

AssetAdapt+ Cohort

Integrating Adaptation + Sustainability for Capital

Project Procurement & Funding Success!

Lourette Swanepoel, MASLA, RPP, MCIP, ENV SP

CWWA National Conference

November 2025



Société canadienne
de génie civil

Canadian Society for
Civil Engineering



Agenda

1. **Call to Action for Infrastructure Delivery** (10min)
2. **AssetAdapt+ Cohort** (5min)
3. **Procurement as the Change Catalyst** (20min)
Discussion
4. **Funding Themes** (50min)
Discussion
5. **Closing** (5min)

Call to Action for Infrastructure Delivery



ENVISION
CANADA

Critical Times for Infrastructure

- Local governments own **~60% of Canada's public infrastructure**
- Investment dropped from **3% of GDP (1950s)** to **1.5% (1990–2000s)**
- **Infrastructure deficit:** at least **\$150B (to trillions)**
- **Build Canada Homes (BCH):**
 - Doubling the rate of housing construction
 - 500,000 new homes annually over the next decade
- **Infrastructure is key** to unlocking growth and connecting communities

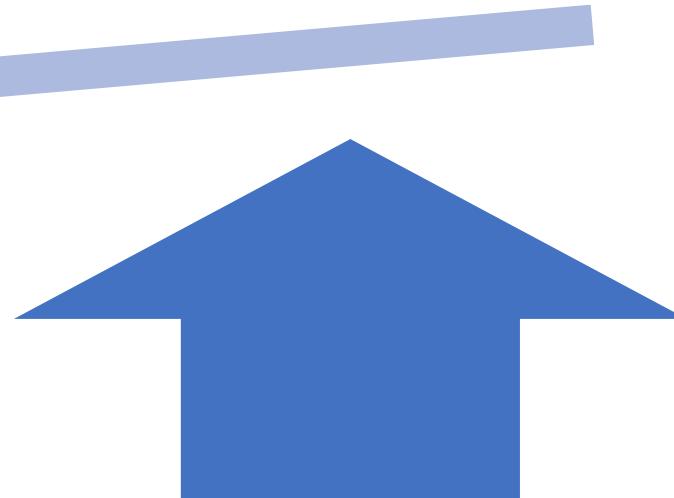
Sources: Federation of Canadian Municipalities (FCM); School of Cities, University of Toronto

Cumulative Impacts



The construction industry consumes approximately 15% of the world's freshwater supply

\$1B invested = \$1.6 B economic growth, 18,000 jobs



How many Earths would we need if everyone lived like U.S.A. residents?



Global Overshoot

- Demanding resources and services from nature at a rate nearly **double of what Earth can supply**
- Currently using the equivalent of **1.8 Earths globally** to support us
- Canada using **more than 5 earths**

*“Sustainable development is...
...development that meets
the needs of the present
without compromising the
ability of future generations to
meet their own needs.”*

• *-Brundtland Commission Report 1987*

Earthrise, 1968 Apollo 8



Building Today for Tomorrow



Roads
20-40 years

Treatment Plants
40-60 years

Distribution / Collection Networks
50-100 years

Bridges
50-100 years

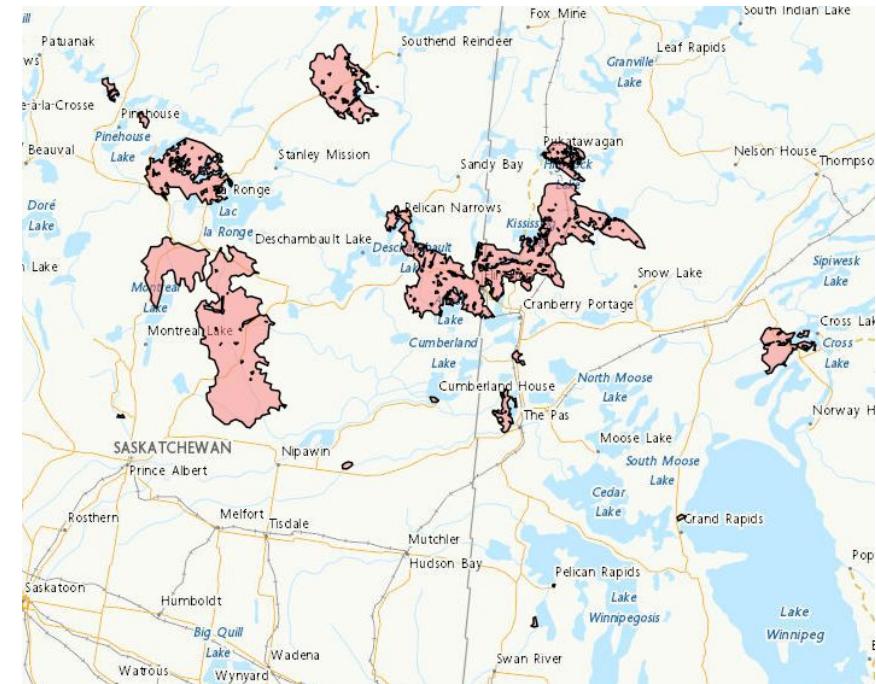
Dams
50-100 years

Sources: Canada Infrastructure Report Card (2019);
Statistics Canada CCPIS (2020); Asset Management BC

A Shifting Climate



Washed out bridge at the Carolin Mine interchange with Coquihalla Hwy 5 after devastating rain storms caused flooding and landslides, near Hope, British Columbia, Canada November 17, 2021. November 17, 2021. B.C. Ministry of Transportation and Infrastructure



2025 Fires have displaced more than 30,000 people by early June across AB, SK, MB and ON. Map: Natural Resources Canada.
<https://cwfis.cfs.nrcan.gc.ca/interactive-map>

Financial Impact

- **\$25 Billion/year** negative impact on Canadian economy □ equal to ~50% of projected GDP growth
- Up to **2.9 million jobs lost** by the end of the century without stronger adaptation
- High Return on Adaptation □ **\$1 invested** in adaptation yields **\$13–\$15 in benefits**



Call to Action

- **Sustainability:** “We resolve to **build a better future for all** people... We can be the first generation to succeed in ending poverty; just as we may be the last to have a chance of **saving the planet.**”

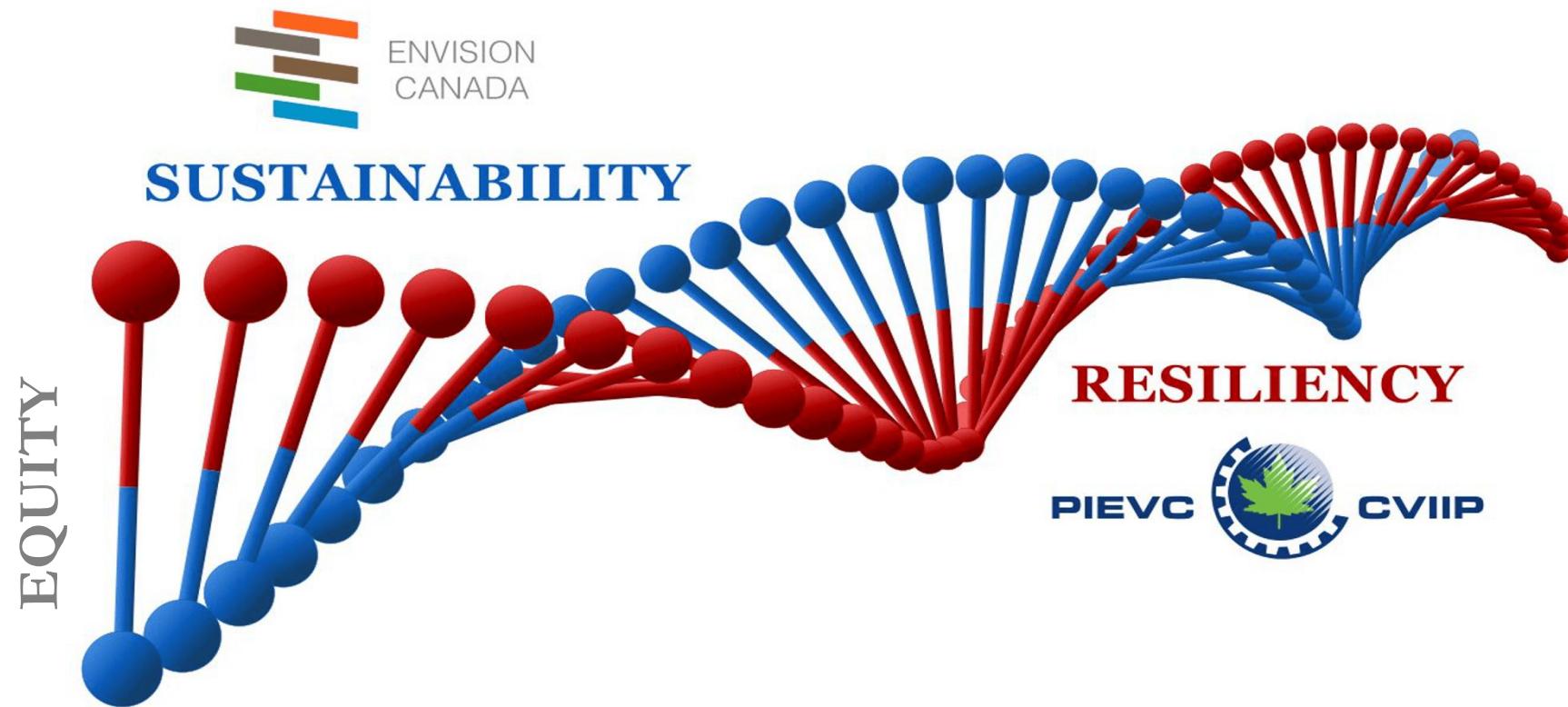
Source: Transforming our World: The 2030 Agenda for Sustainable Development

- **Climate:** “To avoid mounting losses, urgent action is required to adapt to climate change. At the same time, it is essential to make rapid, deep cuts in greenhouse gas emissions to keep the maximum number of adaptation options open.”

Source: Sixth Assessment Report Working Group II presentation



DNA for Our Community Infrastructure



AssetAdapt+ Cohort



ENVISION
CANADA

AssetAdapt+ Team

Delivery Partners:



Société canadienne
de génie civil
Canadian Society for
Civil Engineering

CLIMATE
RISK
INSTITUTE

Supporters:



Institute for
Sustainable
Infrastructure

CWWA  **ACEPU**
Canadian Water and Wastewater Association canadienne des eaux potables et usées

Funder:



GREEN
MUNICIPAL
FUND

FONDS
MUNICIPAL
VERT

A program of
Un programme de la
FCM

Funded by/
Financé par
Canada

Cohort Communities

TOWN OF CANMORE, AB

Wastewater Treatment
Plant Expansion &
Upgrade

TOWN OF THE BLUE MOUNTAINS, ON

Eastside Water
Storage and Supply

CITY OF CHESTERMERE, AB

Stormwater Outfall

CITY OF KITCHENER, ON

Manchester Sewage
Pumping Station
Upgrade

NIAGARA REGION, ON

South Niagara
Wastewater Treatment
Solutions Project

TOWN OF ORANGEVILLE, ON

Water Pollution Control
Plant Conversion

CITY OF REGINA, SK

Neighborhood
Drainage Upgrades

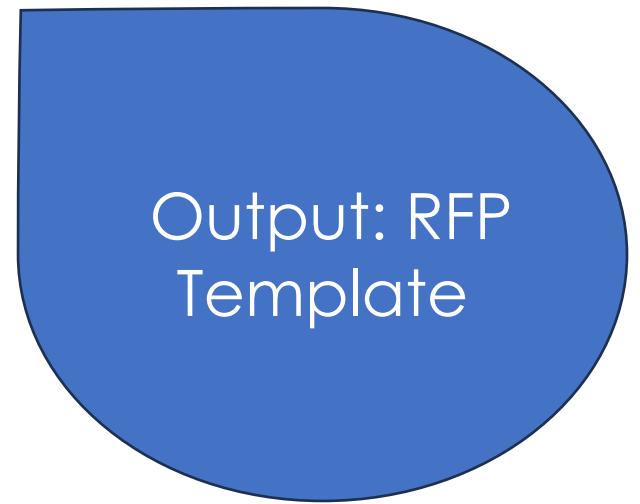
REGIONAL MUNICIPALITY OF YORK, ON

Sewage Works - Y12A
2nd Concession
Gravity Sewer North

+ MUNICIPALITIES NEWFOUNDLAND AND LABRADOR

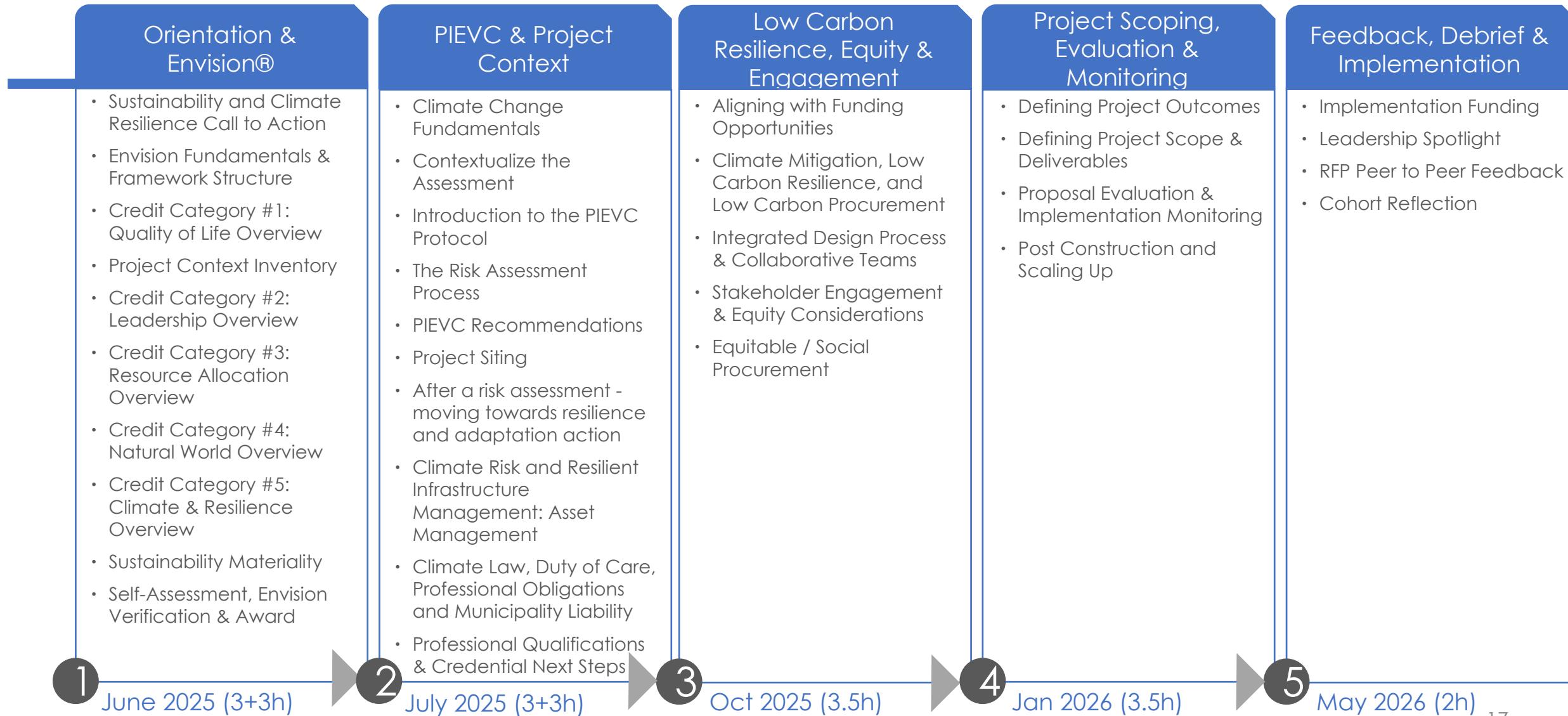
AssetAdapt+ Cohort Goals

- Build capacity in sustainability / climate resilience fundamentals
- Support RFP development for capital project procurement (water/wastewater sector):
 - Aligns with GMF capital funding
 - Integrates sustainability (Envision)
 - Integrates resilience (PIEVC)
 - Integrates equity
- Foster a support network of like-minded peers



Output: RFP Template

Cohort Capacity Development Progression



Fall 2026

- Scaling up learning
- **Webinar** for Elected for Officials and CAOs
- Condensed **Training Workshops**
- Targeting Local and Regional Governments:
 - Water / Wastewater staff
 - Climate / sustainability staff
 - Procurement Staff
 - Indigenous / Engagement staff

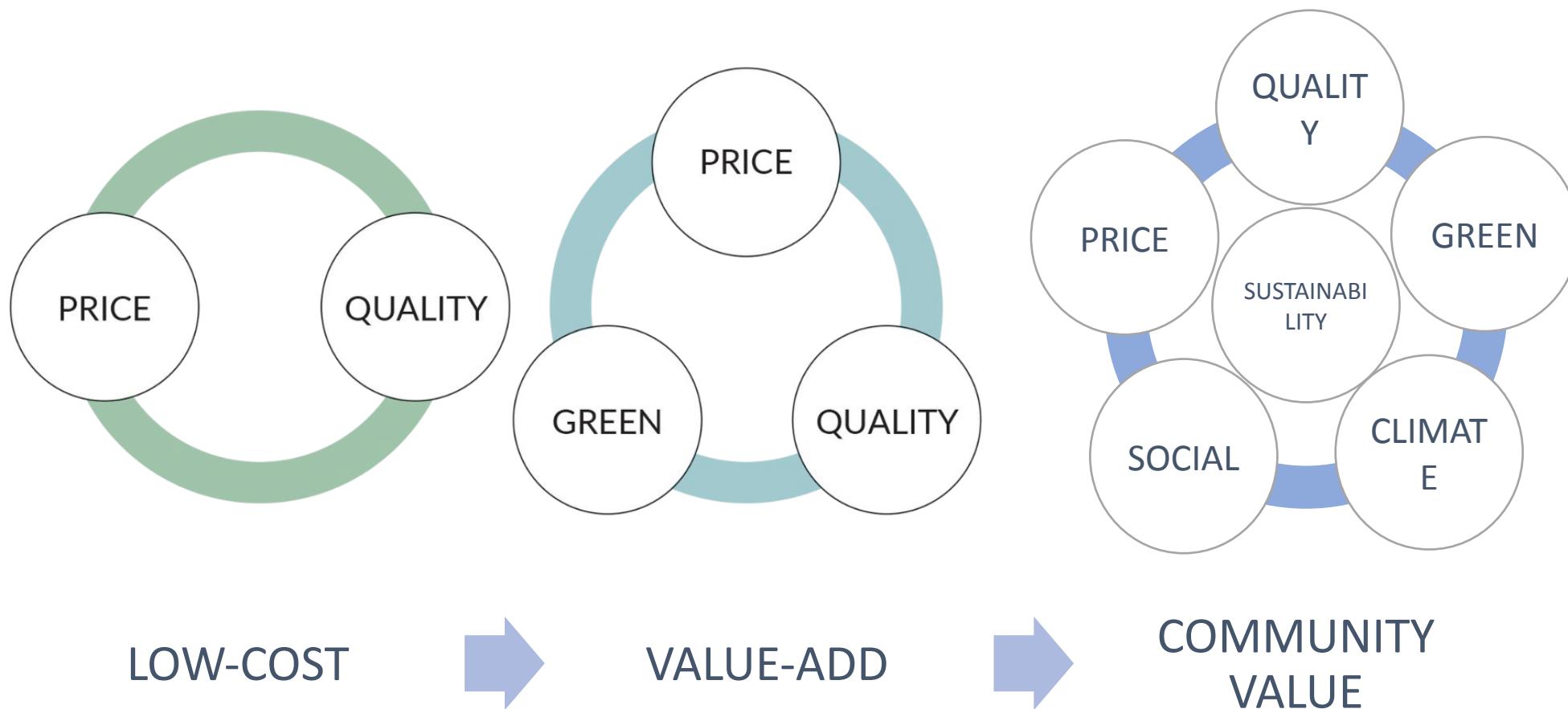
Reach out if interested in
future procurement
workshops or cohorts

lourette@csce.ca

Q&A

Procurement as the Change Catalyst

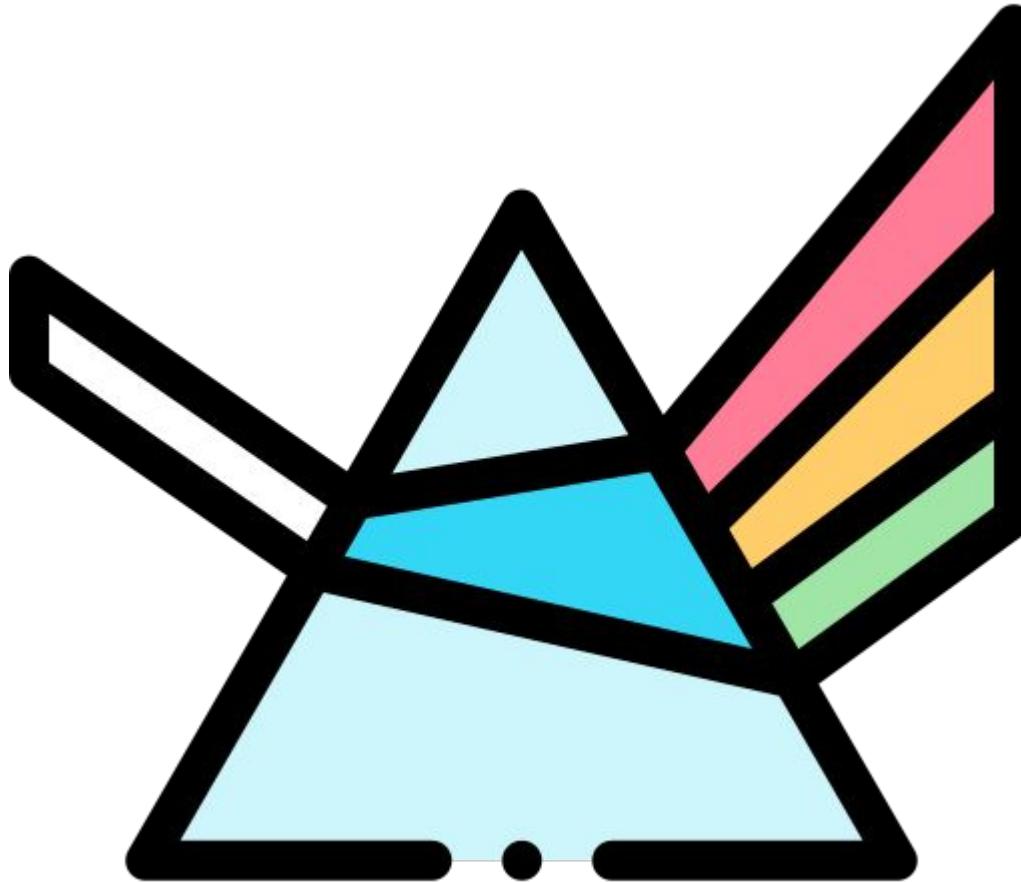
Evolution of Procurement



Procurement as a Reflection of Values

Needs vs Wants

Procurement



- Net-Zero Carbon
- Climate Resilience
- Equity
- Reconciliation
- Ecosystem
- Accessibility
- Sustainability

From This...to This



Low-Cost Bid



Layered Value-Add

It costs more!
...Does it?

5min - Share examples of procurement 'gone wrong' & why you think that was?

5min Share examples of how procurement set the stage for a better project & how?

5min Share

Discussion

Capital Funding Themes

Federal Alignment



- Greening Government Strategy
- Emissions Reduction Plan
- Policy of Green Procurement
- Climate Lens
- Impact Assessment Act
- National Adaptation Strategy

Greening Government Strategy

The Greening Government Strategy is helping Canada to take action on climate change within federal operations. We are taking steps to reduce the environmental impacts across the Government of Canada. The science is clear: Human activities are driving unprecedented changes in the Earth's climate. These pose significant risks that need to be addressed. We are greening our own operations with a new net-zero emissions by 2050 commitment, and expanding the scope of the target to include areas such as emissions related to national safety and security, consulting, and procurement of goods and services.

Four key focus areas

- Mobility and Fleets**: Goals: modernizing fleets with zero-emission vehicles and hybrids; switching to lower-carbon fuels; promoting and incentivizing lower-carbon employee travel, and commuting.
- Property and Workplaces**: Goals: constructing zero carbon buildings, maximizing energy efficiency in existing buildings, reducing water consumption, diverting waste from landfills, and minimizing ecosystem impacts.
- Climate-Resilient Services and Operations**: Goals: anticipating future climate related hazards, risk planning, and minimizing disruptions to our operations; using nature-based solutions to protect physical assets from threats, such as flooding.
- Procurement of Goods and Services**: Goals: transitioning to a net-zero, circular economy through green procurement and adopting clean technologies, products, and services such as 100% clean electricity and low carbon building materials.

Funding Available for this Work

Canada Infrastructure Bank
Indigenous Community Infrastructure Initiative

Provides loans for infrastructure projects that deliver direct benefits to Indigenous communities, e.g., enable meaningful economic participation

Federation of Canadian Municipalities
Climate-Ready Plans and Processes

This funding enables municipalities to revamp the procurement processes to support climate resilient infrastructure, plans that address IDEA considerations will receive additional funding

Government of Canada
Investing in Canada Infrastructure Program

The infrastructure project should meet the Climate Lens requirement, it encourages infrastructure projects to deliver benefits to communities

Funding Themes for Success

Runoff Management

Waste Management

Construction Impacts

Farmland Preservation

Water Conservation

Carbon & GHG Emissions
Climate Risk & Adaptation

Asset Management

Jobs & Skills

Circular Economy

Biodiversity

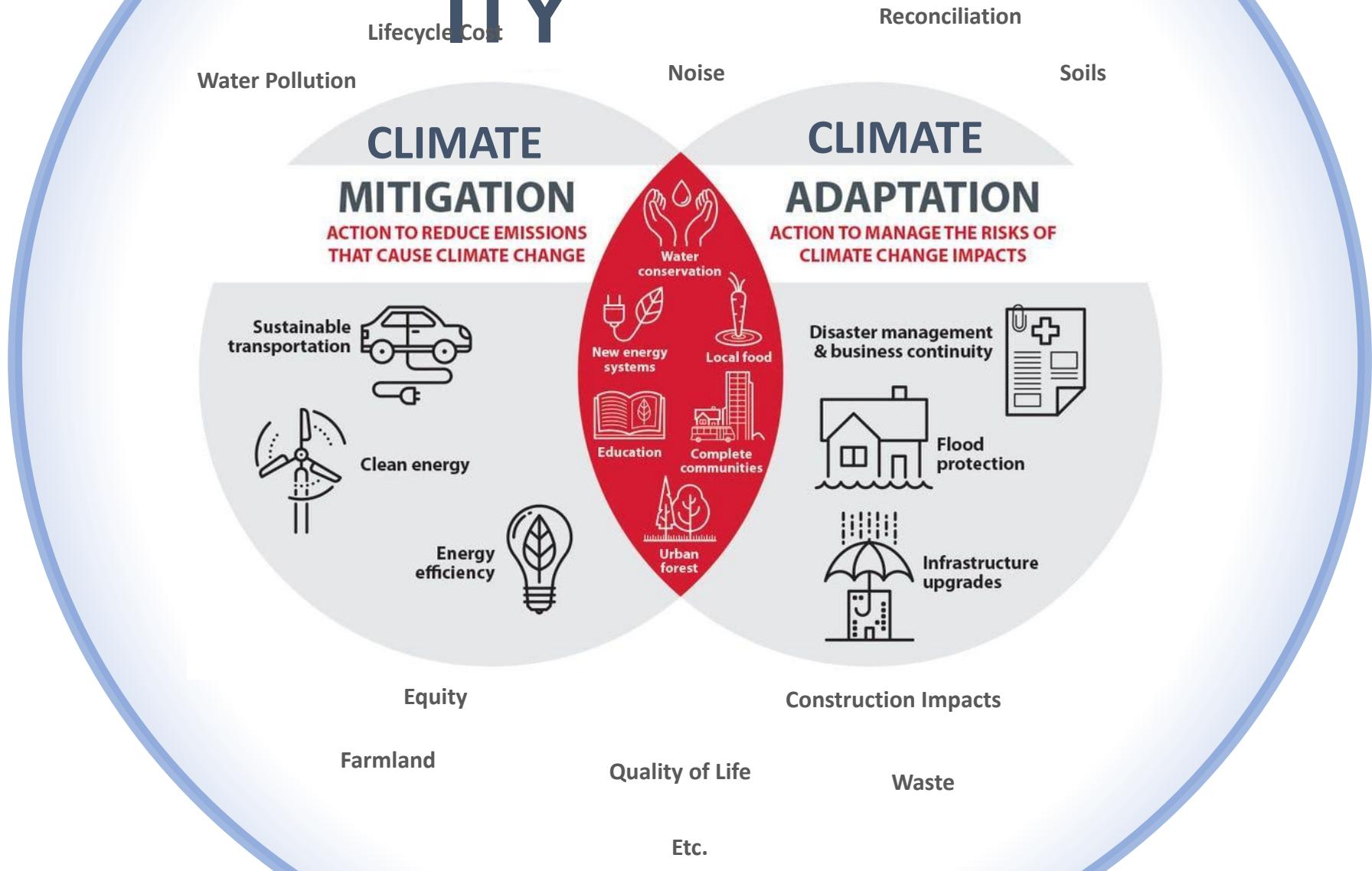
Equity

Greenfield

Lifecycle Cost

Noise & Vibrations

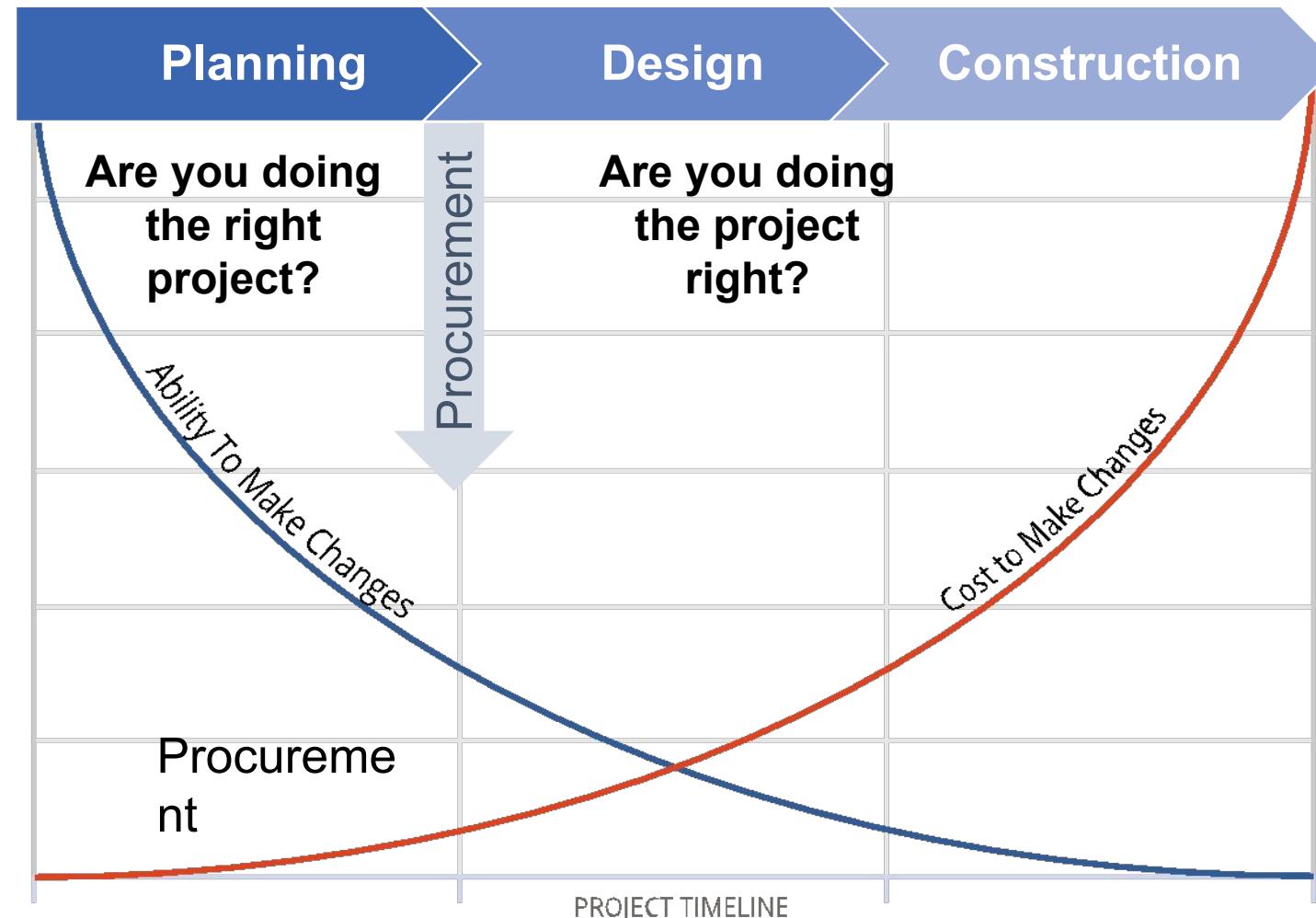
SUSTAINABILITY



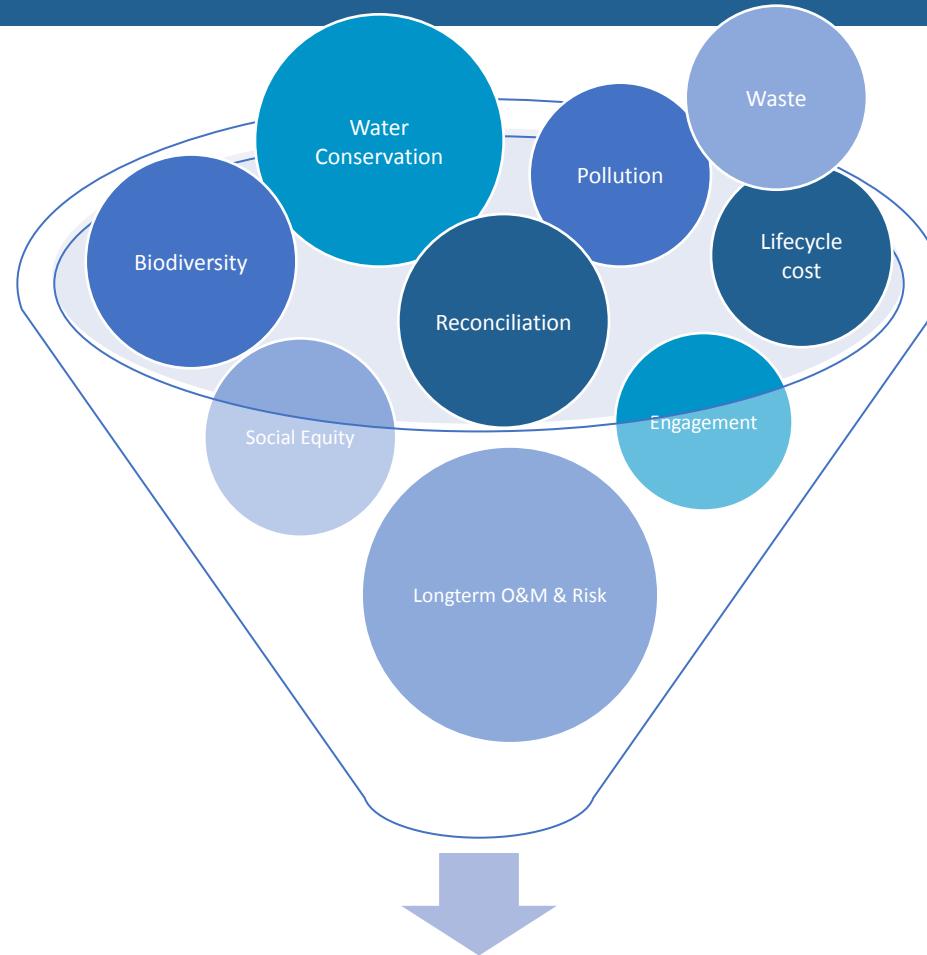
It's a lot to manage!

RFP – the Means to the End

Embedding
expectations /
goals within RFP



Funding Theme 1: Sustainability



What does this Mean for
my Capital Project?

Good or Bad?

“The proponent should embed sustainability and climate considerations into the design and construction”

Frameworks & Rating Systems

- Collection of best practices / protocols
- Enhances decision-making
- Standardizes communication and evaluation
- Clarifies expectations
- [Optional] Recognizes good performance



Envision® Sustainable Infrastructure Framework



Comprehensive
Framework &
Rating System

5 Categories
64 Credits



ENVISION
CANADA

Envision Canada Partnership



ENVISION
CANADA

www.envisioncanada.com

Common Framework for All



Energy
Distribution
Hydroelectric
Coal
Natural Gas
Wind
Solar
Biomass

Water
Treatment
Distribution
Capture / Storage
Stormwater
Flood Control
Nutrient Management

Waste
Solid waste
Recycling
Hazardous
Waste
Collection & Transfer

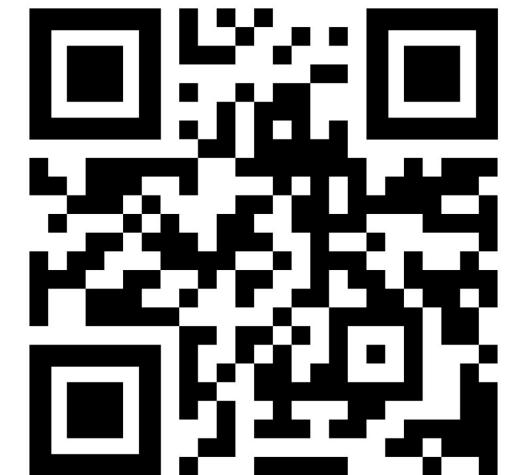
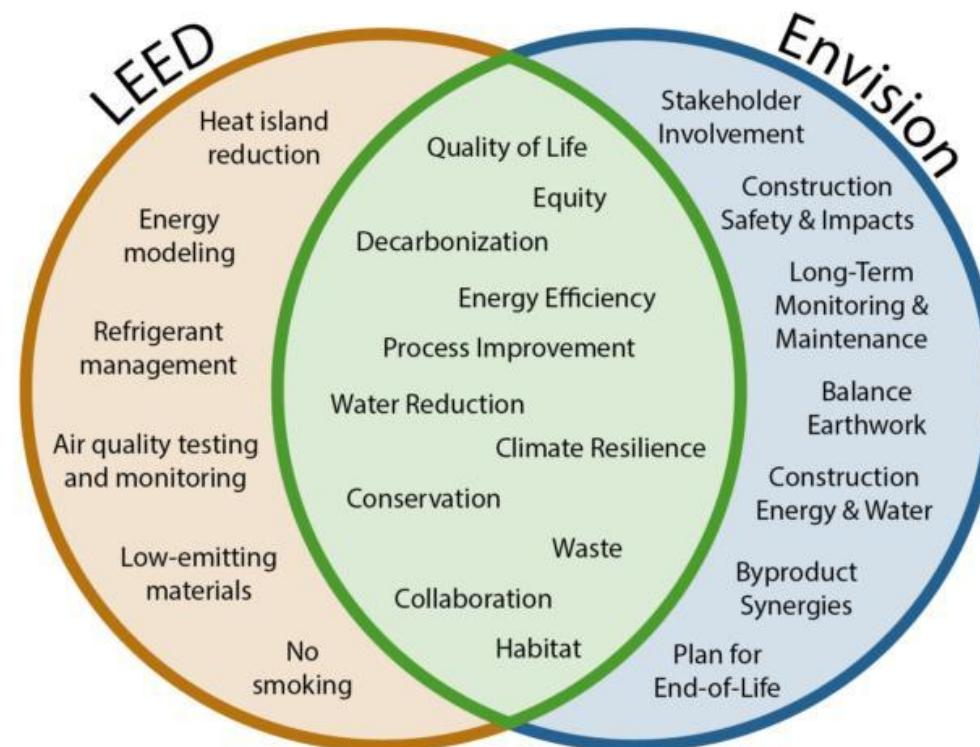
Transportation
Airports
Roads / Highways
Bikes / Pedestrians
Railways
Transit
Ports
Waterways
Bridges

Landscape
Public Realm
Parks
Ecosystem Services
Natural Infrastructure
Environmental Remediation

Information
Telecom
Cables
Internet
Phones
Data Centers
Sensors

LEED vs Envision

Not for occupant buildings – works independent or complementary with LEED



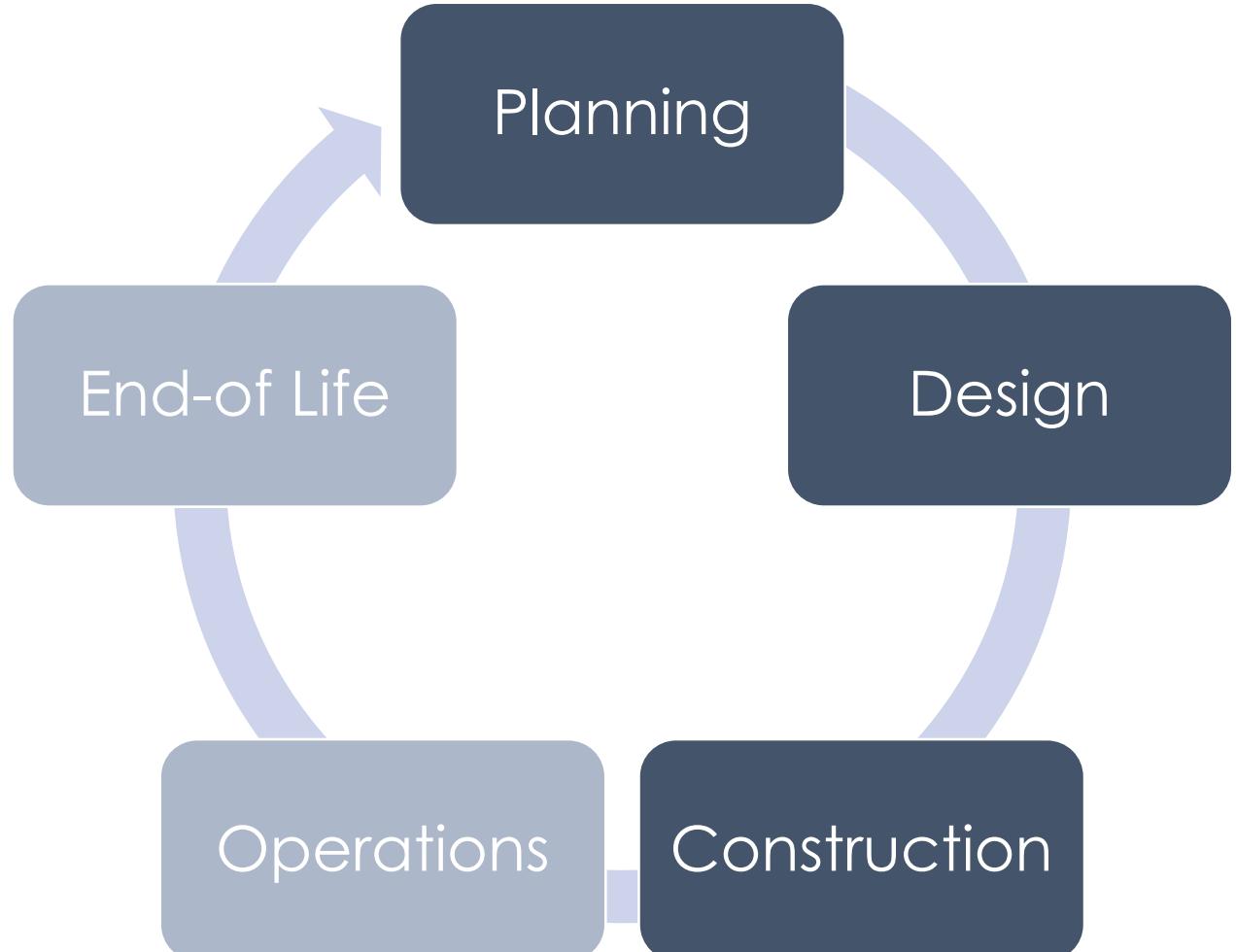
LEARN MORE HERE



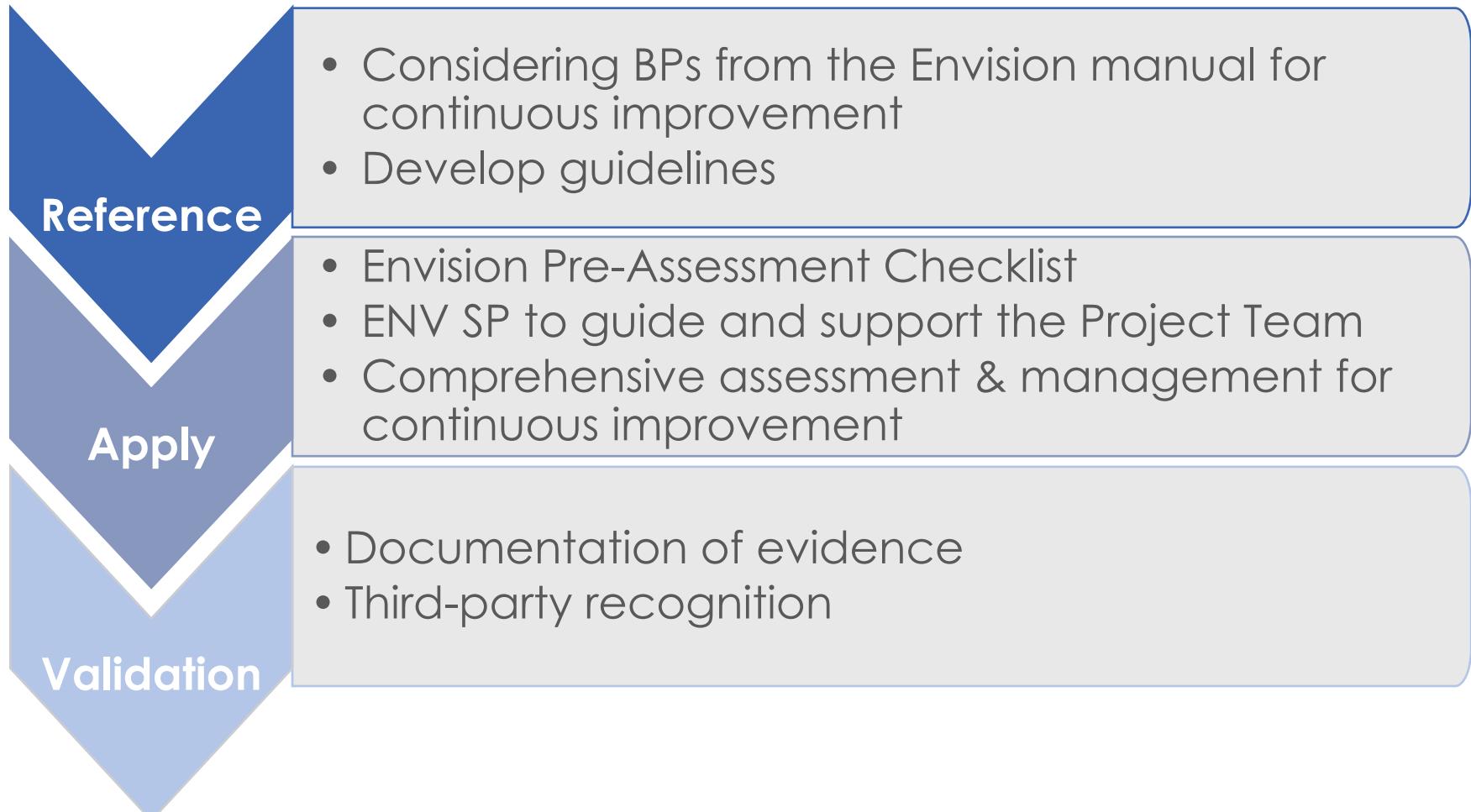
ENVISION
CANADA

A Planning, Desing, and Construction

- **Owners**
- **Designers**
- **Contractors**
- Primary & Secondary Stakeholders



Application Scalability





[Optional] Project Verification & Award Envision Projects

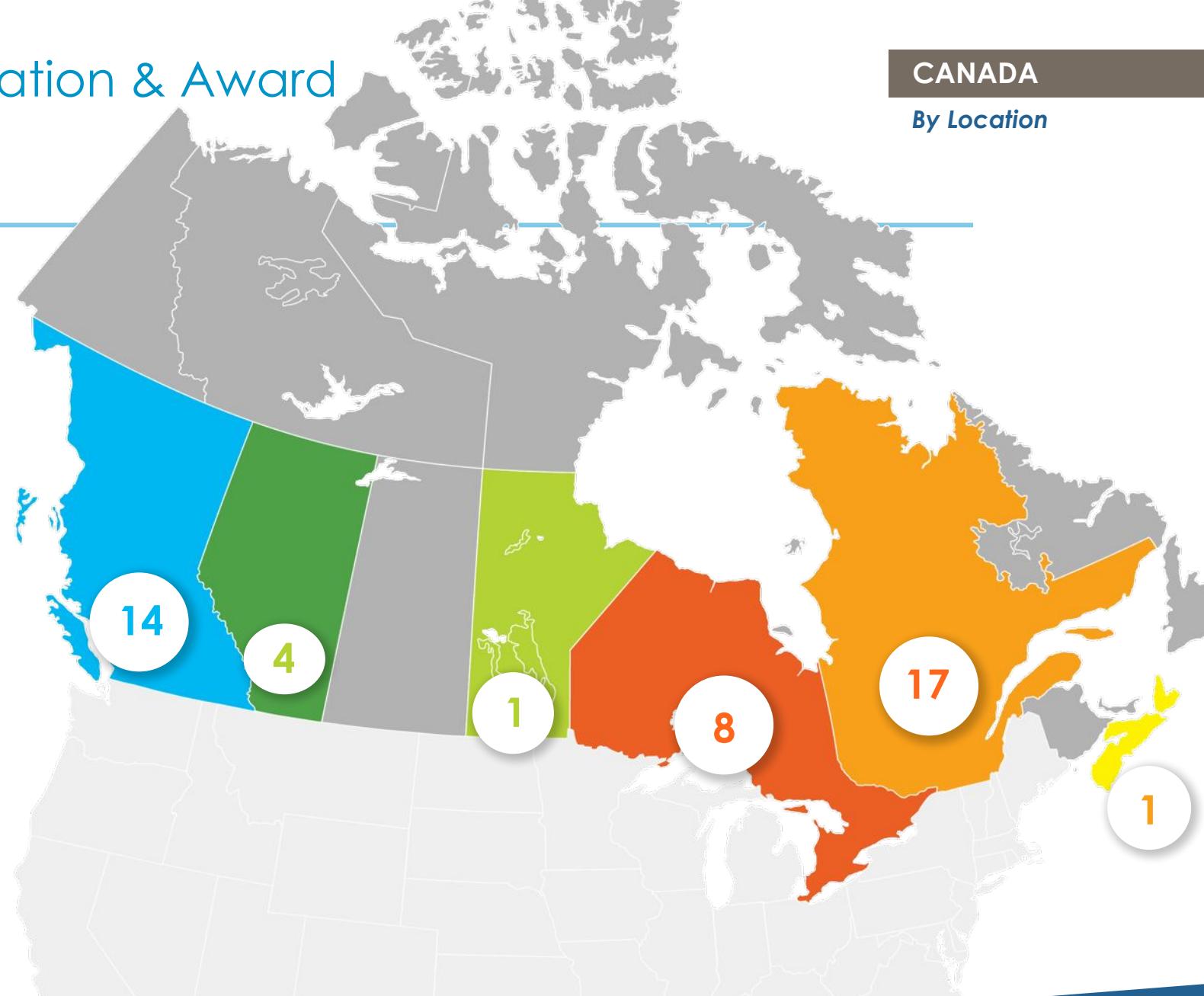
CANADA
By Location

TOTAL = 45

Cumulative Value = **CAD \$23 billion**

As of Sept. 30, 2025

Registered, under review & complete



ENVISION
CANADA

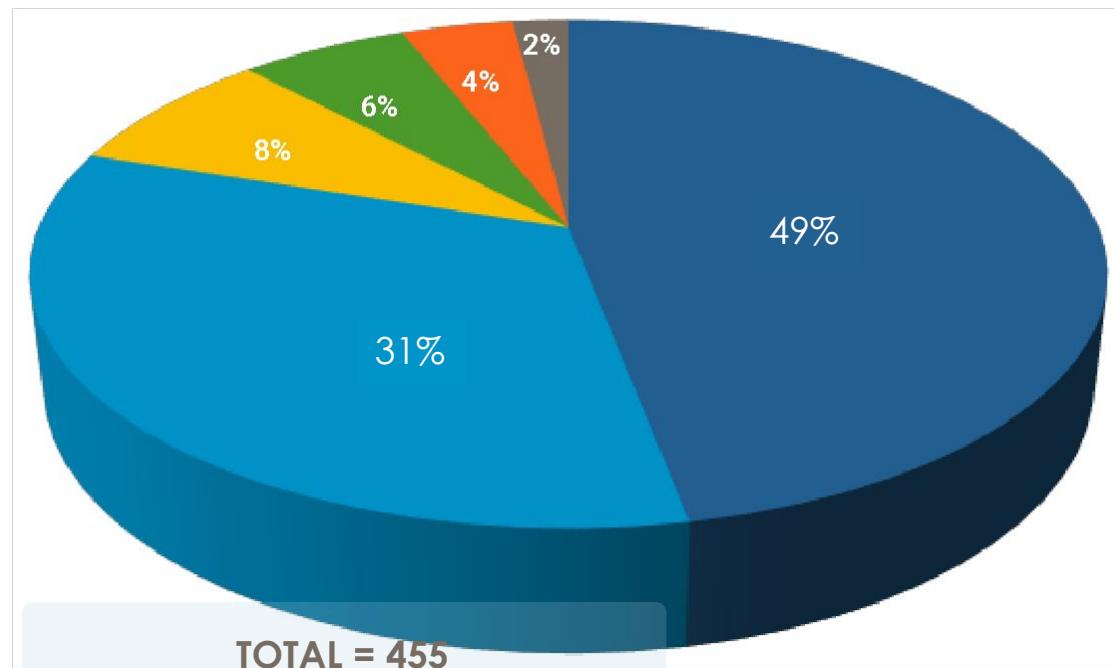


[Optional] Project Verification & Award

Envision Projects

Registered, under
review & complete

INTERNATIONAL
By Sector



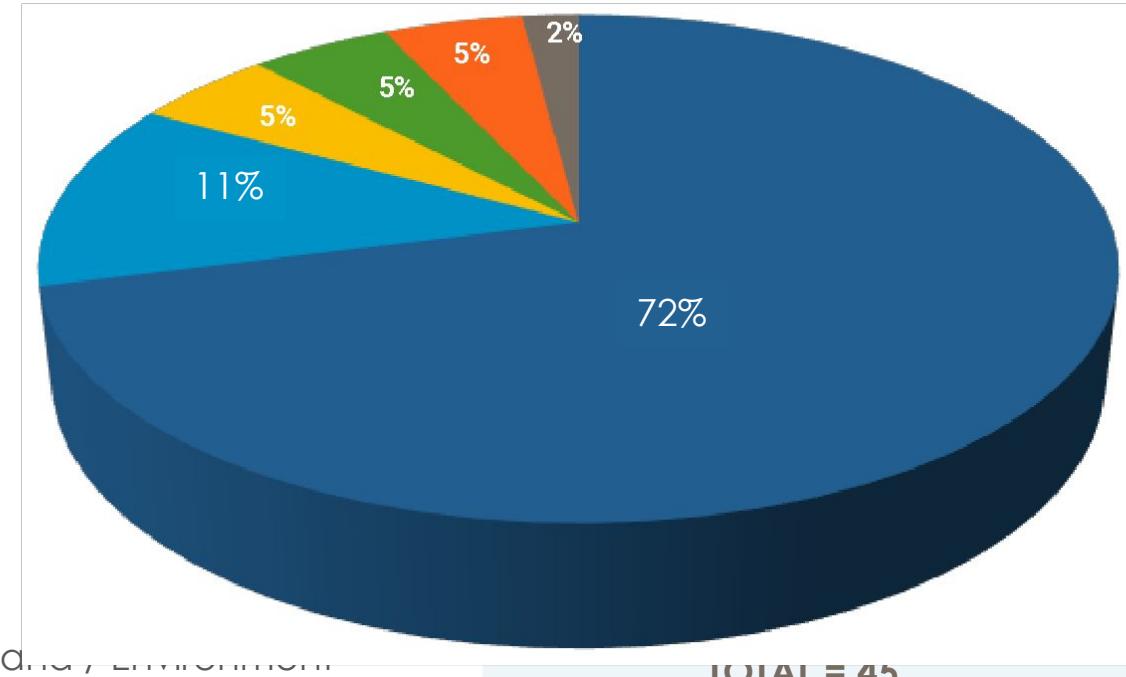
Cumulative Value = **USD \$307 billion**

As of Sept 30, 2025

Water

Energy

CANADA
By Sector



Cumulative Value = **CAD \$23 billion**

As of Sept 30, 2025

Land, Environment

Other

Waste



ENVISION
CANADA

ENV SPs

INTERNATIONAL
By Location

906

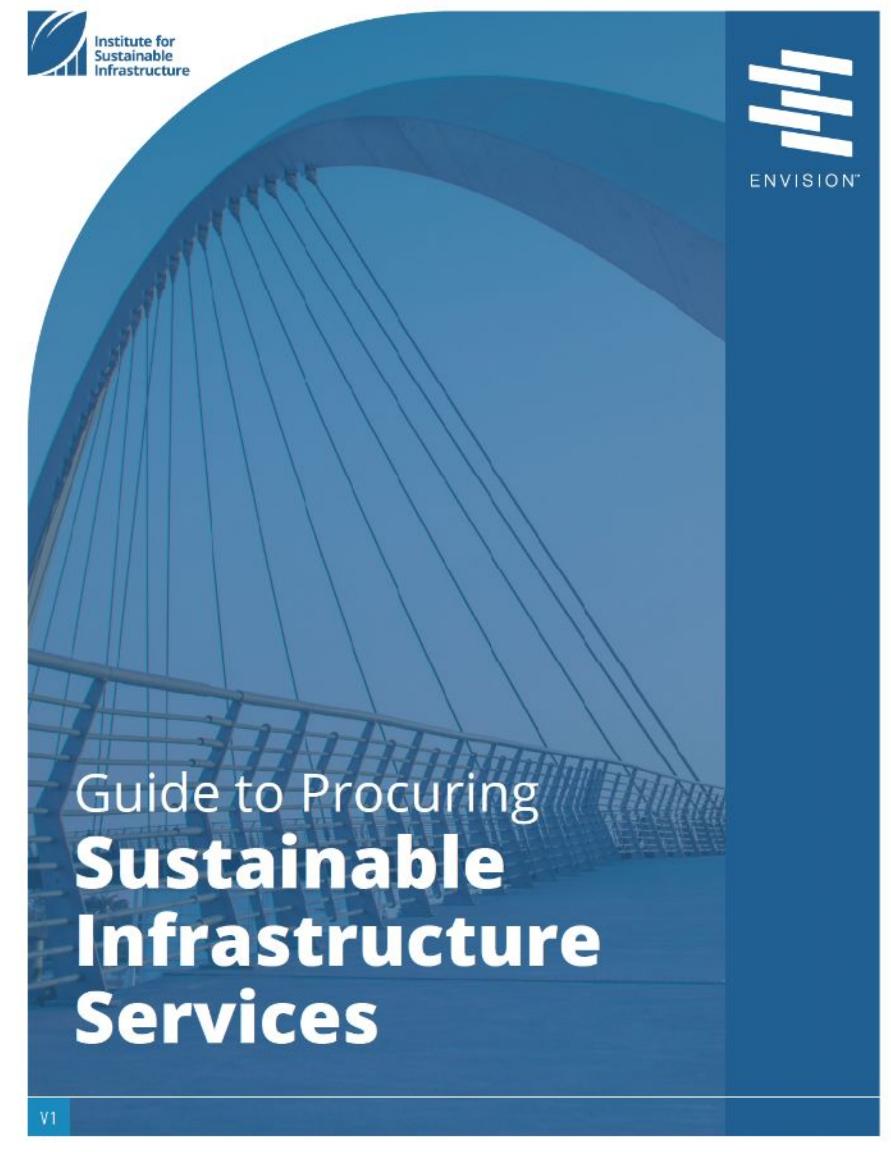
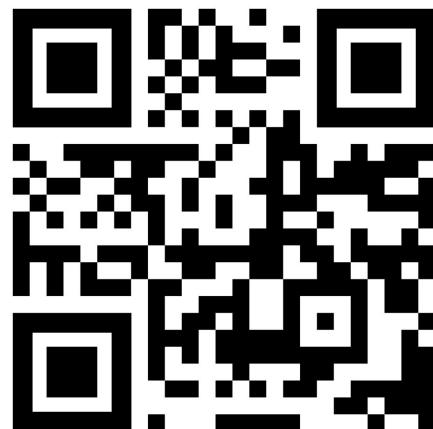
7,932

COUNTRIES WITH THE MOST ENV SPs

United States	7,932
Canada	906
Italy	708
China	422
Saudi Arabia	192
Spain	72
India	53
Pakistan	52
U.A.E.	51
Columbia	47

Ask for Envision and ENV SP in the RFP

Procuring Envision Services



Climate Lens

All federally funded infrastructure must conduct a climate change resilience assessment. Approved methodologies include Envision.

Public Service Procurement Canada

Trained PSPC staff and actively requiring and using it on capital delivery projects.

FCM Green Municipal Fund

Applicants applying to GMF can now include the ISI Envision verification fees as a reimbursable expense.

Funding Theme 2: Equity



Quality Of Life

14 Credits



Leadership

12 Credits



Resource Allocation

14 Credits



Natural World

14 Credits



Climate and Resilience

10 Credits

WELLBEING

- QL1.1 Improve Community Quality of Life
- QL1.2 Enhance Public Health & Safety
- QL1.3 Improve Construction Safety
- QL1.4 Minimize Noise & Vibration
- QL1.5 Minimize Light Pollution
- QL1.6 Minimize Construction Impacts

MOBILITY

- QL2.1 Improve Community Mobility & Access
- QL2.2 Encourage Sustainable Transportation
- QL2.3 Improve Access & Wayfinding

COMMUNITY

- QL3.1 Advance Equity & Social Justice
- QL3.2 Preserve Historic & Cultural Resources
- QL3.3 Enhance Views & Local Character
- QL3.4 Enhance Public Space & Amenities

QL0.0 Innovate or Exceed Credit Requirements

COLLABORATION

- LD1.1 Provide Effective Leadership & Commitment
- LD1.2 Foster Collaboration & Teamwork
- LD1.3 Provide for Stakeholder Involvement
- LD1.4 Pursue Byp...

PLANNING

- LD2.1 Establish Long-term Vision
- LD2.2 Plan for Sustainable Communities
- LD2.3 Plan for Sustainable Land Use
- LD2.4 Plan for Sustainable...

ECONOMY

- LD3.1 Stimulate Local Economic Growth
- LD3.2 Develop Local Skills & Capabilities
- LD3.3 Conduct Economic Impact Assessments
- LD0.0 Innovate or Exceed Credit Requirements

EQUITY:

- QL3.1 Advance Equity & Social Justice
- QL1.1 Improve Community Quality of Life
- QL1.2 Enhance Public Health & Safety
- LD1.3 Provide for Stakeholder Involvement
- LD2.2 Plan for Sustainable Communities
- LD3.2 Develop Local Skills & Capabilities

RA0.0 Innovate or Exceed Credit Requirements

NW0.0 Innovate or Exceed Credit Requirements

EMISSIONS

- CR1.1 Reduce Net Embodied Carbon
- CR1.2 Reduce Greenhouse Gas Emissions
- CR1.3 Reduce Air Pollutant Emissions

RESILIENCE

- CR2.1 Avoid Unsuitable Development
- CR2.2 Assess Climate Change Vulnerability
- CR2.3 Evaluate Risk & Resilience
- CR2.4 Establish Resilience Goals and Strategies
- CR2.5 Maximize Resilience
- CR2.6 Improve Infrastructure Integration

CR0.0 Innovate or Exceed Credit Requirements



ENVISION
CANADA

Defining Equity

Unlike equality where everyone is treated the same, equity recognizes unique barriers and provides tailored supports to meet needs

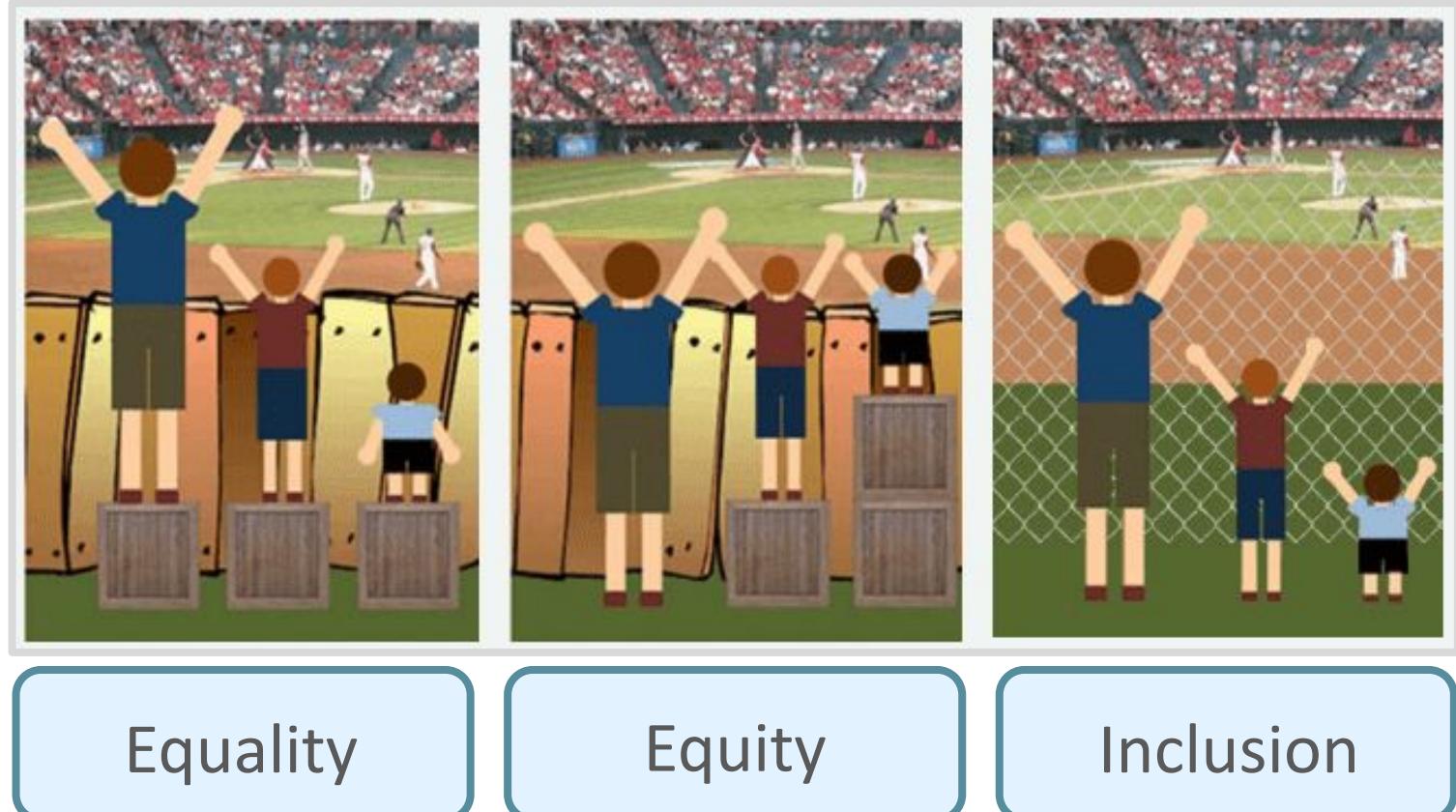
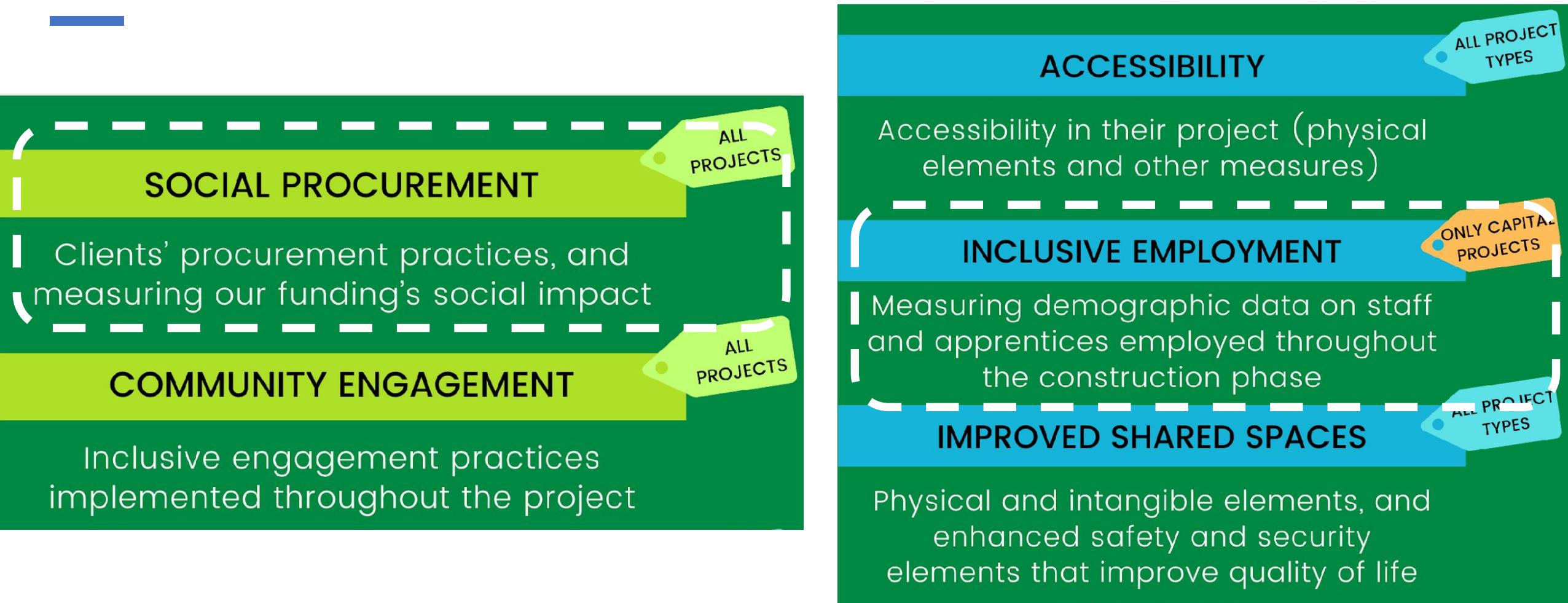


Image: City of Ottawa and City for All Women Initiative (CAWI)

FCM Socio-Economic Framework



What is possible?

Economic impact of local suppliers

The economic multiplier effect

For every **\$100** spent with a “local” independent office supply business, **\$63** is reinvested locally

For every **\$100** spent with an “MNC” (big box), only **\$14** is reinvested locally

Source: 2019 LOCO BC Study; ‘The Economic Impact of Local Businesses’

What is possible?

Construction and infrastructure projects

On a \$1M contract local suppliers create **3.6 jobs** compared to **1.8 - 2.0 jobs** with multi-national corporations.

Source: Vancouver Island Construction Association paper;
"Facts or Fiction?"

District of Squamish

Extracts from Procurement Policy



POLICY NAME:	Procurement Policy	
APPROVING AUTHORITY:	<input checked="" type="checkbox"/> Legislative (Council approved) <input type="checkbox"/> Administrative (CAO approved)	
ISSUED BY:	Financial Services	DATE APPROVED: December 1, 2020

POLICY **3.** The District will acquire goods, services and construction in a manner that is Open, Fair and Transparent. The District is committed to developing and maintaining a social procurement culture that leverages our procurement activities to not only deliver best value but also achieve social value objectives.

**How to connect
municipal ambitions to
capital project
procurement &
delivery?**

This policy directs staff to conduct procurement in a manner that contributes to the development and diversification of the supply chain in a way that makes positive contributions to the local economy and the overall vibrancy of the community, including and not limited to the principles identified below:

Prioritize Social Impact Businesses

1. **Local businesses:** companies whose headquarters are located within a 100 km of your municipality downtown.
2. **Small businesses:** companies that have fewer than 100 employees.
3. **Social purpose businesses:** Social purpose organizations that sell goods and services. These include B corporations, Buy Social Canada certified social enterprises, or businesses pursuing social objectives, such as non-profit organizations or co-operatives.
4. **Diverse businesses:** businesses that are majority owned and controlled (51% or more) by member(s) of an equity-deserving group.

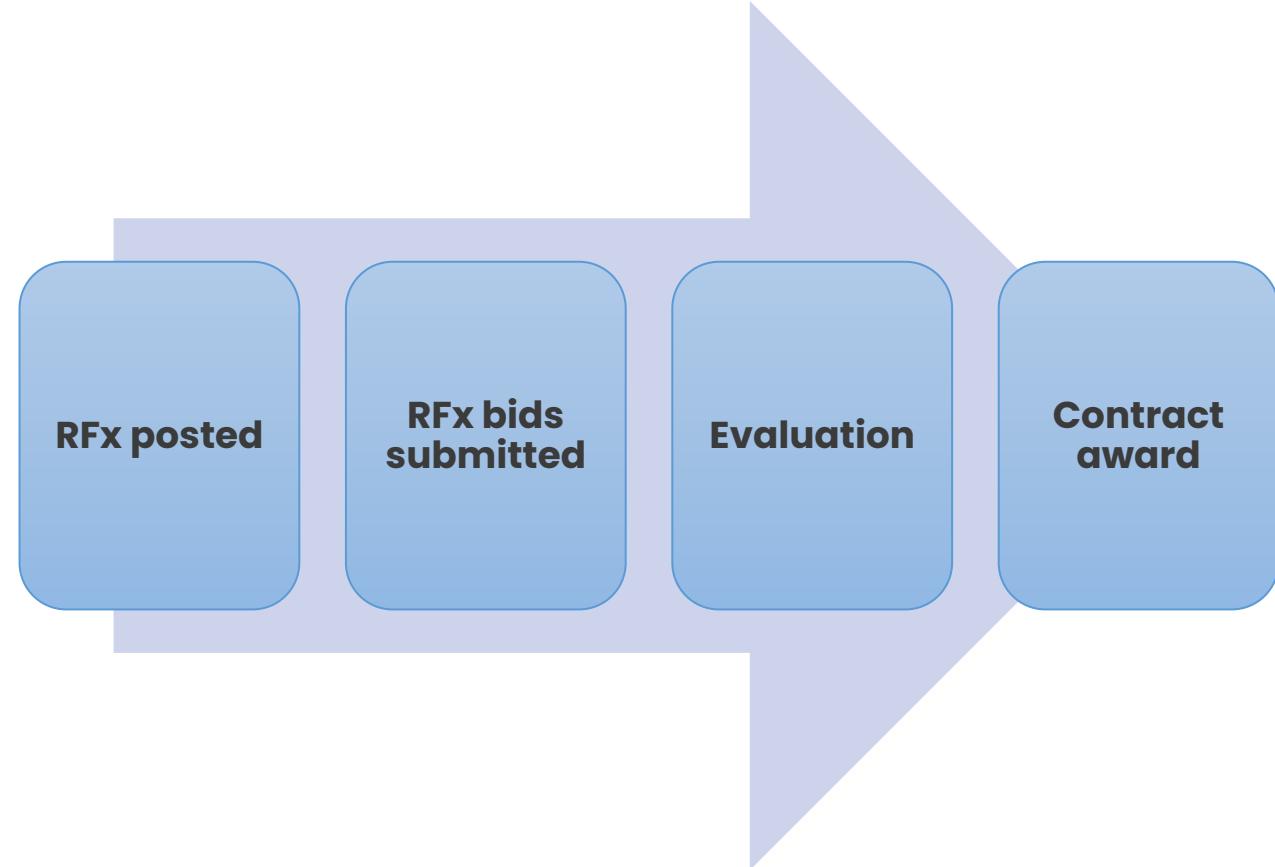
Procurement Opportunities

- 1. Small buys**
- 2. Direct awards**
- 3. Competitive bids**



Competitive bids

- Larger purchases and projects over threshold
- Trade agreements apply
- Longer time frame
- More complex goods, services and infrastructure
- Benefit from competition



Unbundling

An approach to shape project segments to align with local capacity
NOT to avoid procurement thresholds (contract splitting)

Pump station key components:

- Pump
- Concrete
- Materials
- Design
- Traffic control
- Landscaping
- Painting
- Electrical
- Plumbing
- Carpentry
- Site cleanup

Subcontracting

General contractors often deliver only 30-40% of the project.

You can include weighted criteria and reporting requirements within the bid

- What will you do to include social impact businesses in the project supply chain?
- What percentage or dollar amount do you commit to go to social impact businesses? You will be required to report on this contract spend.
- This project requires 20% of project spend will go to social impact businesses.

Connecting with Diverse Suppliers

To help strengthen partnerships and networks with diverse suppliers, organizations can consider joining any one of the various **supplier diversity associations and councils**.

Supplier diversity councils help larger organizations engage with diverse suppliers by offer certifications to business that are **at least 51% owned and operated by Indigenous Peoples or equity-deserving group**.

Examples of **Supplier Diversity Councils** include:



CGLCC: 2SLGBTQI+



CCIB: Indigenous Peoples



WBE: Women



Proponent Hiring & Training

Employment

Increased employment opportunities for target populations; inclusive employment

Skills & training

Increased apprenticeships and training opportunities

Employee Survey

1. Are you an apprentice?
 Yes
 No
2. Do you self-identify as a member of one or more equity deserving groups?
(listed in question #3 and defined below)
 Yes
 Yes, not listed [below](#)
 No
 I prefer not to [answer](#)
3. If yes, please select how you identify from the options below. Select all the groups with which you identify:
 Indigenous persons
 Newcomers to Canada
 Non-binary persons
 Persons living with [disabilities](#)
 Racialized persons
 Women
 Prefer not to [disclose](#)
 None of the above

City of Toronto

FIFA World Cup 2026: Procurement Plan

- Clear definitions of diverse supplier, apprentice, equity-deserving community, etc.
- The awarded supplier must have a workforce development plan.
- In case of tied bids the City can prioritize the one from Diverse suppliers



Comox Valley Water Treatment Plant

- Infrastructure Canada's Community Employment Benefits Program
- No schedule / budget impacts
- Employment hrs 2x for Indigenous and Apprenticeships
- Employment hrs 4x for underrepresented groups

Community Employment Benefits	Commitment (hours)	Actual (hours)
Indigenous Peoples	10,000	23,411
Apprentices	15,000	41,921
Under-represented populations	10,000	44,992

5min Share some challenges / successes for social procurement on capital projects

5min Has procurement / supply chains changed in your community due to tariffs / buy-Canadian?

5min Share

Discussion

Funding Theme 3: Carbon & GHG Mitigation



Quality Of Life 14 Credits

WELLBEING

- QL1.1 Improve Community Quality of Life
- QL1.2 Enhance Public Health & Safety
- QL1.3 Improve Construction Safety
- QL1.4 Minimize Noise & Vibration
- QL1.5 Minimize Light Pollution
- QL1.6 Minimize Construction Impacts

MOBILITY

- QL2.1 Improve Community Mobility & Access
- QL2.2 Encourage Sustainable Transportation
- QL2.3 Improve Access & Wayfinding

COMMUNITY

- QL3.1 Advance Equity & Social Justice
- QL3.2 Preserve Historic & Cultural Resources
- QL3.3 Enhance Views & Local Character
- QL3.4 Enhance Public Space & Amenities

QL0.0 Innovate or Exceed Credit Requirements



Leadership 12 Credits

COLLABORATION

- LD1.1 Provide Effective Leadership & Commitment
- LD1.2 Foster Collaboration & Teamwork
- LD1.3 Provide for
- LD1.4 Pursue

PLANNING

- LD2.1 Establish
- LD2.2 Plan for
- LD2.3 Plan for
- LD2.4 Plan for

ECONOMY

- LD3.1 Stimula
- LD3.2 Develop
- LD3.3 Conduct

LD0.0 Innovate or Exceed Credit Requirements



Resource Allocation 14 Credits

MATERIALS

- RA1.1 Support Sustainable Procurement Practices
- RA1.2 Use Recycled Materials

CARBON & GHG:

- CR1.1 Reduce Net Embodied Carbon
- CR1.2 Reduce Greenhouse Gas Emissions
- RA2.1 Reduce Operational Energy Consumption
- RA2.2 Reduce Construction Energy Consumption
- RA2.3 Use Renewable Energy

RA3.4 Monitor Water Systems

RA0.0 Innovate or Exceed Credit Requirements



Natural World 14 Credits

SITING

- NW1.1 Preserve Sites of High Ecological Value
- NW1.2 Provide Wetland & Surface Water Buffers

EMISSIONS



Climate and Resilience 10 Credits

EMISSIONS

- CR1.1 Reduce Net Embodied Carbon
- CR1.2 Reduce Greenhouse Gas Emissions
- CR1.3 Reduce Air Pollutant Emissions

RESILIENCE

- CR2.1 Avoid Unsuitable Development
- CR2.2 Assess Climate Change Vulnerability
- CR2.3 Evaluate Risk & Resilience
- CR2.4 Establish Resilience Goals and Strategies
- CR2.5 Maximize Resilience
- CR2.6 Improve Infrastructure Integration

CR0.0 Innovate or Exceed Credit Requirements

Net-Zero Carbon in Operations

An asset that is highly efficient that produces enough on-site energy or procures carbon-free renewable energy / carbon offsets in a quantity sufficient to 'offset' annual emissions



High Impact Strategies



Reduce / Eliminate Fossil Fuels

Electricity generally creates less emissions than on-site combustion of fossil fuels



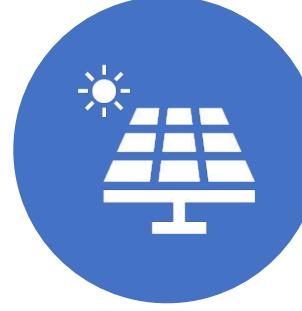
High-Performance Envelope

Well-insulated, high-performing building envelope reduces heat transfer / loss, so systems work less



Improve Efficiency

Use of efficient equipment reduces energy demand, saving money and reducing emissions



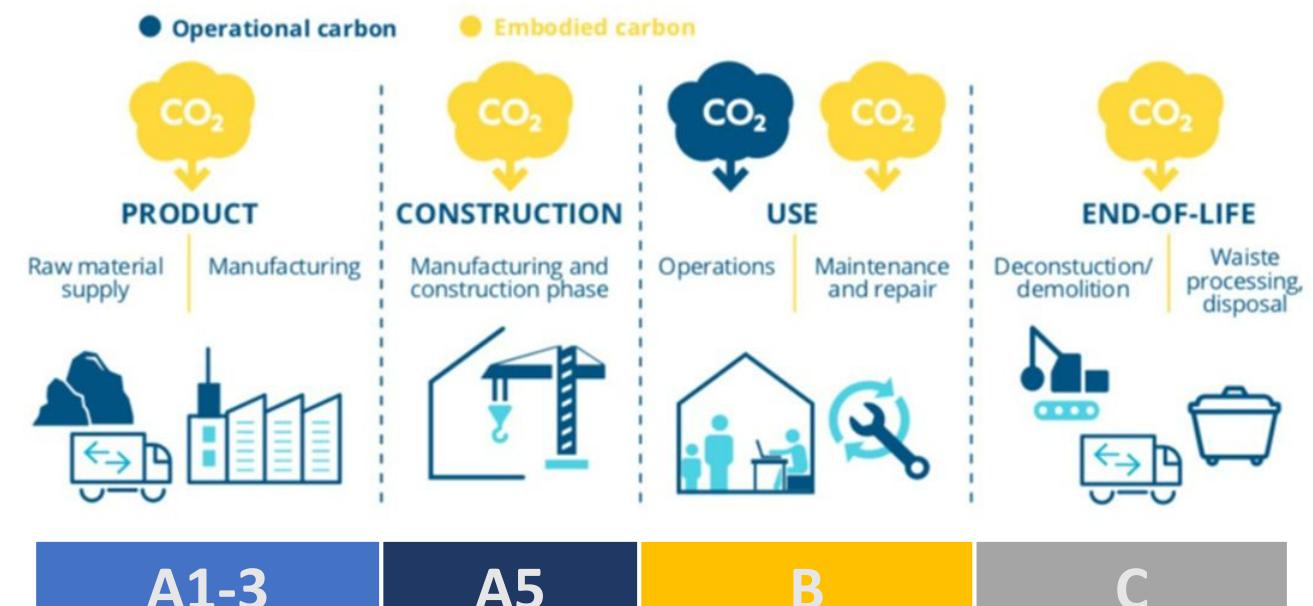
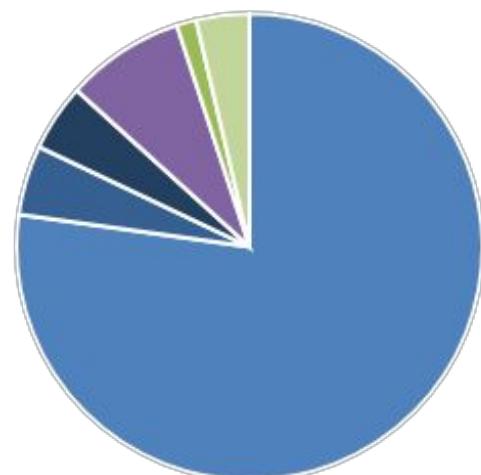
On-Site Green Energy

On-site generation of green energy (wind, solar, etc.) replaces grid-based electricity and is zero-carbon

Embodied Carbon

Emissions arising from the manufacturing and use of construction materials

- A1-A3 Materials
- A4 Transport
- A5 Construction
- B1-B5 Replacement
-
-



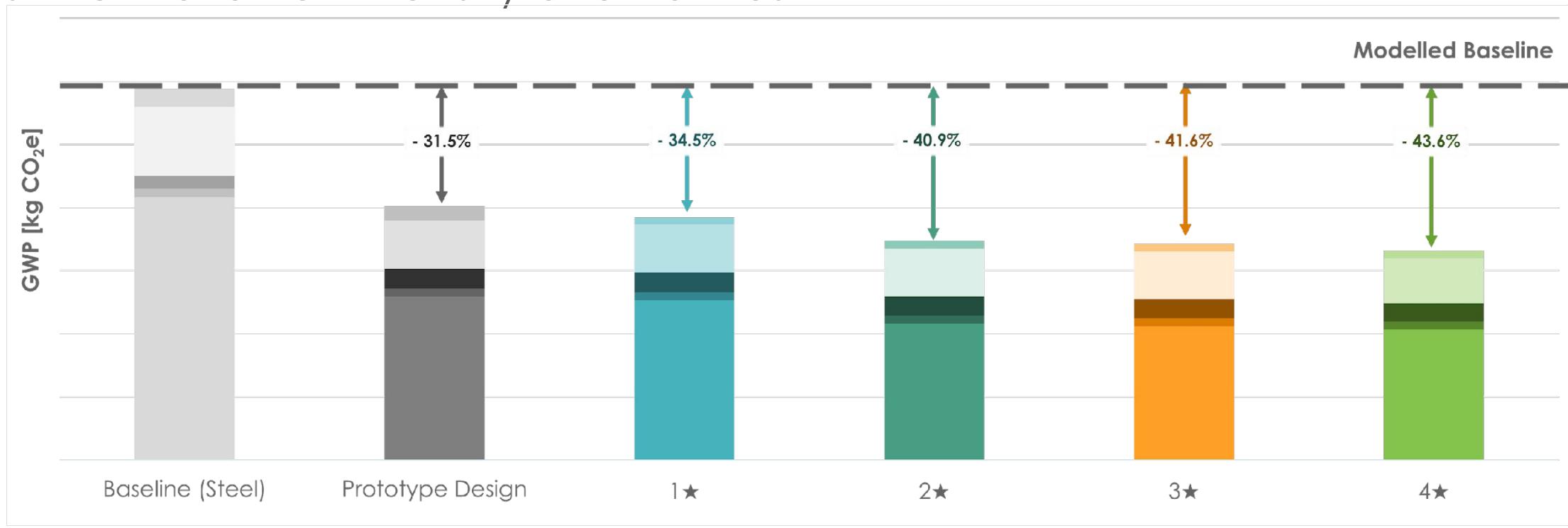
Cumulative Impacts

Cement and steel generates **15% of global emissions**

46% of total cement used in US in public construction

Lifecycle Carbon Assessment

- Quantify total emissions associated with construction materials
- Identify high-intensity materials and evaluate opportunities to switch to lower-intensity alternatives



Embodied Carbon Strategies

- Less materials, reuse / recycle materials
- Alternative materials and alternative specifications - key is to ask local suppliers
- Environmental Product Declarations (EPDs) common tool for reporting embodied carbon

Concrete



Optimize concrete mix

14%-33% reduction
None to low cost premium

Rebar



Use high recycled content rebar

4%-10% reduction
None to low cost premium

Insulation



Select low- or no-embodyed-carbon insulation products

16% reduction
No cost premium

Glazing



Select low-embodyed-carbon glazing products

3% reduction
10% cost premium

Finish Materials



Select low- or no-embodyed-carbon finish materials

5% reduction
None to low cost premium

Funding Theme 4: Climate Risk & Adaptation



Quality Of Life 14 Credits

WELLBEING

- QL1.1 Improve Community Quality of Life
- QL1.2 Enhance Public Health & Safety
- QL1.3 Improve Construction Safety
- QL1.4 Minimize Noise & Vibration
- QL1.5 Minimize Light Pollution
- QL1.6 Minimize Construction Impacts

MOBILITY

- QL2.1 Improve Community Mobility & Access
- QL2.2 Encourage Sustainable Transportation
- QL2.3 Improve Access & Wayfinding

COMMUNITY

- QL3.1 Advance Equity & Social Justice
- QL3.2 Preserve Historic & Cultural Resources
- QL3.3 Enhance Views & Local Character
- QL3.4 Enhance Public Space & Amenities

QL0.0 Innovate or Exceed Credit Requirements



Leadership 12 Credits

COLLABORATION

- LD1.1 Provide Effective Leadership & Commitment
- LD1.2 Foster Collaboration & Teamwork
- LD1.3 Provide for
- LD1.4 Pursue

PLANNING

- LD2.1 Establish
- LD2.2 Plan for
- LD2.3 Plan for
- LD2.4 Plan for

ECONOMY

- LD3.1 Stimula
- LD3.2 Develop
- LD3.3 Conduc
- LD0.0 Innovate or



Resource Allocation 14 Credits

MATERIALS

- RA1.1 Support Sustainable Procurement Practices
- RA1.2 Use Recycled Materials



Natural World 14 Credits

SITING

- NW1.1 Preserve Sites of High Ecological Value
- NW1.2 Provide Wetland & Surface Water Buffers



Climate and Resilience 10 Credits

EMISSIONS

- CR1.1 Reduce Net Embodied Carbon
- CR1.2 Reduce Greenhouse Gas Emissions
- CR1.3 Reduce Air Pollutant Emissions

RESILIENCE

- CR2.1 Avoid Unsuitable Development
- CR2.2 Assess Climate Change Vulnerability
- CR2.3 Evaluate Risk & Resilience
- CR2.4 Establish Resilience Goals and Strategies
- CR2.5 Maximize Resilience
- CR2.6 Improve Infrastructure Integration

CR0.0 Innovate or Exceed Credit Requirements

CLIMATE RISK & ADAPTATION:

- CR2.1 Avoid Unsuitable Development
- CR2.2 Assess Climate Change Vulnerability
- CR2.3 Evaluate Risk & Resilience
- CR2.4 Establish Resilience Goals & Strategies
- CR2.5 Maximize Resilience
- CR2.6 Improve Infrastructure Integration

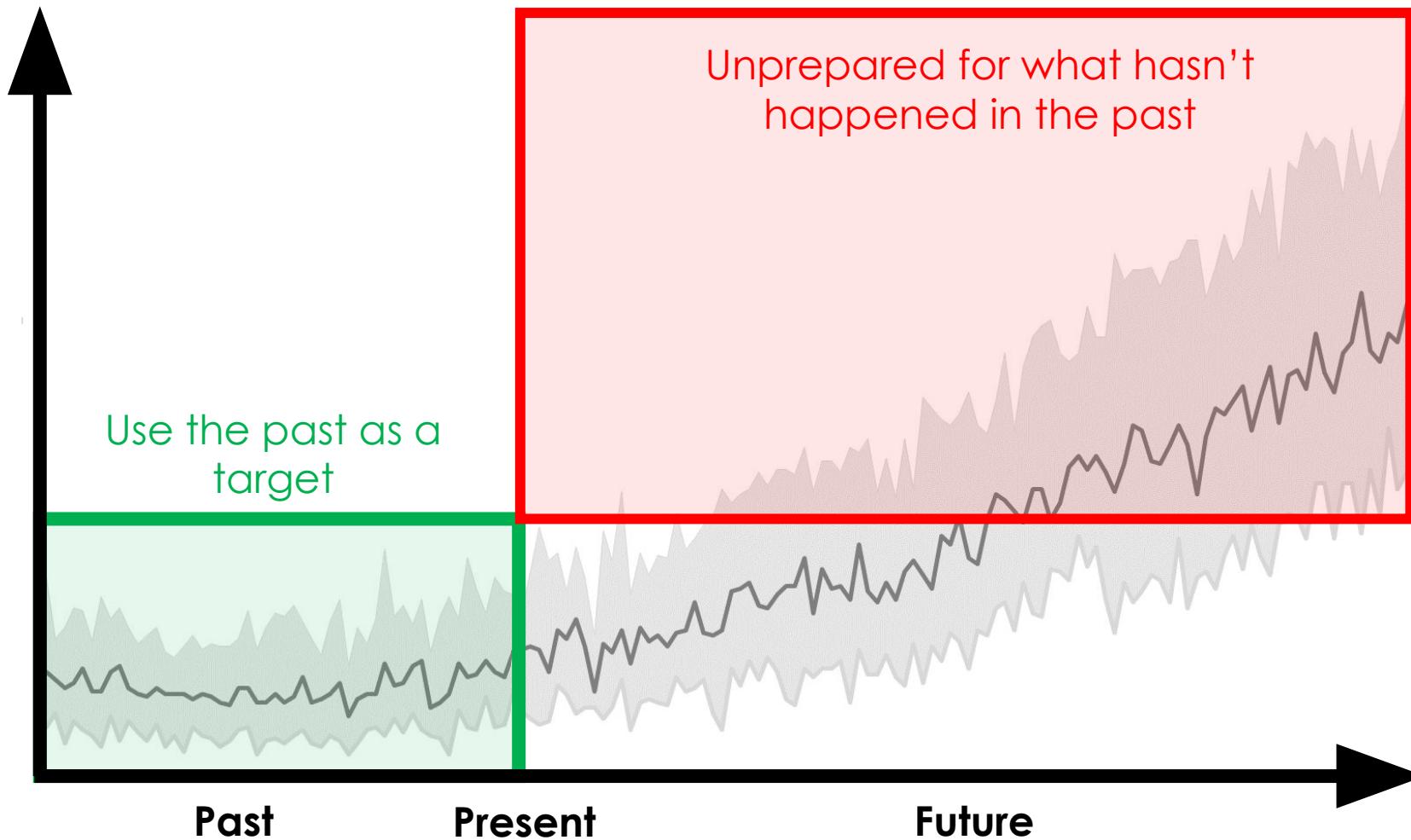
RA0.0 Innovate or Exceed Credit Requirements

NW0.0 Innovate or Exceed Credit Requirements



ENVISION
CANADA

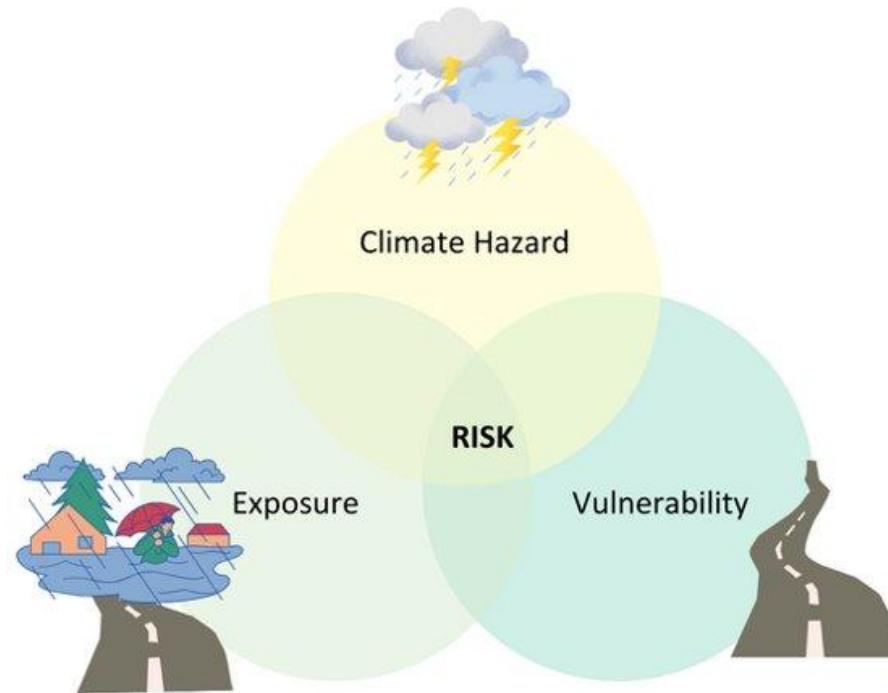
Standards & Design Criteria



Climate Risk Assessment

RISK = Likelihood of hazard event
x projected **Consequences**

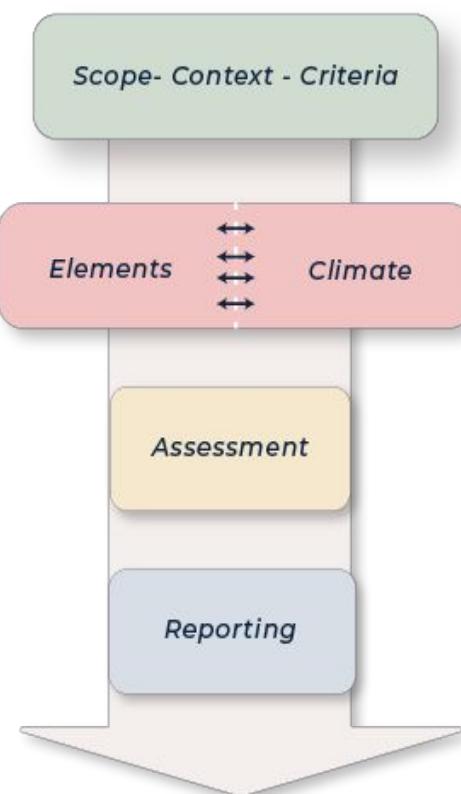
A region is expected to experience more severe storms and heavy rainfall



A road is in a region prone to flooding and inundation.

The road is poorly maintained and made from sensitive material

The PIEVC Protocol



PIEVC: Public Infrastructure Engineering Vulnerability Committee

PIEVC History: created in 2005 by Engineers Canada

- Provides guidance on risk assessment for managing climate resilience
- Establishes definitions and procedures applied in all PIEVC resources
- Organized in five volumes:
 1. User Guide
 2. Supplements and Support
 3. Step-by step
 4. Field Guide
 5. Vocabulary

Climate Risk in the Project Lifecycle

Existing

- Community
- Portfolio / System

New

- Project Siting
- Project Design Criteria
- Design Project Components

Start anywhere
but start!

Q&A

Closing

Procurement Actions For Your Organization

1. Require an ENV SP on the project team
2. Ask for an Envision assessment (& consider optional verification)
3. Consider procurement unbundling or social procurement targets
4. Set evaluation criteria for valued components
5. Ask for a net-zero pathway
6. Ask for lifecycle carbon assessments to inform materials procurement
7. Require a climate risk assessment to test design criteria / standards

Personal Actions You Can Take!

lourette@csce.ca

envisioncanada.com/next-steps

- Reach out for fall workshops
- Join Envision community (free membership for public sector)
- Use free Envision Checklist to review your project early on
- Become an Envision Sustainability Professional



ENVISION
CANADA

Thank You!

FREE @ NWWC on Wednesday!

Envision Credential Readiness
Training

Sign-up at Registration Desk



Envision & PIEVC Combo Training
Online Feb 19/20; Feb 23/24



NWWC 2025

AssetAdapt+ Cohort: Integrating Adaptation + Sustainability for
Capital Project Procurement & Funding Success



Scan here to check in for Continuing Education Credits