

# Prioritizing **Climate Change** Risks and Tools: Hazards, Enterprise Assets and a Corporate-Wide Approach

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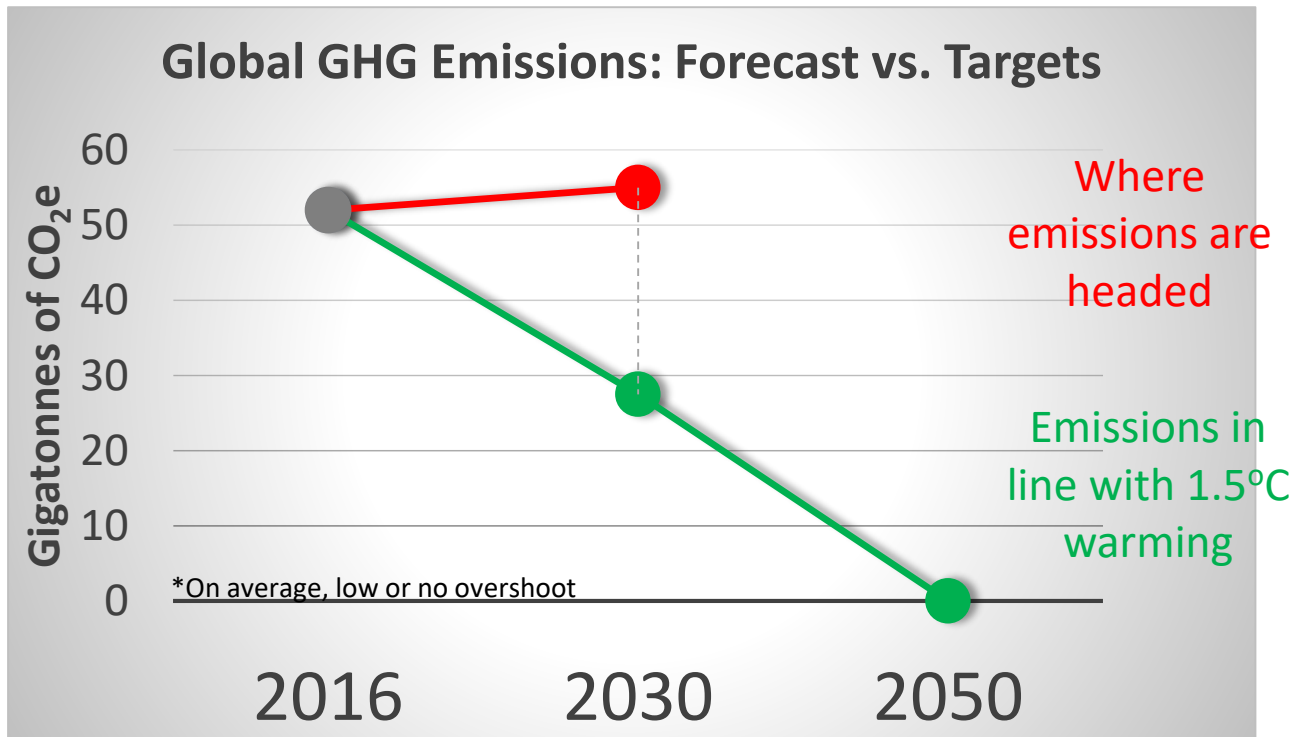
# Agenda

1. Climate Change Context
2. Peel Asset Management Program Overview
3. Climate Change Risk Assessment Tool
4. Q & A



# Climate Change Urgency

The world must limit temperature rise by 2050 through carbon neutrality



## Region of Peel Weather Projections to 2050



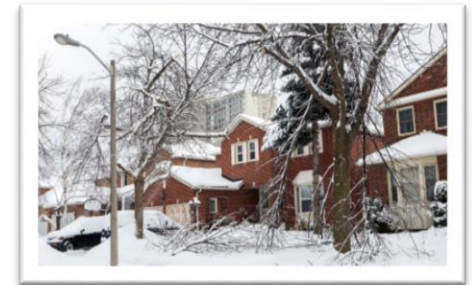
- Increased temperature by 2°C in 2050



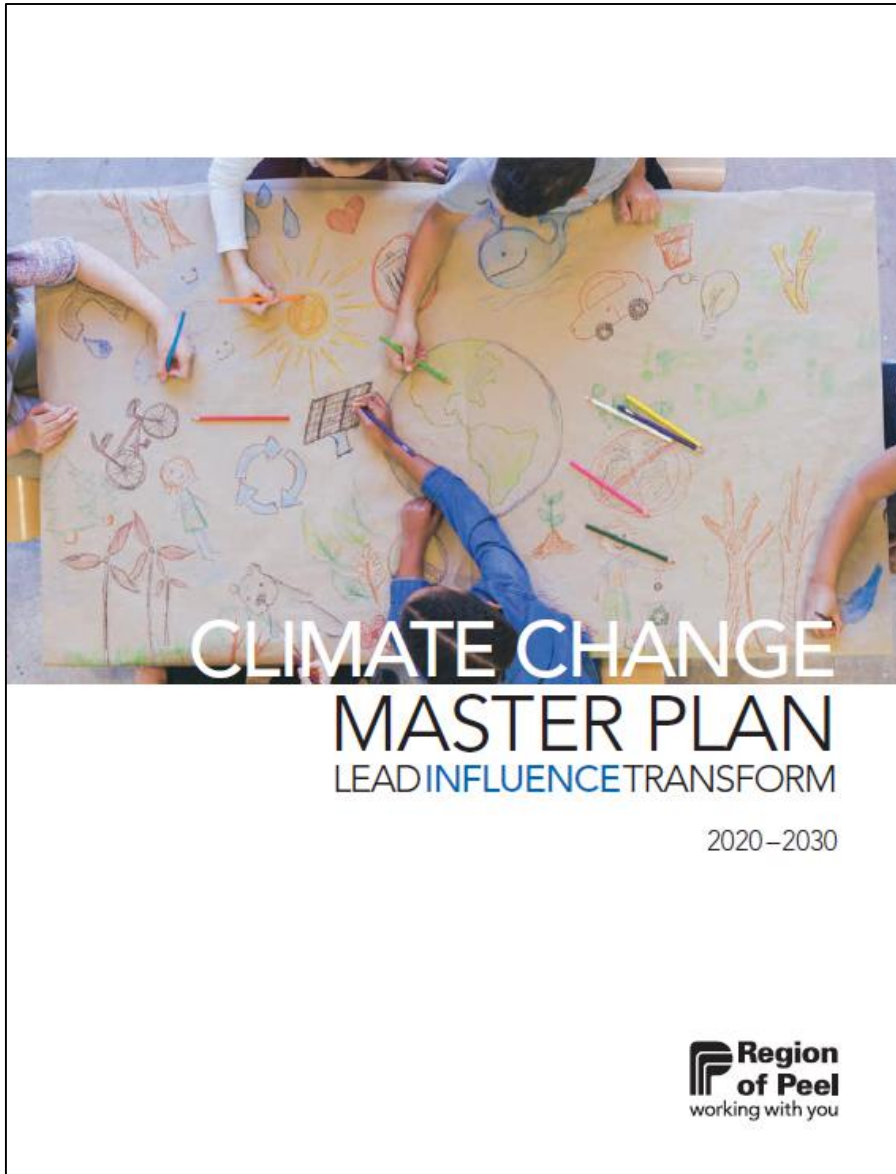
- Double the number of days over 30°C



- Up to 50% increase in extreme storms



# Climate Change Master Plan Outcomes



Reduced Emissions



Be Prepared



Invest



Build Capacity



Monitor and Report

# Climate Change Master Plan Accelerated Action



**Assess and  
Integrate  
Climate Change  
Risks into Asset  
Management  
Planning**

**Phase 1**

## Be Prepared

**A safe, secure and connected community is provided by ensuring Regional services and assets are more resilient to extreme weather events and future climate conditions**

## Action #13

**Identify and Manage Risks to Infrastructure**

**Activity 13.1** Assess infrastructure for risks associated with extreme weather events and future climate conditions, and integrate knowledge into asset management

# Asset Management Program Overview

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# Region of Peel Strategic Vision



## Community For Life

### LIVING

People's lives are improved in their time of need.

### THRIVING

Communities are integrated, safe, and complete.

### LEADING

Government is future-oriented and accountable.

Long Term Financial Planning Strategy

### FINANCIAL MANAGEMENT

The Region of Peel is financially sustainable.

- Cash Management
- Financial Reporting and Accounting
- Insurance and Loss Management
- Financial Planning and Analysis
- Procurement

### ASSET MANAGEMENT

The Region of Peel builds, maintains and monitors infrastructure.

- Asset Planning and Investment

(to best serve the residents and businesses in Peel)

## 2019-2022 Finance Business Plan

Enable success through financial stewardship and business partnership.

Five Outcomes	 <b>We will improve organizational return on impact.</b>	 <b>We will engage and enable our employees.</b>	 <b>We will improve financial sustainability.</b>	 <b>We will increase trust and confidence.</b>	 <b>We will be innovative in the work we do.</b>
Strategies	<ul style="list-style-type: none"> <li>• Influence organizational culture to focus on return on impact (ROI)</li> <li>• Optimize value of Regional infrastructure investments</li> <li>• Optimize value of debt and investments</li> </ul>	<ul style="list-style-type: none"> <li>• Empower employees to live the Regional values</li> <li>• Increase confidence in leadership</li> <li>• Develop, acquire and retain the right talent</li> </ul>	<ul style="list-style-type: none"> <li>• Integrate financial planning across the organization</li> <li>• Leverage business intelligence to inform planning and decision making</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate value for money to the public</li> <li>• Enhance internal and external stakeholder collaboration &amp; partnerships</li> </ul>	<ul style="list-style-type: none"> <li>• Adopt a digital first approach</li> <li>• Embrace new approaches to modernize service delivery</li> </ul>

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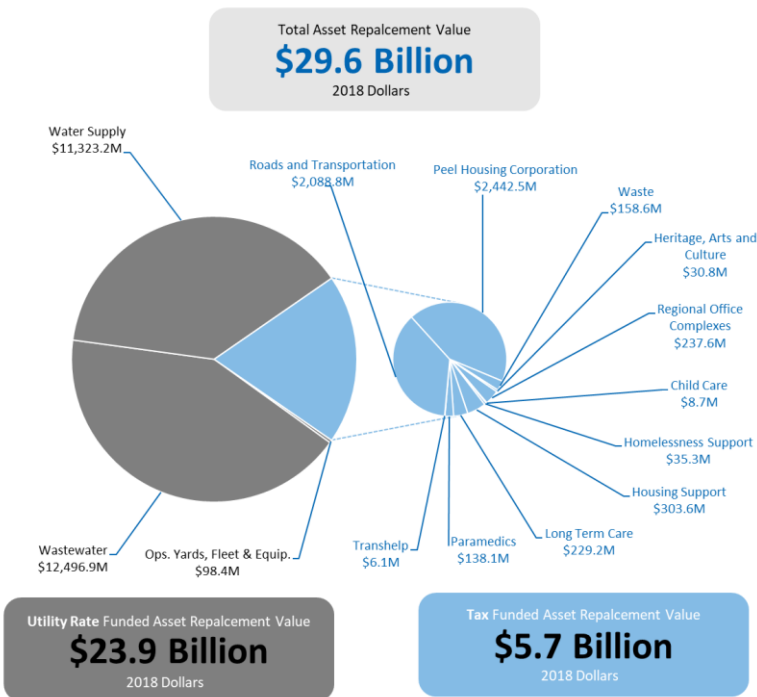
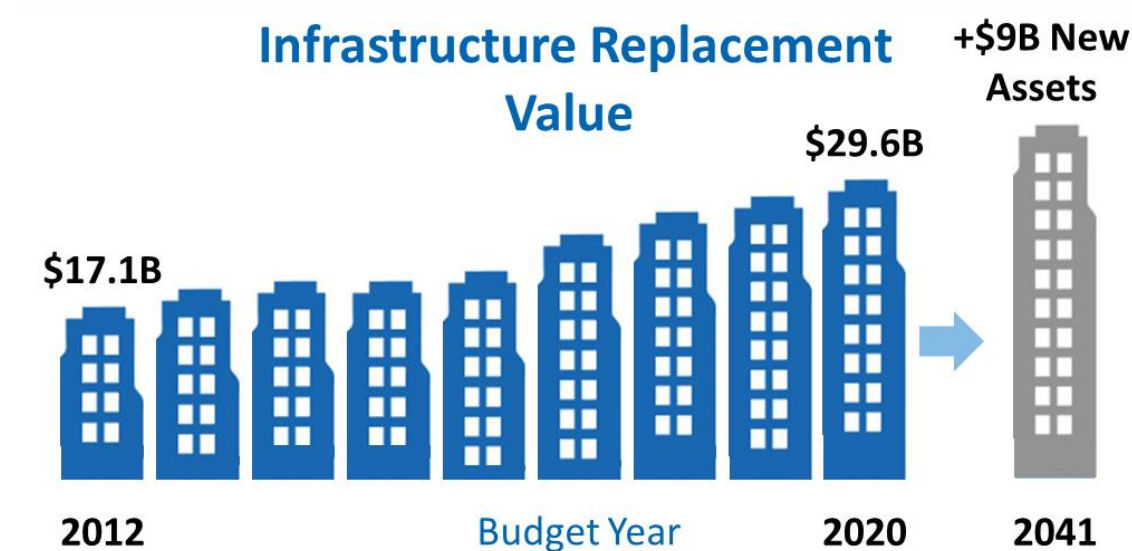
# Assets & Service Delivery

Assets are essential for delivering services that align with the Regions Vision





# Region of Peel Asset Portfolio



# Why Sustainability is important

Institute for Sustainable Cities definitions - "A sustainable community is one that is economically, environmentally, and socially healthy and resilient.

Sustainable communities manage human, natural and financial resources to meet current needs while ensuring that adequate resources are equitably available for future generations.

# Why Sustainability is important

A sustainable community seeks:

- A better quality of life for the whole community without compromising the wellbeing of other communities.
- Healthy ecosystems
- Effective governance supported by meaningful and broad-based citizen participation.
- Economic security

# How are we doing?

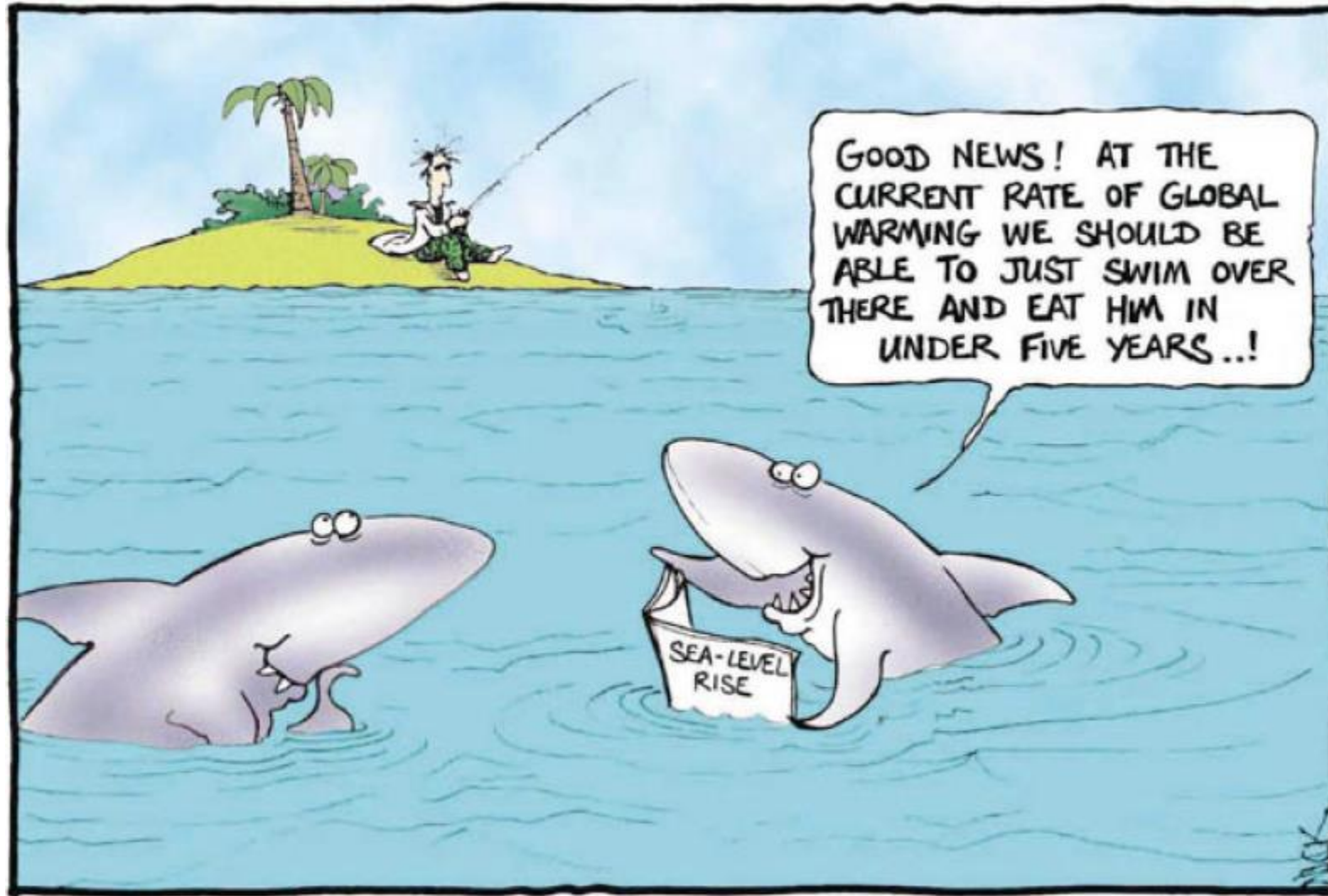




# How are we doing?

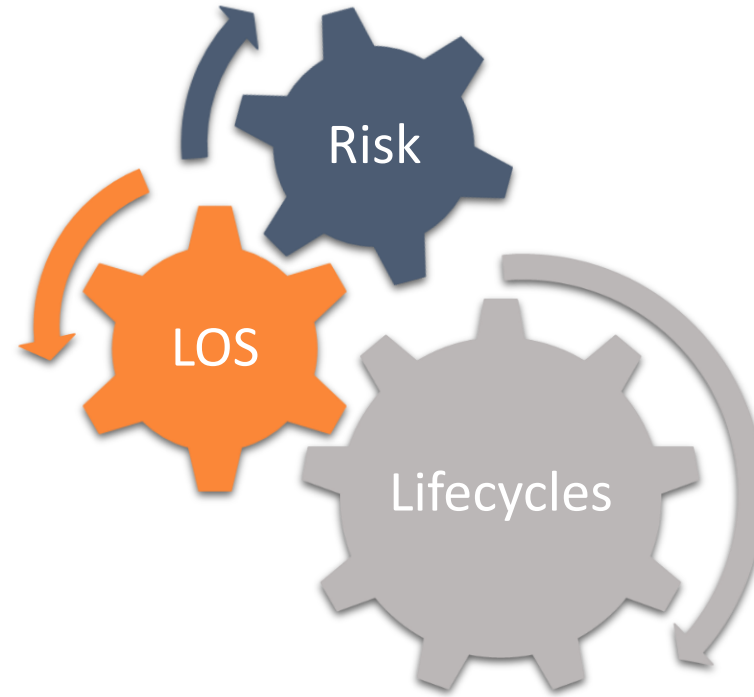


# Future Trends

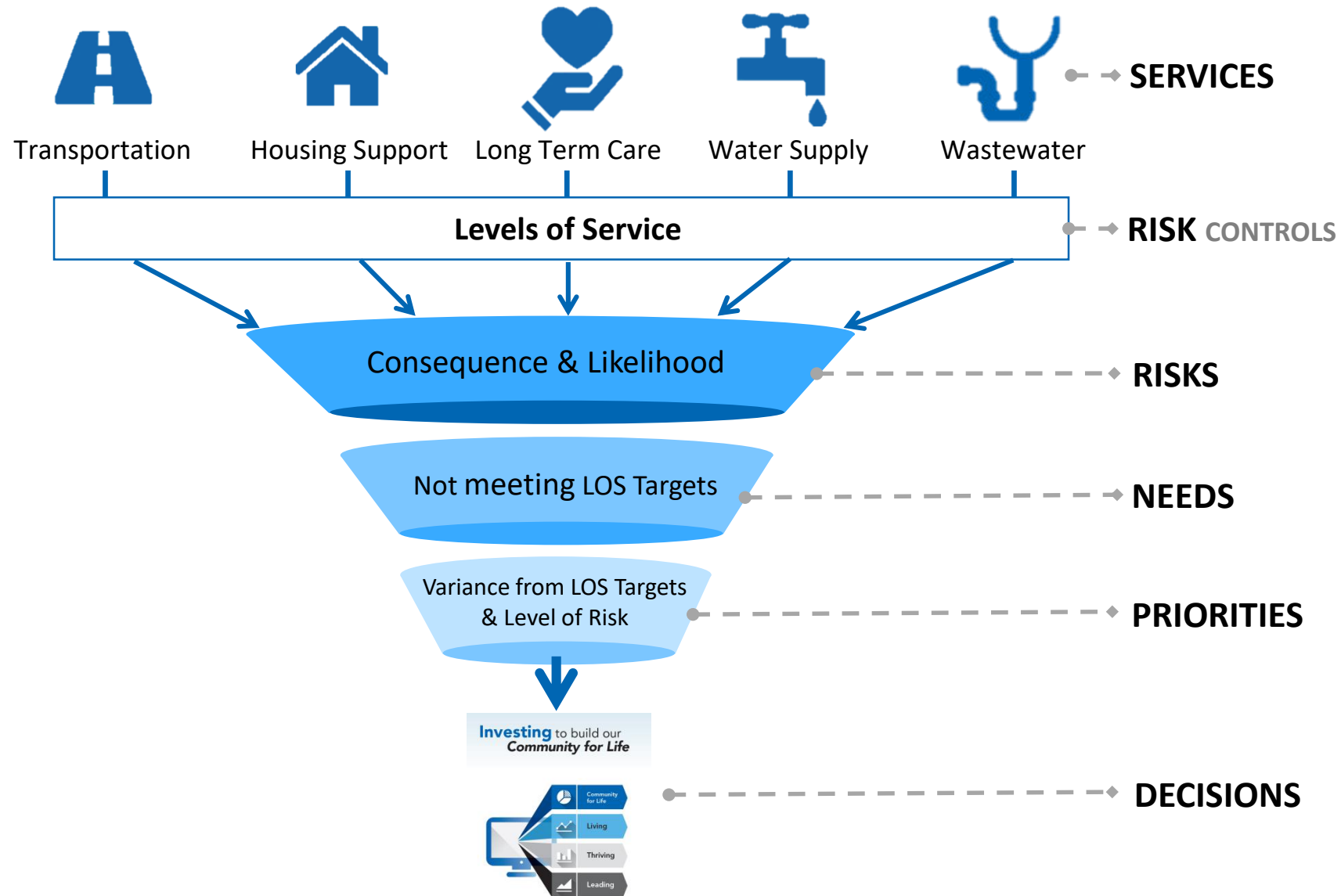


# Adaptation At Peel Region

Creating sustained value by better managing assets in context of climate change

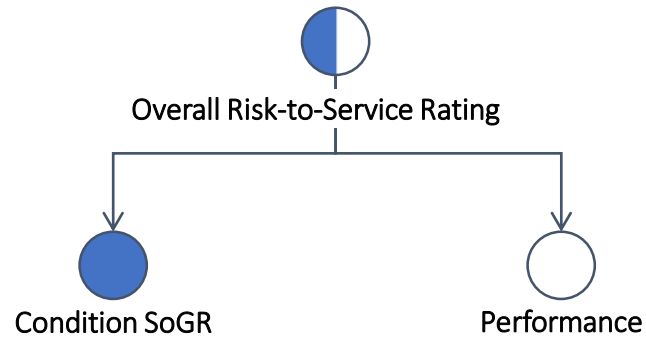


# Region of Peel Asset Management Strategy





# Infrastructure Risk Management Scores



**Very Good State** – Almost all assets in the portfolio are achieving the desired targets.



**Good State** – Most asset in the portfolio are achieving the desired targets.



**Fair State** – Many asset in the portfolio are not achieving the desired targets.



**Poor State** – Most asset in the portfolio are not achieving the desired targets.



**Very Poor State** – Almost all assets in the portfolio are not achieving the desired targets.

# From Customer Levels of Service to Budget

## Customer Levels of Service

Potable water at an appropriate pressure and quality.

Efficient delivery of water services.

## Asset Levels of Service

Maintain Equipment at a Condition Rating = B (Good)

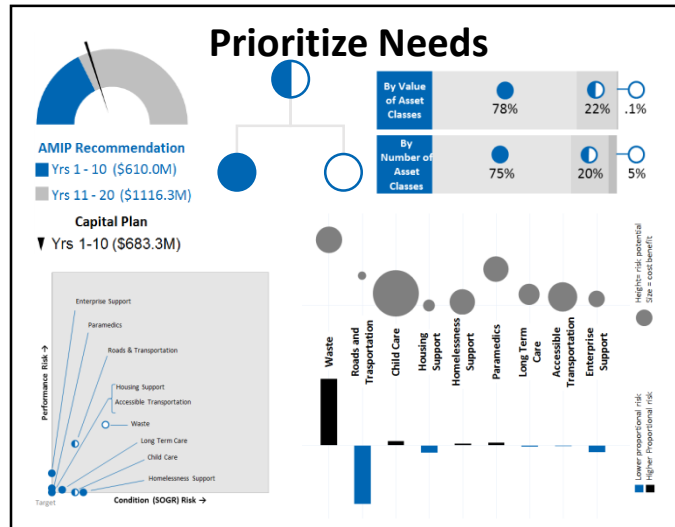
Backup capacity for all critical equipment

Provide Standby Power

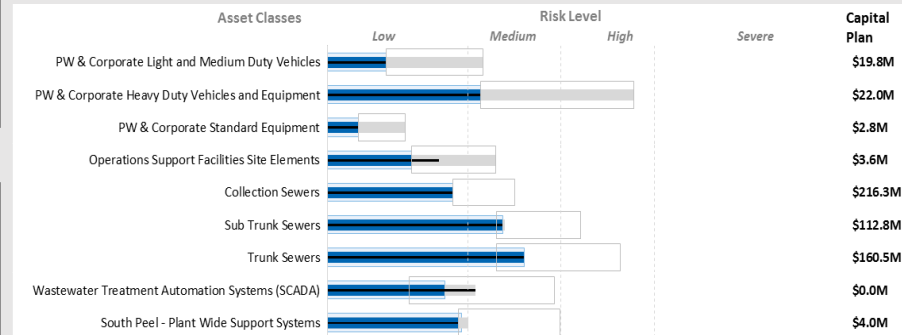
Redundant power supply

Capacity and technology to produce water of suitable quality

Automated monitoring systems in place



## Measure Risk and Identify Needs

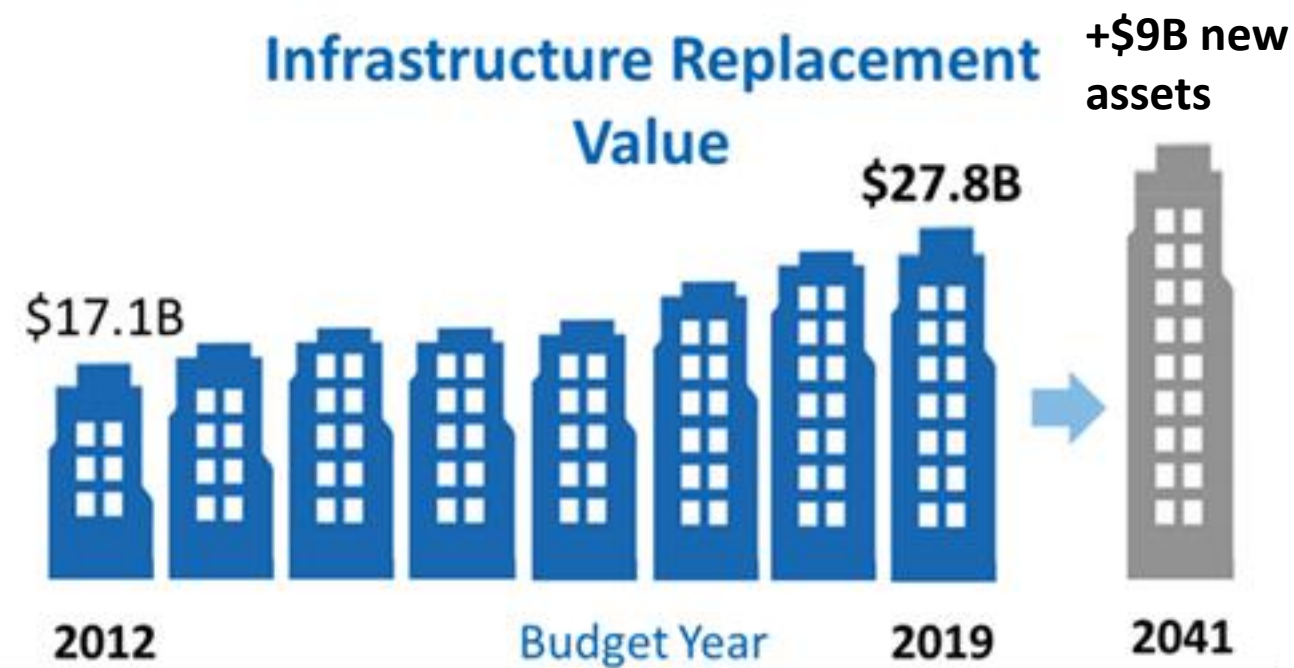


**Break Asset Management down to the Decisions Council has to make**

# Climate Change Risk Assessment Tool

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# Climate Change Infrastructure Impacts



Reduced state of good repair



Increased pressure on operations and maintenance



Increased financial costs and liabilities

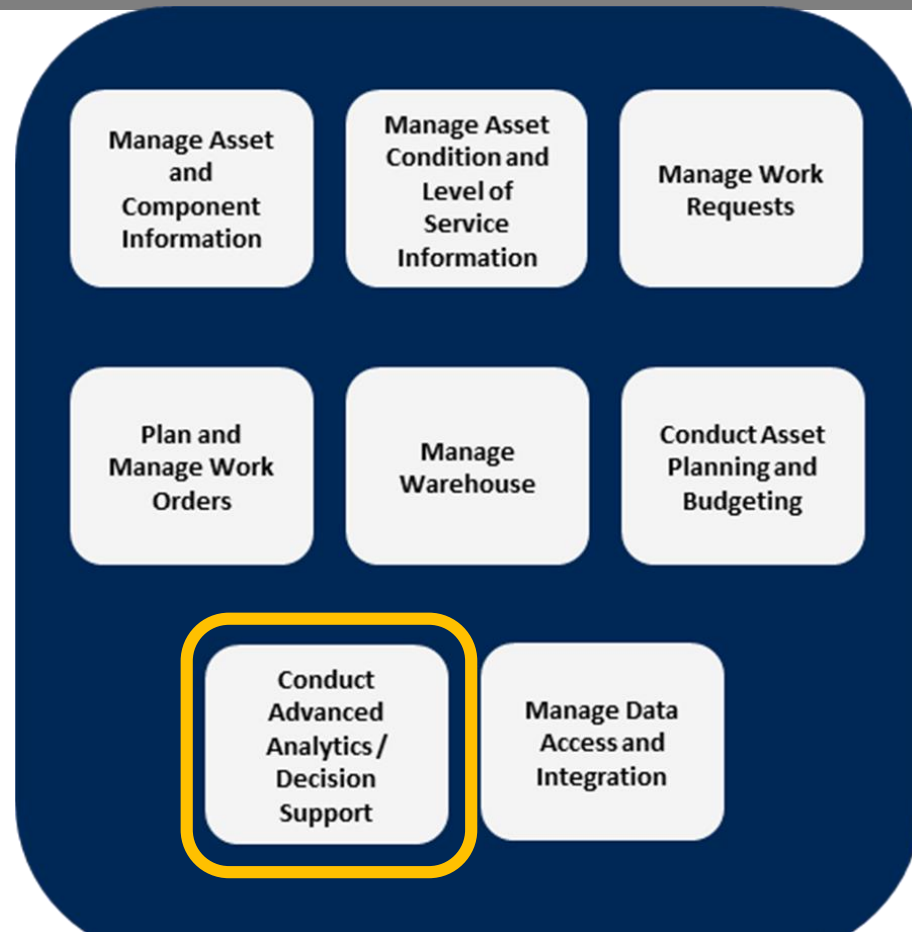


Increased energy use and the vulnerability of the electricity supply

# Risk Assessment Modelling Tool **Market Scan**

Core Module (EAM)  
Versus  
Point Solution (External)

Develop  
Versus  
Procure



## *Market Scan Considerations:*

- Capabilities\*
- Pricing Model
- Accuracy
- Speed of Delivery
- Integration into external databases
- Experience
- Capacity



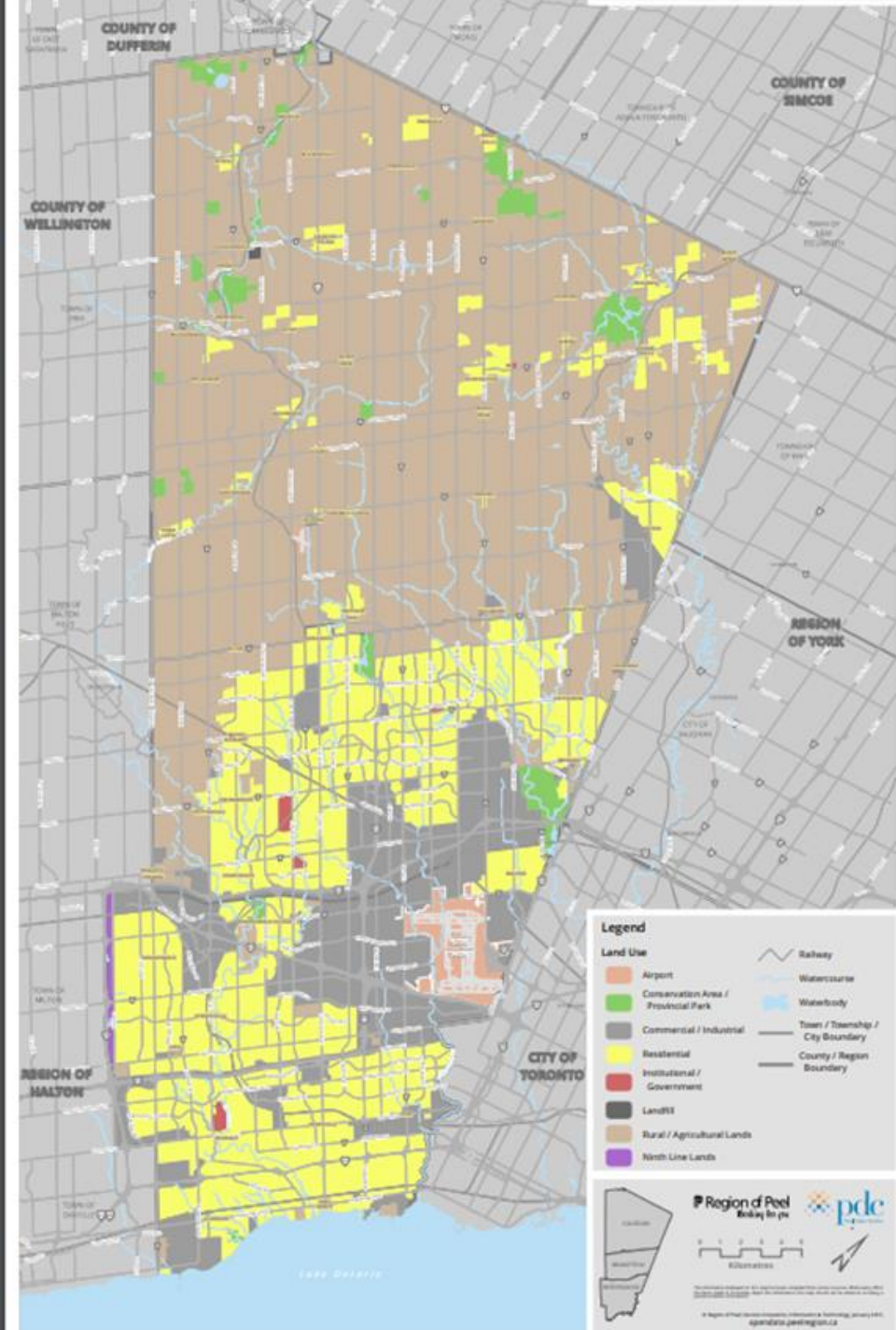
# Risks Assessment Tool Capabilities

## *Modelling Requirements:*

- Geospatial
- Infrastructure Systems: Water, Wastewater, Stormwater, Road and Bridges, Buildings
  - potentially utilities – telecom, cable, Enbridge, etc.)
- Climate Change Hazards
- Scenarios: Hindcasting, Projections, Back-to Back Storms, including resilience measures
- Transparent rationale for thresholds of failure

## *Outputs:*

- Impacts
- Level of Risks
- Costs (measures and damages – sustained or avoided)
- Cross Dependencies (where possible)



# Risk Assessment Project Schedule



## Key Takeaways



Climate  
Change  
Risks

Resiliency  
Integration

Level of  
Service



*“Imperfect action is better than perfect inaction”*  
— *Harry Truman*

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## Thank you!

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