Development, Environment, Growth and Change:

Measuring Community Progress on the UN's Sustainable Development Goals

September 10th, 2018
EDAC 2018, Fredericton

Major Cities	
Charlotte, NC	163 miles
Atlanta, GA	148 miles

Major Ports	
Port of Charleston	140 miles
Port of Savannah	143 miles
Port of Brunswick	201 miles
Port of Jacksonville	262 miles

Major Airports	
Augusta Regional Airport	local
Hartsfield-Jackson Atlanta International Airport	154 miles
Savannah/Hilton Head International Airport	133 miles

LOSS OF SPECIES BIODIVERSITY

EVERY 20 MINUTES
THE WORLD ADDS
+ 3,500 HUMAN LIVES AND LOSES
– 1 OR MORE SPECIES

27,000 SPECIES LOST A YEAR

EVERY 60 MINUTES
↑ = 15 ACRES
240 ACRES OF NATURAL HABITAT ARE DESTROYED

70% OF THE WORLD'S KNOWN SPECIES RISK EXTINCTION IF THE GLOBAL TEMPERATURE RISES BY MORE THAN 3.5°C

75% OF GENETIC DIVERSITY IN AGRICULTURAL CROPS HAS BEEN LOST

20% OF THE WORLD'S SPECIES COULD BE GONE IN 30 YEARS

80% OF THE DECLINE IN BIOLOGICAL DIVERSITY IS CAUSED BY HABITAT DESTRUCTION

1 OUT OF 4 AMPHIBIANS

BIRDS

CONFIERS

MAMMALS &

6 OUT OF 7 MARINE TURTLES

ARE THREATENED BY EXTINCTION

75% OF THE WORLD'S FISHERIES ARE FULLY OR OVER EXPLOITED

BIODIVERSITY IS NECESSARY FOR HUMAN SURVIVAL
HUMANS HOLD THE POWER TO STOP THE LOSS

Sea level rising fastest in 2,800 years

Global warming caused more than half of oceans' rise during the 1900s

BY THOMAS SUMNER MAR 7, 2016 — 7:00 AM EST

Millennium Development Goals (2000-2015)

GOAL	REALITY
GOAL 01 Eradicate extreme hunger and poverty.	The UN recognises that 800 million people go hungry every day. Goal One will not be reached in Africa until 2147, on current trends.
GOAL 02 Achieve universal primary education.	As many as 113 million children do not attend school.
GOAL 03 Promote gender equality and empower women.	Two-thirds of those who are illiterate are women.
GOAL 04 Reduce child mortality.	In developing countries, one child in 11 dies before its fifth birthday, compared with 1 in 143 in developed countries.
GOAL 05 Improve maternal health.	In the developing world, the risk of dying in childbirth is one in 48, compared to one in 1,800 in the developed world.
GOAL 06 Combat HIV/AIDS, malaria and other diseases.	An additional 45 million people will become infected with HIV in developing countries between 2002 and 2010, unless the world mounts a more effective campaign to halt the disease's spread.
GOAL 07 Ensure environmental sustainability.	At current rates of progress, 1 billion people will still have no access to clean water and 83 countries will miss the goal altogether.
GOAL 08 Develop a global partnership for development.	Global aid needs to double from 50 billion US Dollars to 100 billion US Dollars per annum, if the Goals are to

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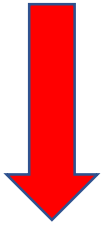SDSN Canada

Statistics Canada   Statistique Canada

Millennium Development Goals

- Goal One: Eradicate Extreme Poverty and Hunger

- Specific Targets: Reduce by half the proportion of people living on less than $1.25 a day

ERADICATE
EXTREME POVERTY
AND HUNGER

1

Millennium Development Goals

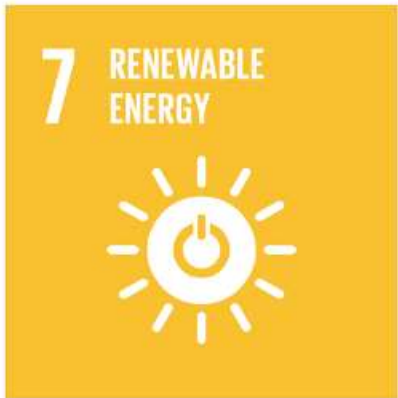- Measuring Progress

- 1.9 billion
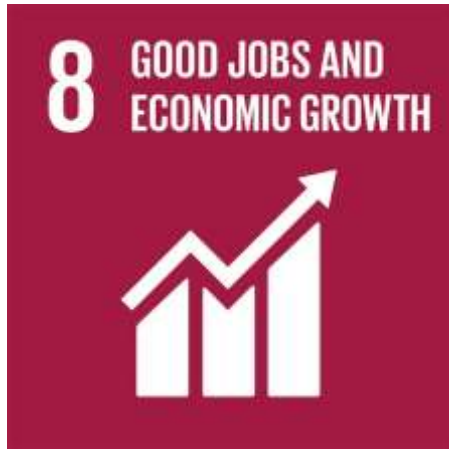
- 836 million by 2015

Millennium Development Goals

- Two Key Lessons

- Success is possible

- For even bigger challenges, wider mobilization is needed

Sustainable Development Goals (2015-2030)

The Global Goals for Sustainable Development

1 NO POVERTY

2 NO HUNGER

3 GOOD HEALTH

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

7 RENEWABLE ENERGY

8 GOOD JOBS AND ECONOMIC GROWTH

9 INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION

13 CLIMATE ACTION

14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE AND JUSTICE

17 PARTNERSHIPS FOR THE GOALS

THE GLOBAL GOALS
For Sustainable Development

The SDGs & Economic Development

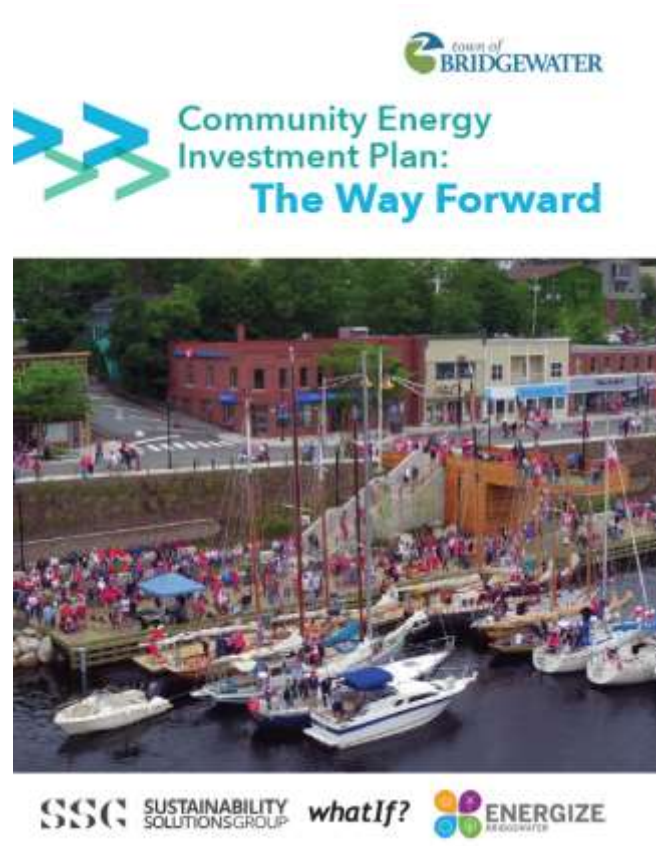# Local Development & the SDGs

Local Development & the SDGs

- An economic development rationale for the SDGs

- Economic Leakage

- Indicative of a Larger Process at Play

- Economic Growth & Energy Consumption

Local Development & the SDGs

Investment opportunity	Economic benefit (2018-2050)			Energy benefit (GHG emissions reduced, 2018-2050, kilotonnes)
	Investment ($ millions)	Savings ($ millions)	Return on investment (%)	
Net zero and passive house performance standards: by 2030, all newly constructed buildings meet the highest energy performance standard.	1.7	15	805%	45
Retrofit existing buildings: by 2050, the envelope efficiency of all homes and apartments, and all commercial facilities is improved by 50%, and industrial facilities operate 50% more efficiently.	84	382	353%	1,290
Heat pumps: by 2050, 60% of all residential buildings and 85% of all commercial buildings have heat pumps installed.	19	105	451%	354
Solar PV and hot water: by 2050, 80% of all buildings have solar PV systems, and 50% of buildings have solar hot water systems installed.	48	80	65%	308

Local Development & the SDGs
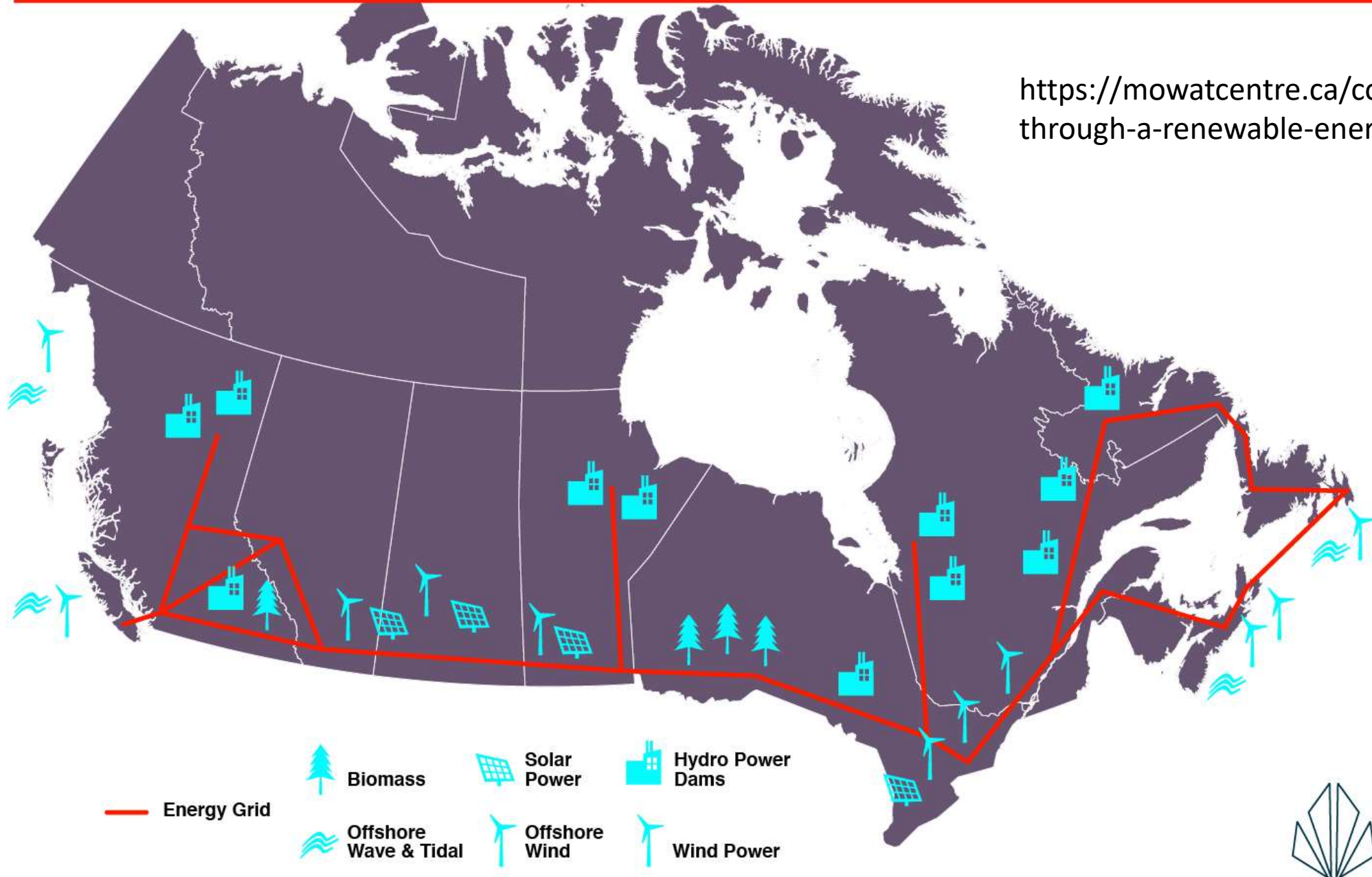

LC-mod person years of employment
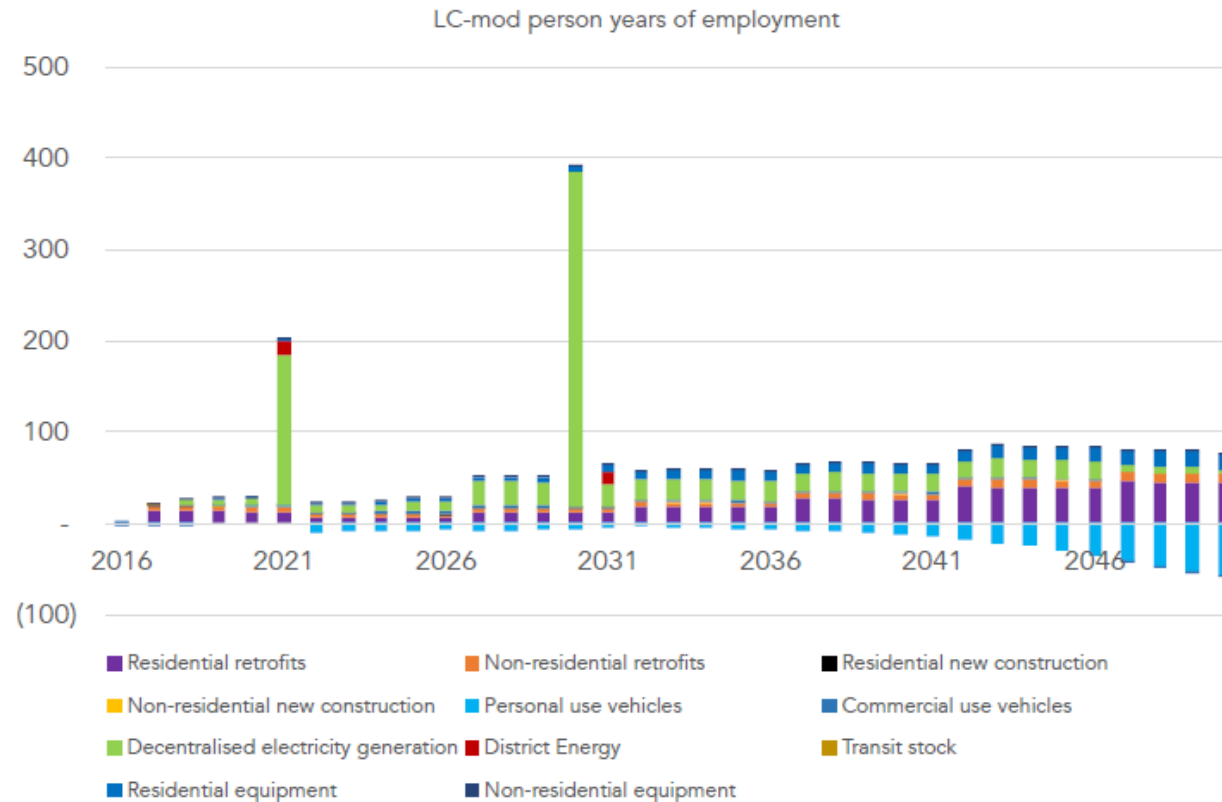
Building Networks for the SDGs

- Today, there are a few leaders in the SDG space

- But the UN has recognized that broader progress requires stronger partnerships

- Widespread knowledge sharing & adoption of emerging practices is required for successful implementation of the SDGs

An overly simplistic map of how a Canadian renewable power supergrid could look

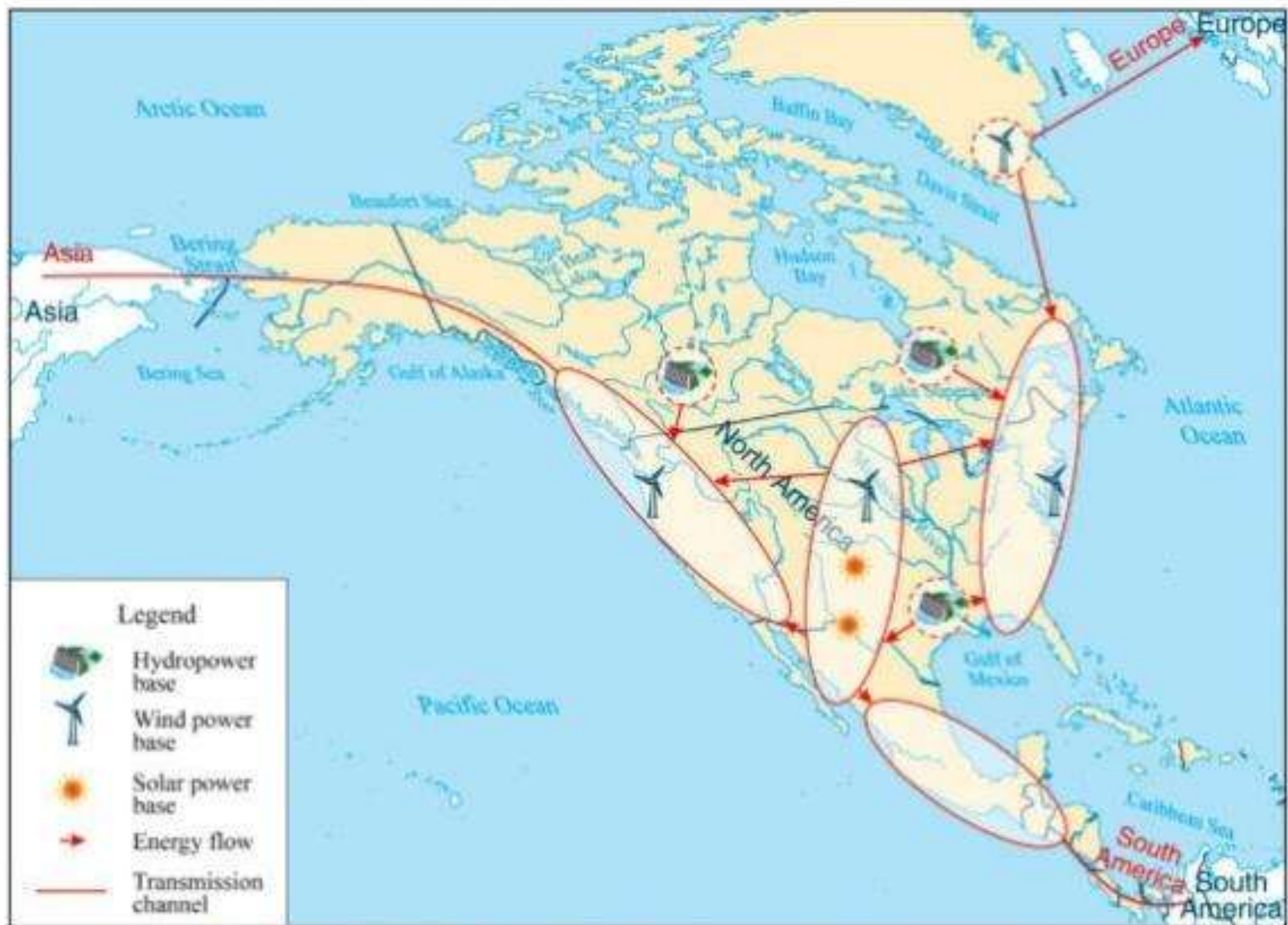https://mowatcentre.ca/connecting-canadians-through-a-renewable-energy-supergrid/

Legend:
- Energy Grid
- Biomass
- Offshore Wave & Tidal
- Solar Power
- Offshore Wind
- Hydro Power Dams
- Wind Power

Legend

- Hydropower base
- Wind power base
- Solar power base
- Energy flow
- Transmission channel

Illustration of North America's Transnational Grid Interconnections

Canada's Role in the SDGs

- Decarbonization of the energy system
- Sustainable food and biodiversity
- Circular economy
- Smart infrastructure
- Investments in human capital
- Sustainable cities

How do Canadians engage with the SDGs?

SUSTAINABLE DEVELOPMENT
SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

A Focus on Knowledge Institutions

- Policy Support

- Research and Development

- Incubation of Business

- Education

- Multi-Stakeholder Convening

SDSN Network

Draws upon the knowledge and educational capacity of over **800 member institutions**.

To date, **26 national and regional networks** have been established, with more to be launched in the next 12 months.

Members ⊙
Regional ▣
National ◈

SDSN Global

SDSN aims to:

1. **Localize the SDGs at a subnational level**

2. **Vet and launch Solutions Initiatives**

3. **Promote high-quality education and research around sustainable development**

4. **Support the development of long-term pathways for sustainable development**

SDSN Canada

- Launched in May 2018

- Hosted by the University of Waterloo, in partnership with the Waterloo Global Science Initiative

- 20 member institutions

- Develop and improve educational programming for sustainable development

- Conduct action-oriented research to accelerate problem solving for sustainable development

- Organize national gatherings to identify and promote solutions initiatives

- Foster debate and link Canadian expertise to global initiatives

USA Sustainable Cities Initiative

- Pilot to support SDG integration as part of City sustainability planning efforts

- New York City first city in the world to create a "Voluntary Local Review" to report on their SDG progress

USA Sustainable Cities Index

Rank	MSA	Index
1	San Jose-Sunnyvale-Santa Clara, CA	61.04
2	Provo-Orem, UT	58.05
3	Seattle-Tacoma-Bellevue, WA	57.98
4	San Francisco–Oakland–Hayward, CA	56.43
5	San Diego-Carlsbad, CA	56.38
6	Albany-Schenectady-Troy, NY	56.29
7	Boise City, ID	55.23
8	Oxnard-Thousand Oaks-Ventura, CA	53.98
9	Boston-Cambridge-Newton, MA-NH	53.88
10	Portland-Vancouver-Hillsboro, OR-WA	53.14

● 81–100
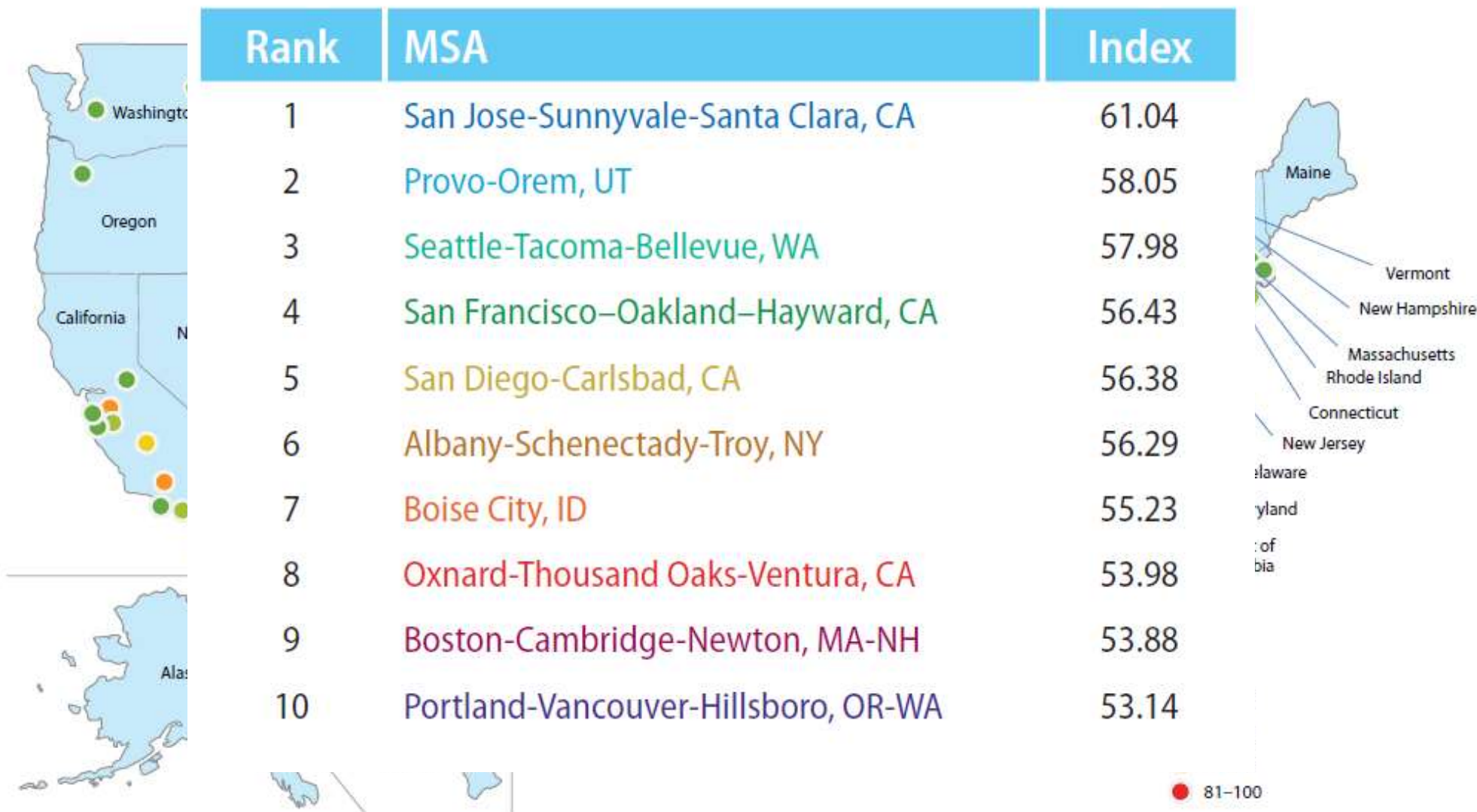
SDSN Canada wants to collaborate with you

Data and the SDGs

Role of Statistics Canada

In July 2017, the United Nations (UN) General Assembly adopted a Resolution stressing that "data from National Statistical Systems constitute the basis for the global indicator framework" and reinforced the role of national statistical offices (NSOs) in the areas of collection, coordination, reporting and validation of data and statistics for strategic development goals (SDGs).

Role of Statistics Canada

- Trusted producer of high-quality, robust, impartial statistical information

- Renowned methodological and subject matter expertise

- Well-established networks within Canada as well as internationally

- Statistics Canada has data for all goals with the exception of Goal 13 (Climate action) and Goal 14 (Life below water)

Role of Statistics Canada

- [Data Hub for global indicators](#)

- Explore new sources of data and technologies for SDG reporting

- Work with other stakeholders to develop domestic indicators to measure Canada-specific SDG progress

- Ensure that data are at the center of discussions

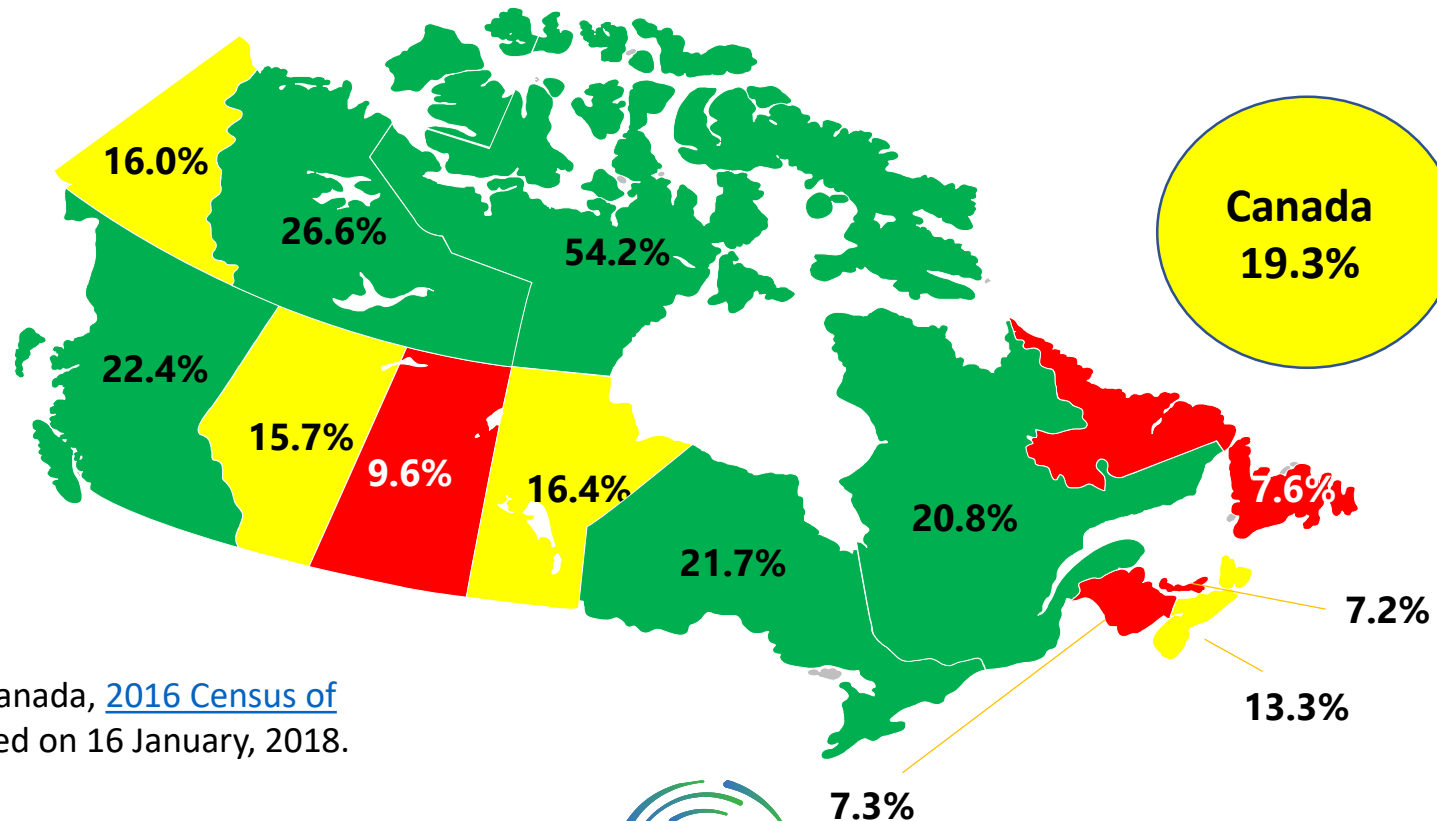# Poverty rate based on Market Basket Measure, Canada, selected populations, 2002 to 2015 (%)

Source: Statistics Canada, CANSIM Table 206-0041. Accessed on 10 January, 2018.

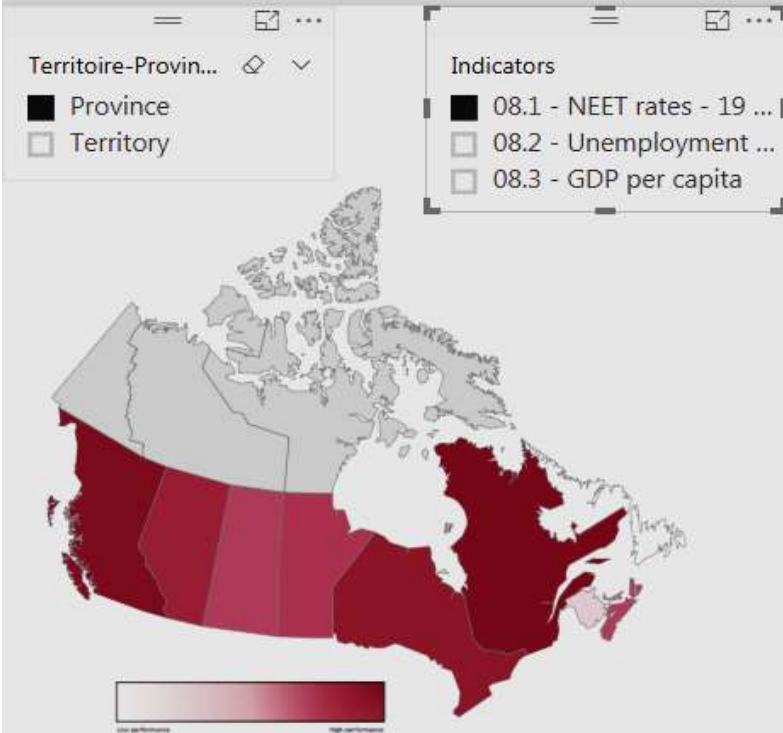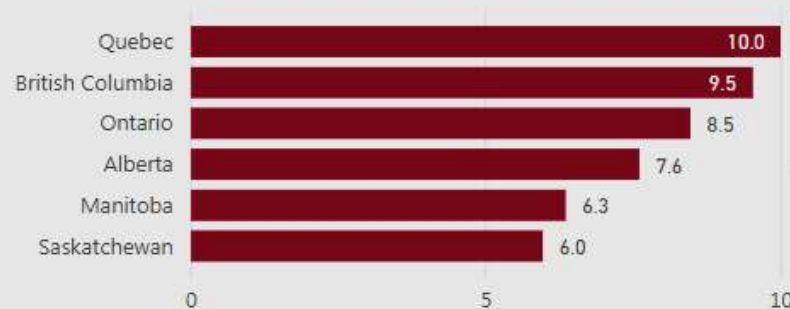# Mortality rate, suicides and homicides, Provinces and territories, 2014 (rate per 100,000 population)

Proportion of employed labour force that use public transit, a bike or walked as main mode of commuting to their work, Provinces and territories, 2016

11 SUSTAINABLE CITIES AND COMMUNITIES

16.0%

26.6%

54.2%

Canada
19.3%

22.4%

15.7%

9.6%

16.4%

20.8%

21.7%

7.6%

7.2%

13.3%

7.3%

Source: Statistics Canada, 2016 Census of Population. Accessed on 16 January, 2018.

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Statistics Canada Statistique Canada

Indicators
■ 08.1 - NEET rates - 19 ...
☐ 08.2 - Unemployment ...
☐ 08.3 - GDP per capita

Youth NEET rate

Province	Value
Quebec	10.0
British Columbia	9.5
Ontario	8.5
Alberta	7.6
Manitoba	6.3
Saskatchewan	6.0

Unemployment rate

Province	Value
British Columbia	10.0
Manitoba	9.7
Saskatchewan	9.6
Ontario	9.2
Quebec	8.6
Alberta	6.9
Nova Scotia	6.8

GDP per capita

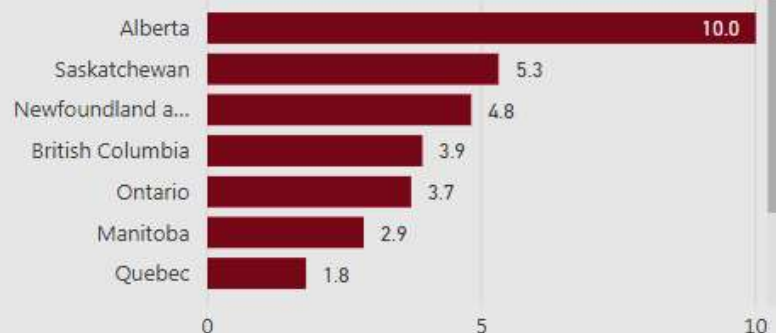| Province	Value
Alberta	10.0
Saskatchewan	5.3
Newfoundland a...	4.8
British Columbia	3.9
Ontario	3.7
Manitoba	2.9
Quebec	1.8

Why are these indicators important?

The youth NEET indicator has the potential to identify patterns of vulnerabilities among youth, including issues of unemployment, early school leaving and labour market discouragement.

The unemployment rate is an indicator used to take the pulse of the economy. A rising unemployment rate is correlated with a weaker economy in which slow growth and hiring also lead to lower spending by households.

GDP per capita is also an indicator used to take the pulse of the economy. In simple terms, it represents the size of the economy and is therefore correlated with employment and spending.

Youth NEET rate
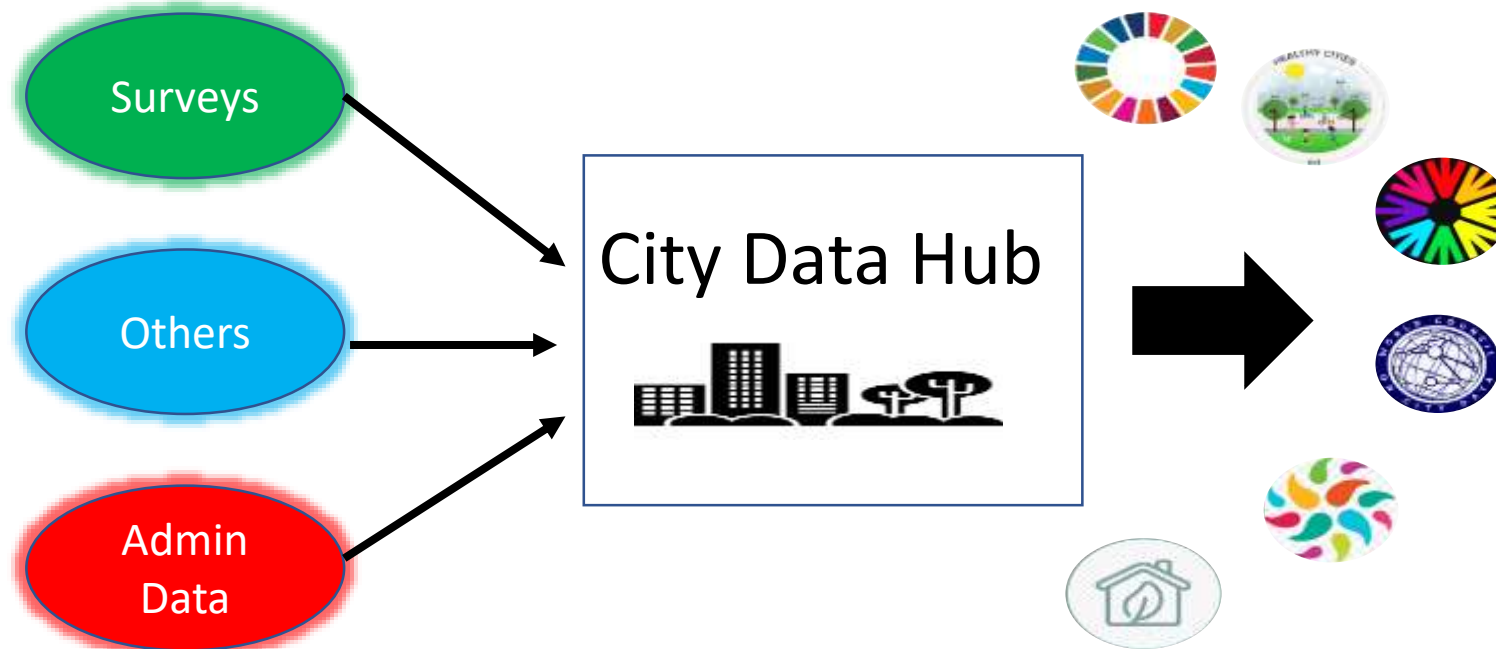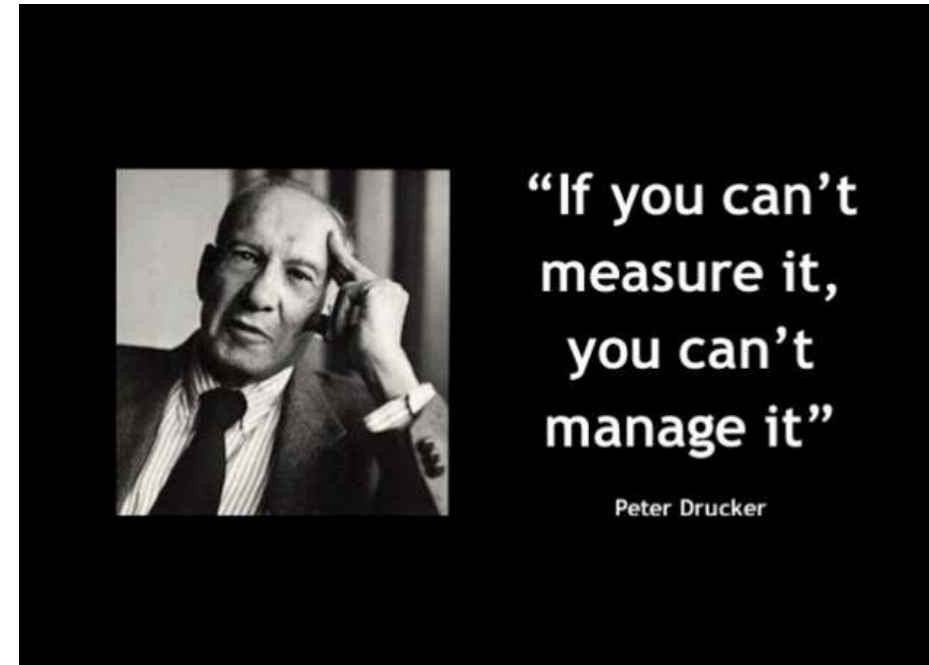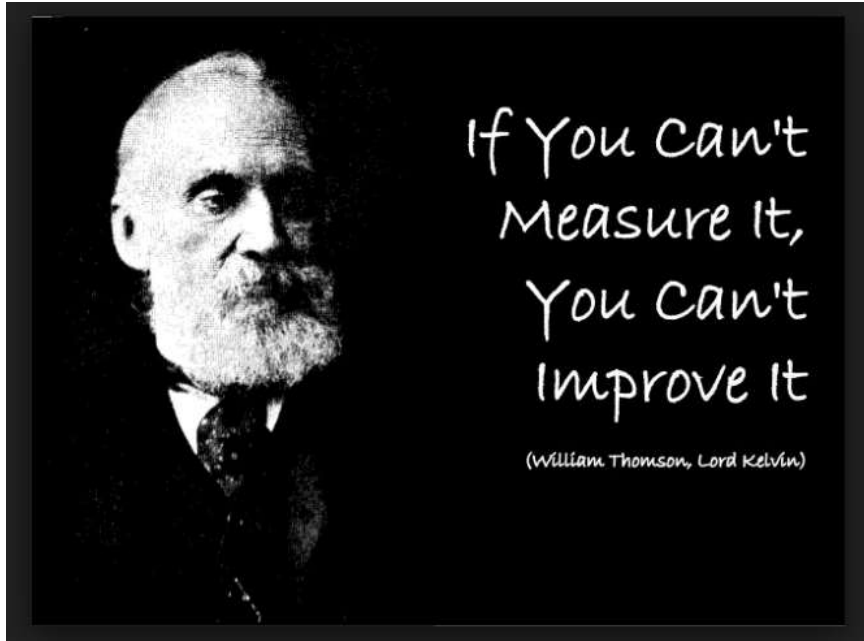
		Description
Dataset year	2016	Percentage of the population aged 19 to 24 (youth) that is not in education, employment or in training.
Source	Labour Force Survey micro data	
Best Value	10.3	
Worst Value	20.7	
Target	Aspirational	

Notes
According to the International Labour Organization, the NEET indicator has the potential to identify patterns in vulnerabilities among youth, including issues of unemployment, early school leaving and labour market discouragement. However, the statistic is not available for the Territories.

Unemployment rate

		Description
Dataset year	2016	Percentage of the population aged 15 to 64 that is in the labour force and without employment, i.e. actively searching for work.
Source	CANSIM, Table 282-0002	
Best Value	6.1	
Worst Value	13.3	
Target	Aspirational	

Notes
Persons excluded from the target population of the Labour Force Survey are persons living on reserves and other Indigenous settlements in the provinces; full-time members of the Canadian Armed Forces, the institutionalized population, and households in extremely remote areas with very low population density. Moreover, the statistic is not published for the Territories.

GDP per capita

		Description
Dataset year	2016	Real gross domestic product (GDP) per capita (chained 2007 dollars) at basic prices.
Source	CANSIM, Table 379-0030	
Best Value	83,932	
Worst Value	31,667	
Target	Aspirational	

Notes
Data are extracted from administrative files and derived from other Statistics Canada surveys and/or other sources. The provincial GDP measures rely heavily on a wealth of information from various areas of Statistics Canada. A large amount of information from various survey divisions within the bureau, along with other data, is compiled, integrated and analysed as part of the complex process of arriving at provincial GDP by industry.
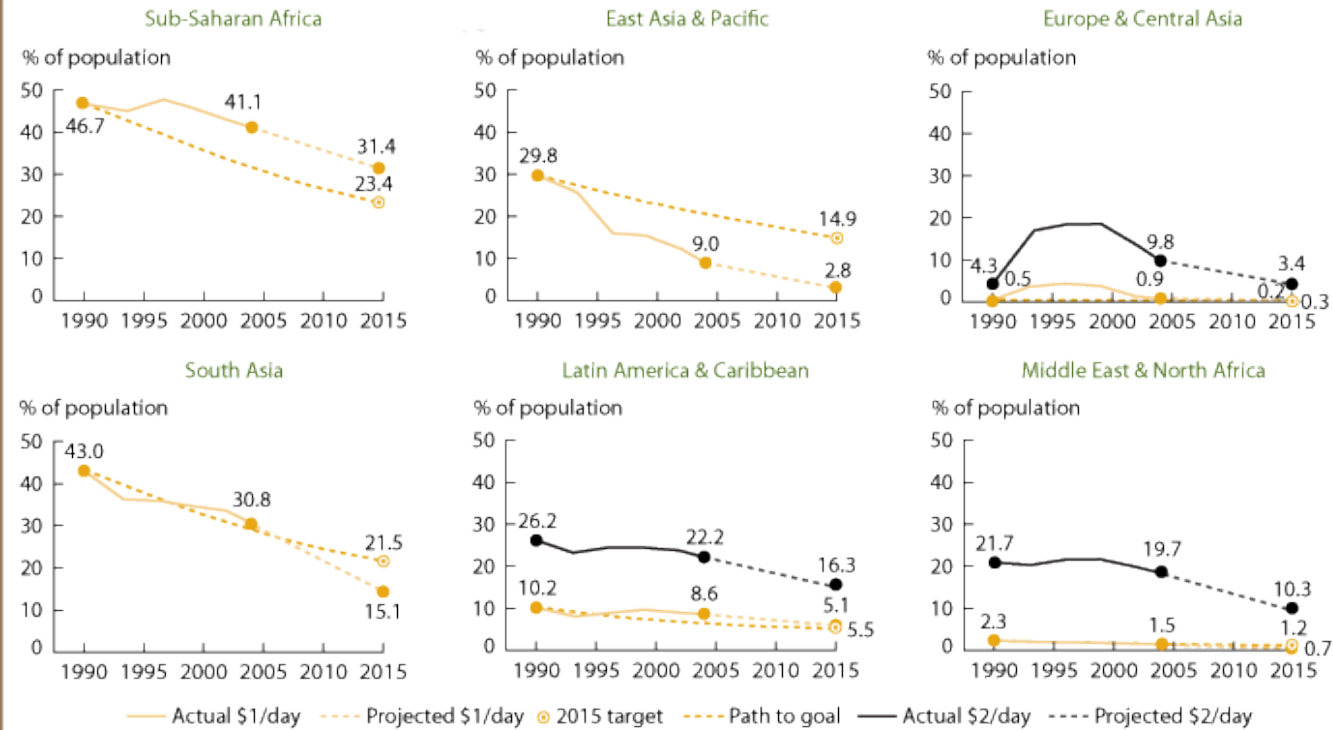
City Data Pilot

If You Can't Measure It, You Can't Improve It

(William Thomson, Lord Kelvin)

"If you can't measure it, you can't manage it"

Peter Drucker

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SDSN Canada

Statistics Canada / Statistique Canada

Measuring Progress

Measuring Progress

Share of people living on less than $1 or $2 a day in 2004, and projections for 2015

Measuring Progress in Cities
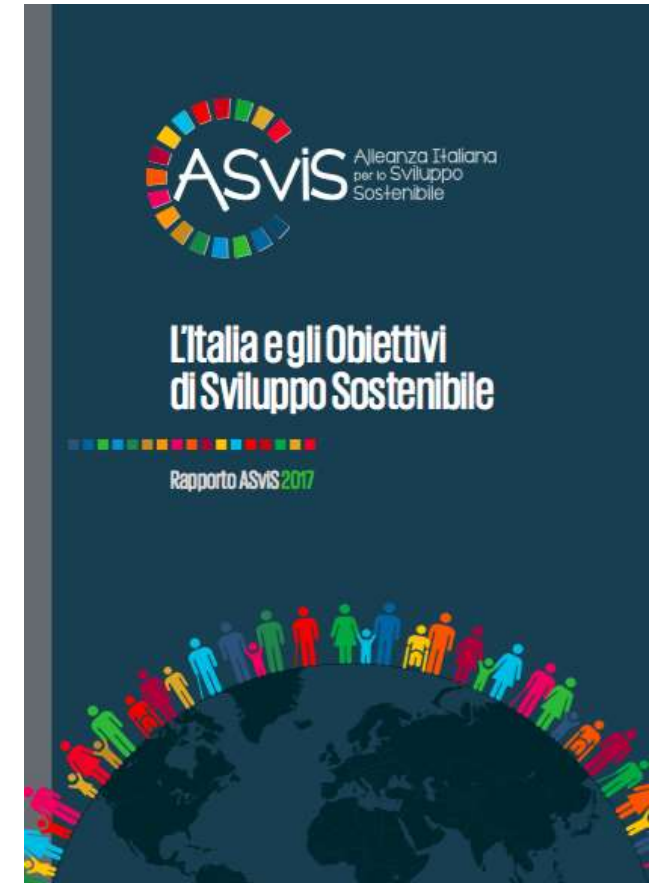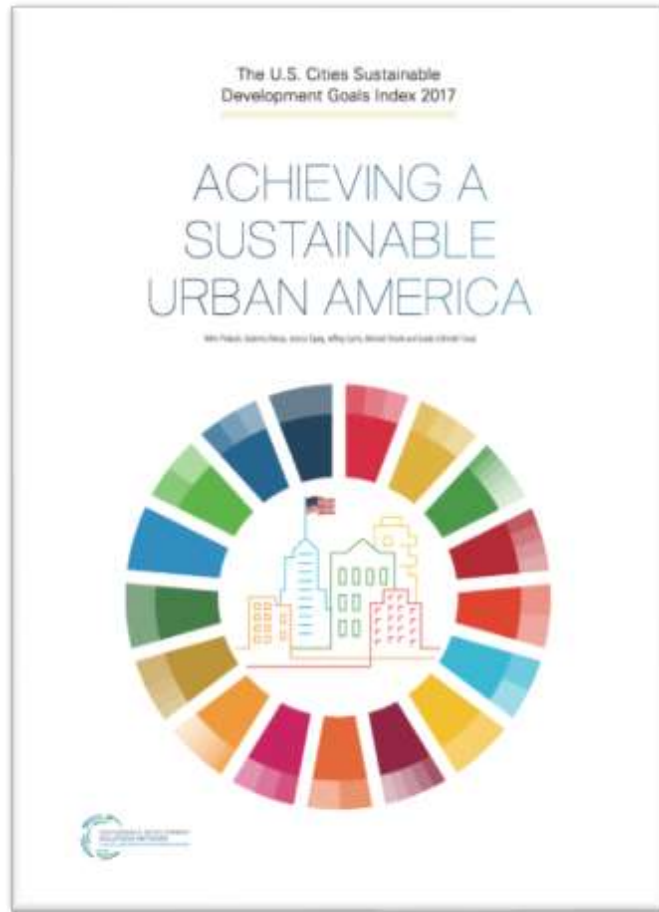
Partnerships for the Goals

Brock Dickinson, University of Waterloo

Jon Beale, SDSN Canada

Patrice Martineau, Statistics Canada