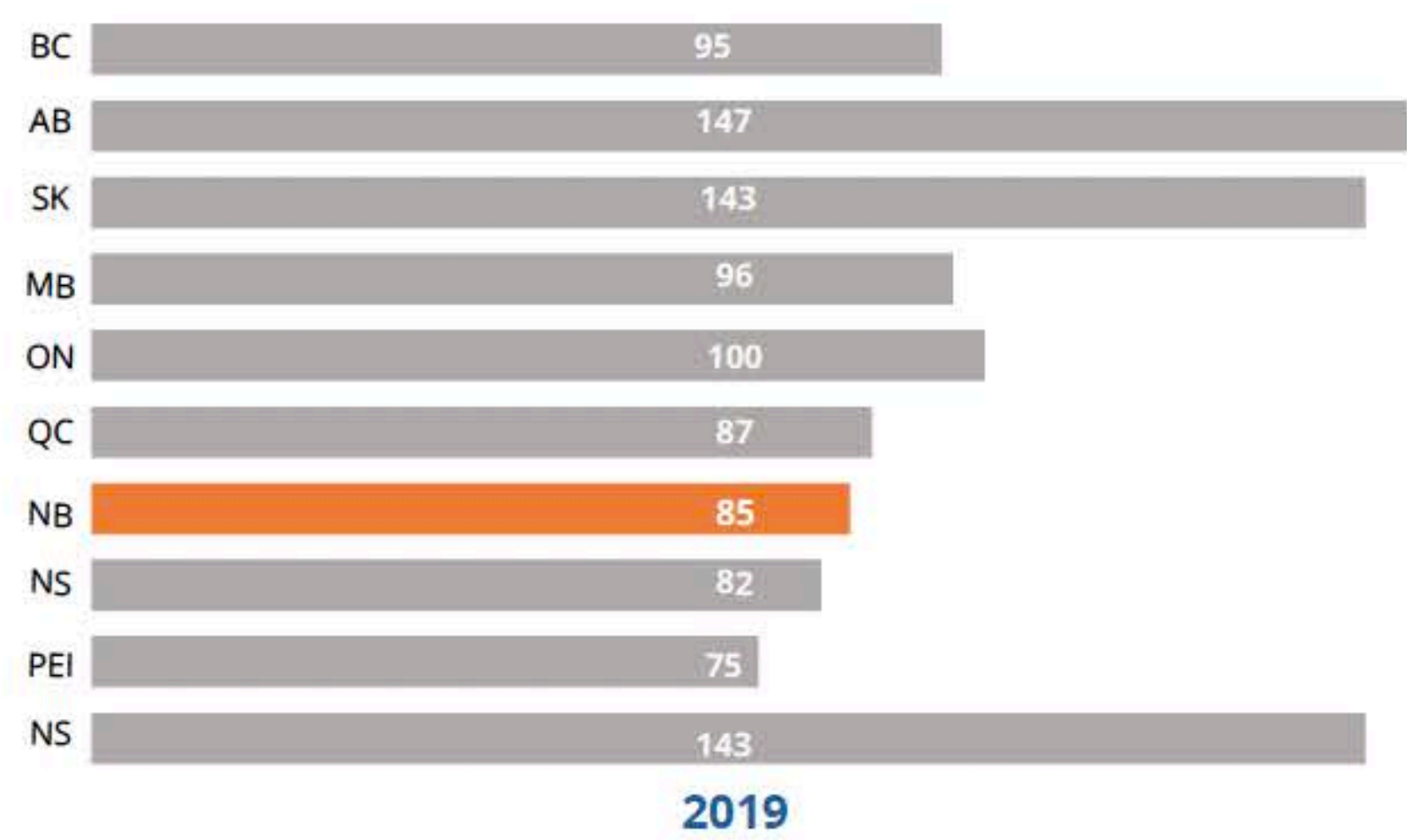


**NB has the lowest minimum wages in Canada. As a result, one of the lowest earnings & savings!**

## Low CapEx due to poor Savings



- 2015: 1.83%
- 2016: 2.16%
- 2017: 2.41%
- 2018: 2.41%
- 2019: 2.10%

NB / CA

## GDP by Employed persons (X1000)

| | |
|---|---|
| BC | 95 |
| AB | 147 |
| SK | 143 |
| MB | 96 |
| ON | 100 |
| QC | 87 |
| NB | 85 |
| NS | 82 |
| PEI | 75 |
| NS | 143 |

2019

## Industry Classification by Employment

2019

| | Manufacturing | Services |
|---|---|---|
| BC | 19% | 81% |
| AB | 28% | 72% |
| SK | 25% | 75% |
| MB | 24% | 77% |
| ON | 20% | 80% |
| QC | 21% | 79% |
| NB | 21% | 79% |
| NS | 19% | 81% |
| PEI | 25% | 75% |
| NL | 21% | 79% |
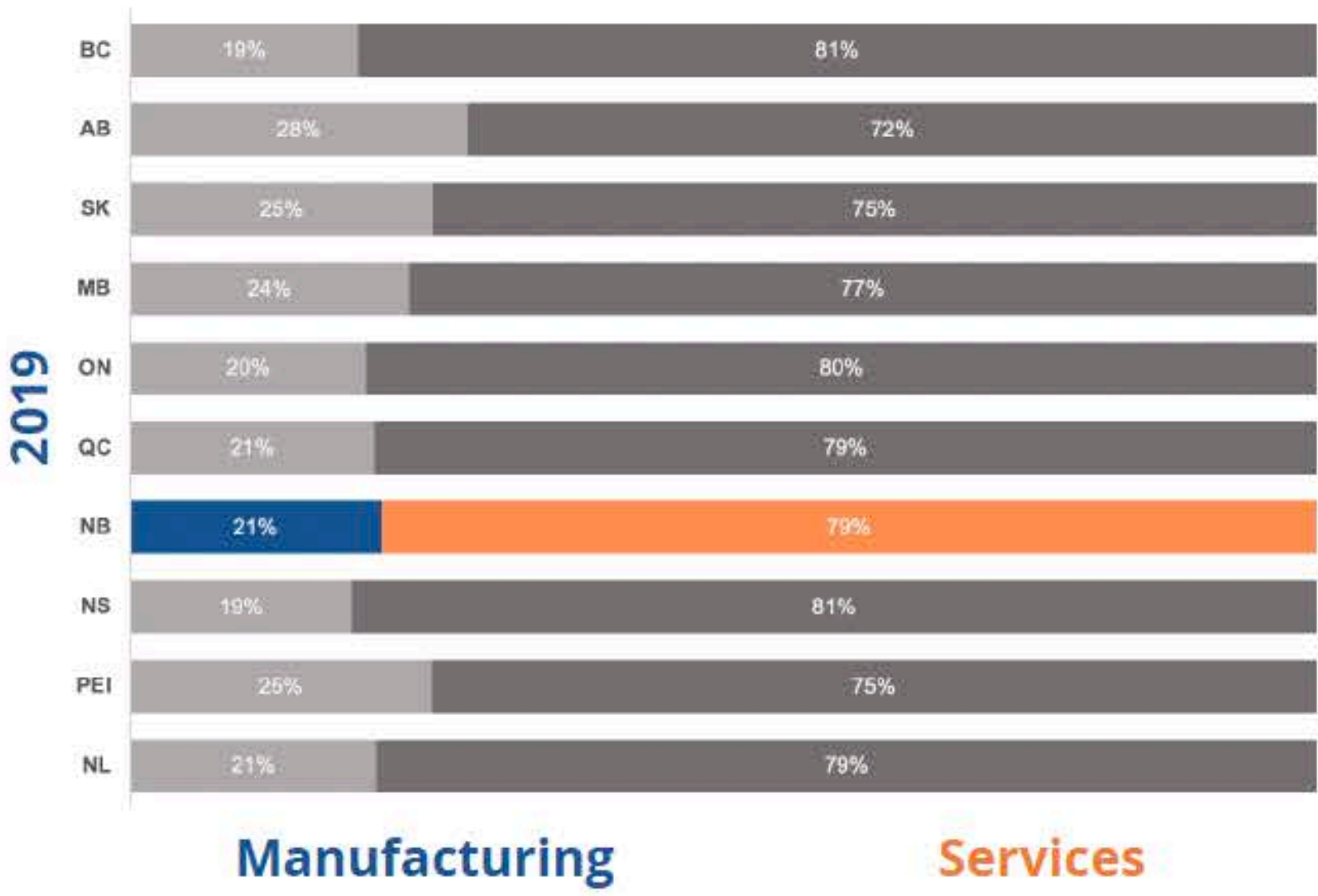
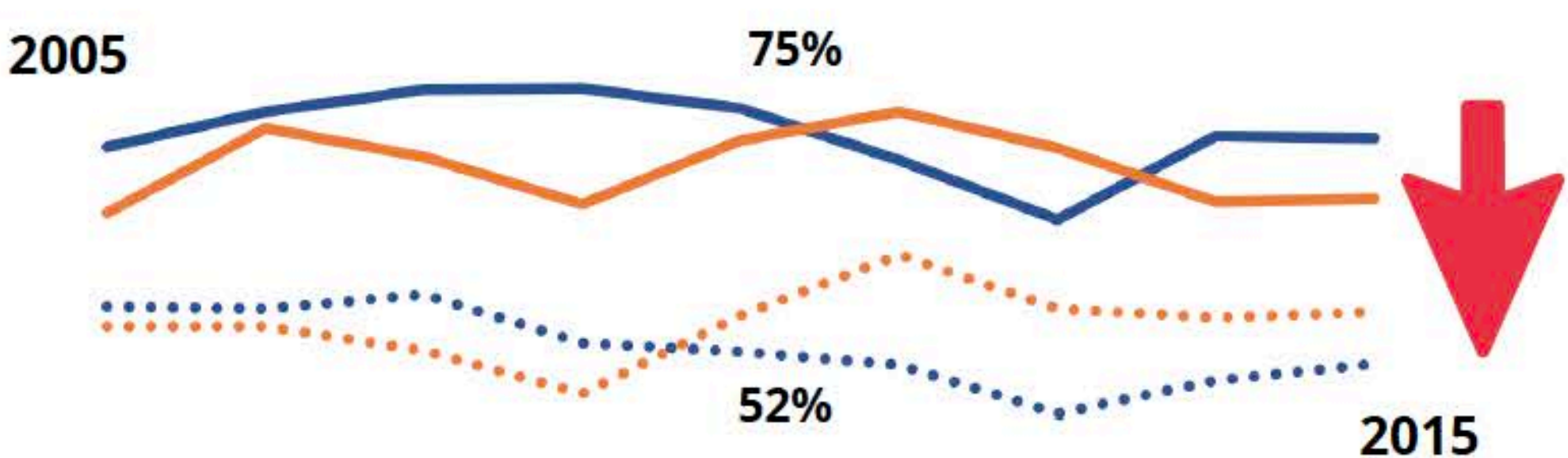**Due to low investment in NB, there is low diversification of industries and low GDP/Employee (SDG 8.2).**

**One of the primary reasons for low investment is an old population and NB's inability to retain migrants due to less opportunities.**

## Population Pyramid

2019



Canada / New Brunswick
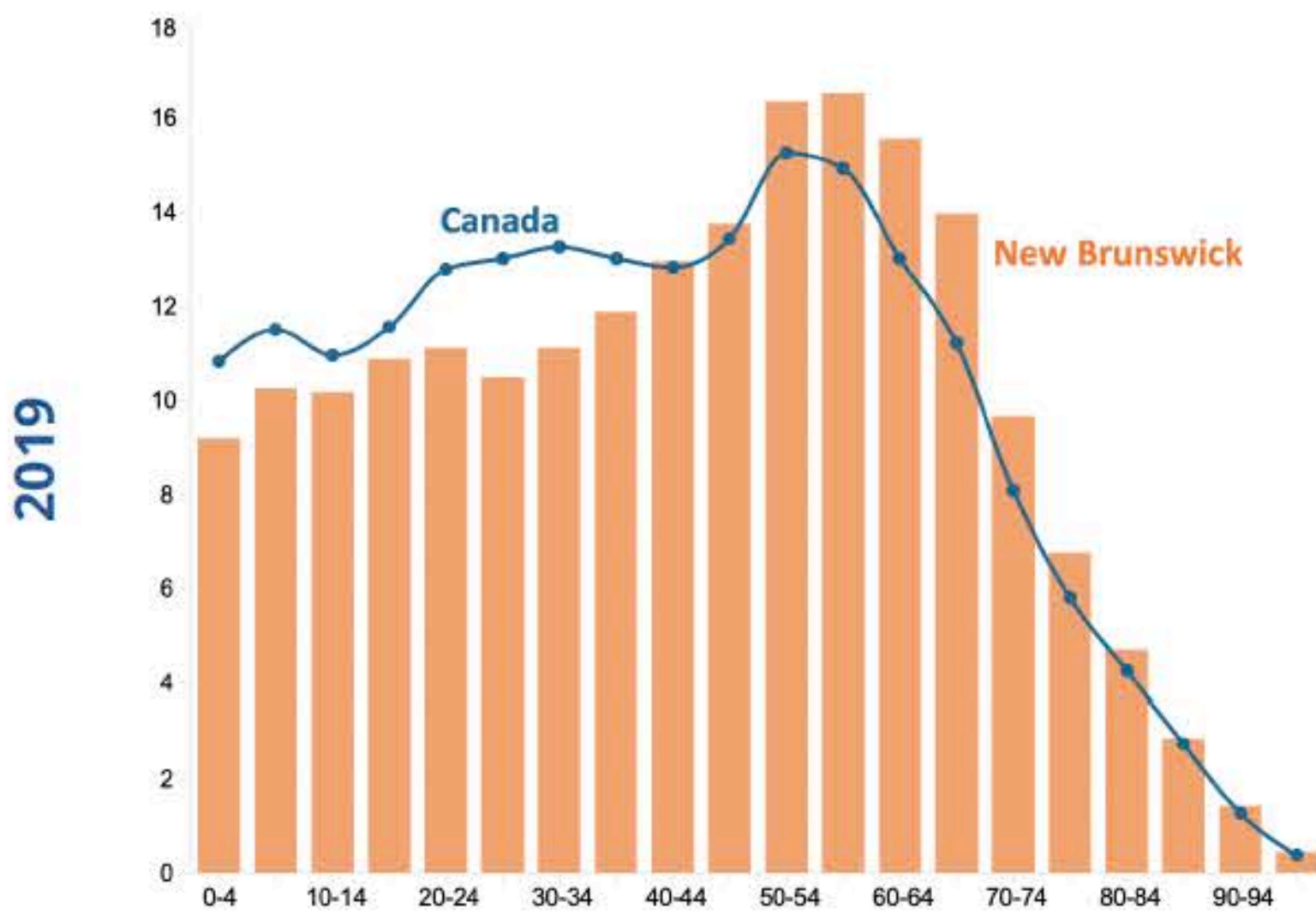
## Migrant Retention

2005 — 75%

52%

2015

**~20% Reduction in Migrant Retention in 5 year periods for business & skilled PNPs.**

# Viztory

UNB | International Business & Entrepreneurship Centre
EST. 1785
UNIVERSITY OF NEW BRUNSWICK

# airbnb

# Airbnb
# A Business Perspective
## by Viztory

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

All it took was a simple air mattress to spark a rise of this Unicorn start-up to a Travel Giant! Actively spanning 100k cities, 5.6 mil listings, 150 mil users, and 800 mil past visits in the global vacation rental market, this real data is perfect for management decision-making.

## 1 in 5

### HOSTS ARE SUPERHOST
*the strict criteria giving higher quality of stays, and in turn better ratings.*

## 2 in 5

### LISTINGS ALLOW INSTANT BOOKINGS
*a pioneer in smart instant book filters and many periods filled with reinventions*

## 4.756 out of 5

★★★★☆

### AVERAGE USER RATINGS
*in overall score, accuracy, cleanliness, check-in, communication, location, and value,*

The journey to bear the mark of a great host is far from easy. Airbnb spent much time ironing out rulings and finding its place on the global map. With new and changing host rulings to improve scores, and thus changing global regulatory responses that eventually converged to **moderately strict regulations**. Immediate and obvious progress was seen right the next year! Airbnb is on the right track to greatness by focusing efforts to engage hosts and improve score ratings through continuous support and feedback. Keeping these close to heart, Airbnb can soon **normalise** the notion that **anyone can belong anywhere**!

Average Score is 93.3%          Average Score is 93.3%

2010  2011  2012  2013  2014  2015  2016  2017  2018  2019  2020  2021

*After ironing out new host rulings to Moderately Strict Regulations*

## THE WORLD'S MOST POPULAR TRAVEL DESTINATIONS WITHIN AIRBNB'S 12 HISTORICAL YEARS

**Paris**
65k Listings
336k Reviews
93.0% Score

**Istanbul**
25k Listings
79k Reviews
91.1% Score

**New York City**
37k Listings
187k Reviews
93.7% Score

**Rome**
28k Listings
146k Reviews
93.5% Score

**Hong Kong**
7k Listings
26k Reviews
89.7% Score

**Mexico City**
20k Listings
101k Reviews
94.8% Score

**Bangkok**
19k Listings
78k Reviews
93.0% Score

**Sydney**
34k Listings
156k Reviews
93.2% Score

**Rio de Janeiro**
27k Listings
113k Reviews
94.6% Score

**Cape Town**
19k Listings
94k Reviews
94.4% Score