

AGENDA  
COUNCIL COMMITTEE MEETING  
MUNICIPAL DISTRICT OF PINCHER CREEK  
July 11, 2023  
2:00 pm  
Council Chambers

- 1) Approval of Agenda
- 2) Delegations
  - a) 2:00 pm to 2:30 pm - QUEST (presenting virtually, Town Council attending virtually)
  - b) 2:30 pm to 3:00 pm - Tristan Walker, Municipal Energy Project Lead - Climate Risk Assessment & Adaptation Plan – Renewable Energy EV's
  - c) 3:00 pm to 3:30 pm - Patty Zoratti – Basketball Court
  - d) 3:30 pm to 4:00 pm - Brendan Schlossberger, Financial Services & Asset Management Specialist - Asset Management
- 3) Closed Session
  - a) Draft A-ADMIN-003 Organizational Chart – FOIP Sec. 23.1.a
- 4) Round Table
- 5) Discussion on Eco Centre Survey Questions
- 6) Adjournment



# Net-Zero Communities Accelerator Program

## Pincher Creek

### Overview & Services

11 July 2023

# AGENDA

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- + Introductions
- + Net Zero Communities Accelerator Program Overview
  - + Project Partners
  - + Other Participants
  - + Benefits
- + Pincher Creek Terms of Reference Review
  - + 12 Services Offered
- + Questions

# Project Partners

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## About QUEST Canada

QUEST Canada is a national energy non-profit that supports communities on their pathway to net-zero, since 2007.

## About the Action Centre

The Municipal Climate Change Action Centre was founded in 2009 as a collaborative initiative of Alberta Municipalities, Rural Municipalities of Alberta, and the Government of Alberta.

# ABOUT THE PROGRAM

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## Goal

To establish a community energy and emissions planning and implementation accelerator to equip 15+ diverse communities across the Prairies with the tools and knowledge to develop and continuously implement community energy and emissions plans and initiatives.

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## Principles

- + Inclusive
- + Empowering
- + Adaptive

## Timeline

July 2023 - December 2025

# PARTICIPATING COMMUNITIES

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8 of 15 communities confirmed:

- Town of White City, SK
- Sandy Bay Ojibway First Nation, MB
- St. Theresa Point First Nation Cluster, MB
- City of St. Albert, AB
- **Town and MD of Pincher Creek, AB**
- Rural Municipality of De Salaberry, MB
- Town of Biggar, SK
- Town of Gravelbourg, SK



**WHY THE NET-ZERO**

**COMMUNITIES ACCELERATOR  
IS NEEDED**

# PROGRAM NEEDS ASSESSMENT OVERVIEW

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## The Reality

- + Communities influence over half of all energy use and GHG emissions in Canada.
- + Local governments consistently rank lack of capacity and funding.
- + No energy-related program exists that works with all stakeholders, communities of all sizes, with a focus on foundational supporting structures.

## How NCA Addresses Needs

- + Capacity-building: Providing ongoing support and leading edge research to community energy stakeholders
- + Multi-stakeholder: Inclusivity is built into the program's approach via the work we do.
- + Reduce Redundancy: Amongst both community energy stakeholders and (E)NGOs in this space

# ECONOMIC BENEFIT

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**1.**

Every 1% reduction in energy use = \$5-14M kept in local economy for small-mid sized communities

**2.**

Every \$1M spent on community energy and emissions plan implementation = minimum net increase of 3 jobs

**3.**

Throughout 20 year savings phase, net increase job creation = 8 jobs / \$M

*See our Economic Impact of NB CEEPs initiative!*

# OUTPUTS & OUTCOMES

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## Outputs

- + Development and implementation of 15 tailored Net-Zero Communities Recommendations and Prioritization Reports to help 15 participating communities (or clusters) assess their current achievements and next steps related to community energy and emissions planning (CEEP)
- + 7-8 implementable CEEPs
- + Case Studies to assess the economic impact of elements of CEEPs
- + 7-8 CEEP programs, projects or policies launched and/or implemented

## Outcomes

- + Built capacity of participants by  $\geq 25\%$
- + Increased Smart Energy Communities Benchmark scores by  $\geq 10\%$
- + Enhanced and ongoing CEEP knowledge sharing and support
- + Positive changes in behaviours of system actors that are durable
- + GHG emissions reductions
- + \$187.5 million in annual energy costs retained in local economies
- + 562.5 new jobs during the community energy and emissions plan implementation investment phase
- + 187.5 person-years of employment during the 20 year savings phase



# OVERVIEW OF SERVICES

# PROGRAM STREAMS

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## FOUNDATION BUILDING

Building the foundational knowledge and plans needed to action community energy and emissions plans and initiatives.

Includes coaching and navigating services, and connecting communities with others learning about and actioning community energy and emissions planning.

## PROJECT INITIATION

Building the foundation to launch a program, a project or a policy that will result in reduced energy usage and emissions across the community or region.

Includes coaching and navigating services, and connecting communities with others learning about and actioning community energy and emissions planning.

# INITIAL TASKS

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- ✓ Accelerator Plan and Terms of Reference formalized
- + Cohort Launch meeting (July / August)
  - + With the other NCA participants
- + All participants start with a **Smart Energy Communities Benchmark** assessment

# 1. SMART ENERGY COMMUNITIES BENCHMARK

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**Smart Energy Communities Benchmark** assessment to establish baseline and identify priority areas

- + Why a Benchmark?
  - Proven tools that help establish a benchmark
  - Evaluate progress made, highlight areas for improvement and identify pathways forward
  - Re-score after 24 months to assess progress; enable continuous improvement
- + 10 Indicators, each with multiple measures
  - Community Capacity and Resources: *Governance, Staff, Data, Financials, Strategy*
  - Community Energy Processes and Systems: *Land Use, Energy Networks, Water and Waste, Transportation, Buildings.*

# 1. SMART ENERGY COMMUNITIES BENCHMARK

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Example:

**Grande Prairie, AB**

**Total Score: 49%**

The City of Grande Prairie is located in northwest Alberta, with a population of 69,000 people and a density of 476 people per square kilometer. As the 5th largest city in Alberta and an urban hub for northwestern Alberta, they serve a trade population of 290,000, an amount larger than their population suggests.

Approximately 5 percent of the population commutes to work using active transportation, with another 2 percent using public transit. The population is growing and the median pre-tax income is quite high at \$105,000 per year. Approximately 65 percent of Grande Prairie residents own their homes. ATCO is the utility for both electricity and natural gas in the City.

# 2. ENERGY AND EMISSION INVENTORY

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## Corporate

Focuses on GHG emissions from the municipal government's energy use/operations

- + Facilities
- + Street lighting
- + Fleet vehicles
- + Water and wastewater
- + Solid waste
- + Public transit



## Community

Focuses on GHG emissions from the community at large:

- + Residential buildings
- + Commercial buildings
- + Transportation
- + Lighting
- + Waste
- + Energy production (if local)
- + Other: agricultural, aviation, supply chains, consumer products, etc.

# 3. ENERGY MAPPING WORKSHOP

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## ENGAGE AND COLLABORATE

Including stakeholders to discuss opportunities, develop a vision and increase energy literacy.



## ENERGY MAPPING REPORT

Summarizing the vision of the community and all of the measures identified on the map and in Mural.



## ROADMAP

Consulting the report to inform next steps in local energy and GHG emissions reduction activities.

# 4. COMMUNITY ENERGY AND EMISSION DEVELOPMENT WORKSHOP

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Workshop provides an overview of the key considerations in developing a Community Energy and Emissions Plan.

Identify actions that:

- Reduce GHG emissions,
- Support the local economy,
- Increase competitiveness,
- Create jobs,
- Improve energy efficiency,
- Keep energy dollars local,

Item
Welcome and introductions
Overview of QUEST Canada and Smart Energy Communities
Introduction to baseline inventory and GHG inventory
Introduction to community energy and emissions planning
<Guest Speakers>
Break
Visioning
Action strategies exercise
Break
Next steps and applying energy lens in planning
Follow-up actions
Close

# 5. COMMUNITY ENERGY AND EMISSIONS PLAN IMPLEMENTATION WORKSHOP

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## ENGAGE & COLLABORATE

Strategies for implementing the Community Energy and Emissions Plan (CEEP), strengthen collaboration and build awareness.



## FINAL REPORT

Recommendations for a governance structure, communications strategy, key performance indicators, and strategies for implementation.



## ROADMAP

Implement actions recommended, including: governance structure, communications strategy, stakeholder engagement, CEEP actions, and monitoring KPIs.

# 6. ECONOMIC IMPACT ASSESSMENT

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## Research

Background research



## Focused Feedback

Context-setting and stakeholder engagement.



## Analysis

Understanding of the economic development and job creation potential

# SHARED SERVICES

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7. Community Energy and Emissions Planning Course for Planners with York University

8. Promoting community successes - Powered by Communities, Publications, social media

9. Participation in relevant working groups

10. Additional Webinars

11. Navigation and Coaching

12. Final Report and Evaluation

Search... 



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## Indigenous Energy Partnerships Emphasize Cultural Values

October 17, 2022

Sitansisk (St. Mary's First Nation) rests off the shores of the Wolastoq (Saint. John River), much of it within the city limits of the provincial capital, Fredericton, New Brunswick. To the members of this community, the Wolastoqey (Pronunciation: wool-las-two-gway) people, climate change poses an existential threat to their culture and way of life. Warming waters, shoreline development, and mismanagement of resource exploration projects have already led to loss of salmon stocks, hunting grounds....



## Small but Mighty: New Brunswick francophone municipalities fight climate change

June 27, 2022

Stéphane Dallaire remembers clearly the Saturday night in September 2019 when Hurricane Dorian hit Cap-Pelé. The CAO and clerk of the small francophone village 46 kilometres northeast of Moncton worked all night with several staff members. "We were hit hard," he says. They spent the night evacuating a campground, removing trees from roads, and dealing with general flooding. All hands on deck. "We had to get everyone who could get to work to..."

[CONTINUE READING >](#)

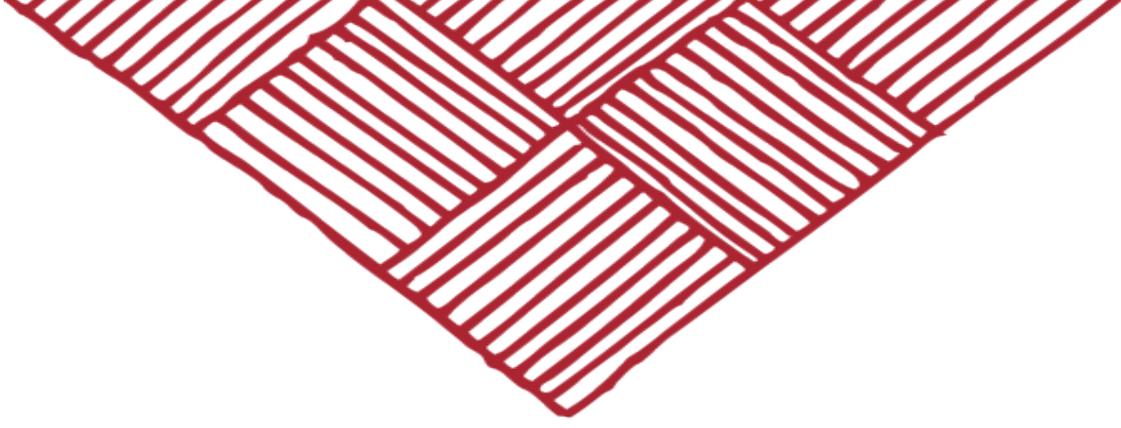


# THANK YOU!

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Ronak Patel, Program Manager [Ronak@abmunis.ca](mailto:Ronak@abmunis.ca)

Hammad Ahmed, Project Lead [Hammad@abmunis.ca](mailto:Hammad@abmunis.ca)



# Pincher Creek Climate Adaptation Plan

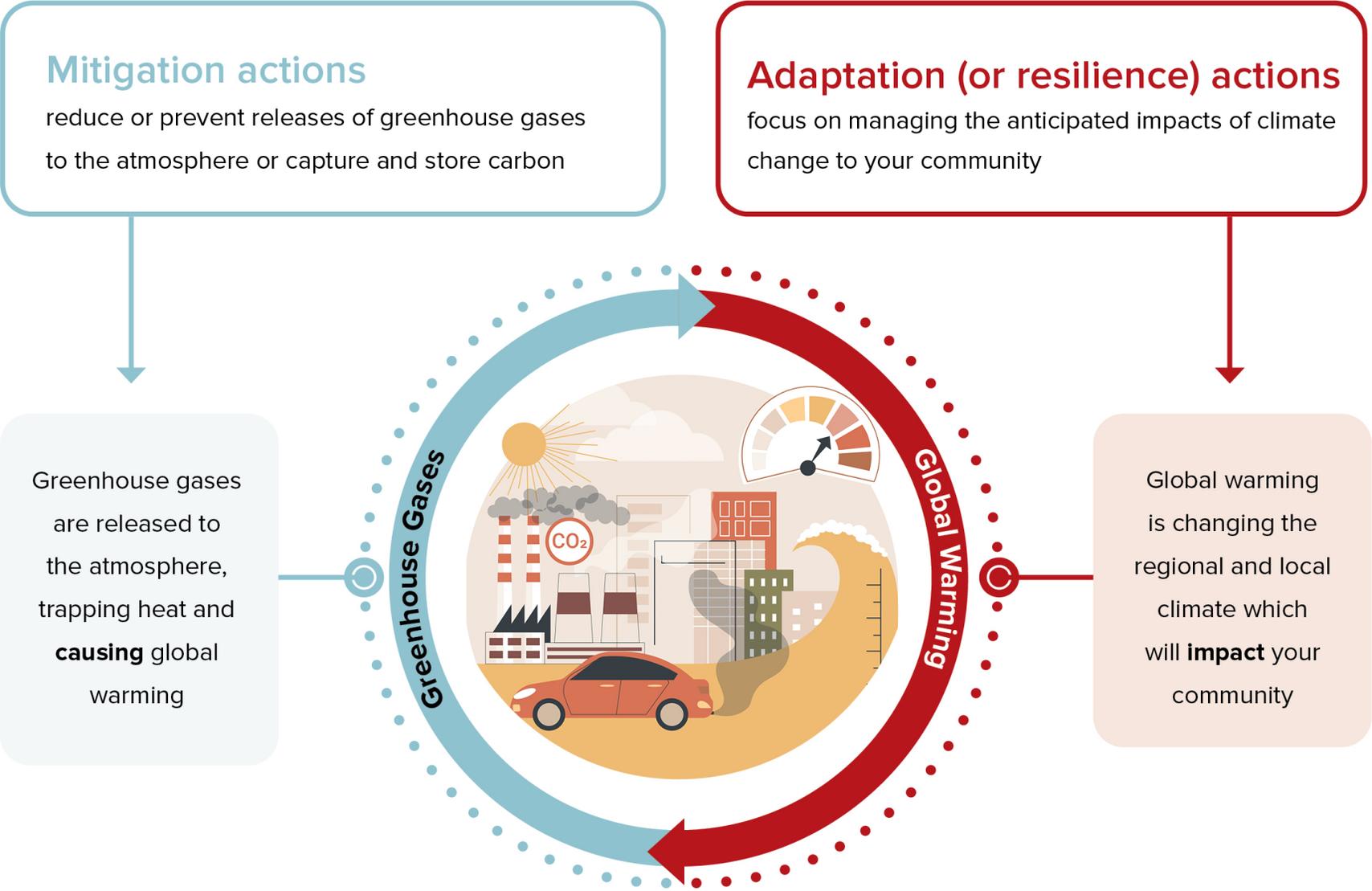


# Project Goals

1. Prioritize climate risks facing the Town and MD of Pincher Creek
2. Develop a climate adaptation action plan to address priority climate risks



# Project focused on managing the impacts of climate change



# Key Deliverables

## Phase 1 (Oct-Dec 2022)

- Work planning
- Research

## Phase 2 (Dec-Feb)

- Climate modelling and projections
- Community survey

## Phase 3 (Feb-Mar)

- Climate Change Risk Assessment
- Climate Projections Report
- Community open house [today]

## Phase 4 (May-Jun)

- Action planning
- Final Climate Adaptation Plan

# Community Engagement



**Community Survey**

How will the Town and M.D. of Pincher Creek be impacted by climate changes?

How can we increase our community's resilience?

Complete the survey for your chance to win 1 of 2 **\$100** gift certificates at a local business!

TO COMPLETE THE SURVEY, GO TO:  
[surveymonkey.com/r/Pincher](https://surveymonkey.com/r/Pincher)

Please complete the survey by **December 23, 2022.**

SCAN FOR SURVEY



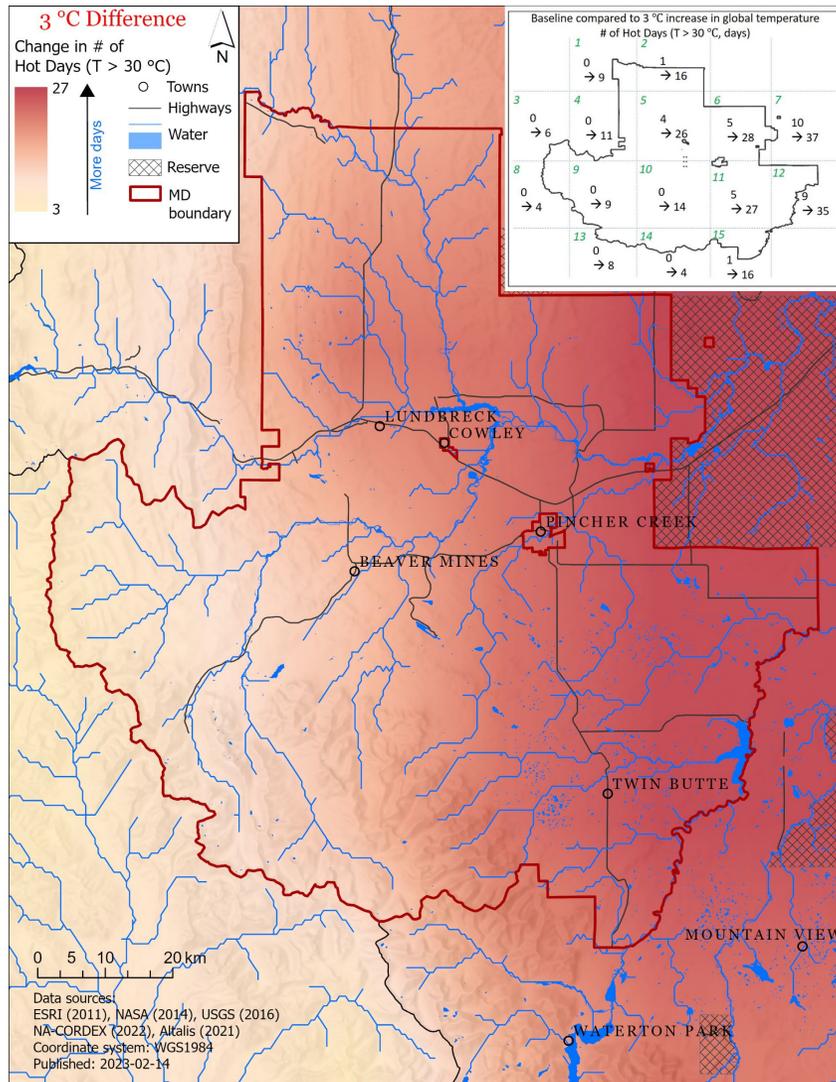
If you have any questions or comments, please contact:  
Tristan Walker, Pincher Creek Municipal Energy Manager,  
[energy@pinchercreek.ca](mailto:energy@pinchercreek.ca)



- Survey in Nov/Dec 2022
- 211 valid responses
- Provided insights into potential risks and climate adaptation actions

- Open house on April 13 to present and discuss climate projections and risk assessment, and gather adaptation action ideas
- Attended by about 40 people

# Climate Projections



Local climate modelling and detailed climate projections done by the Prairie Adaptation Research Collaborative

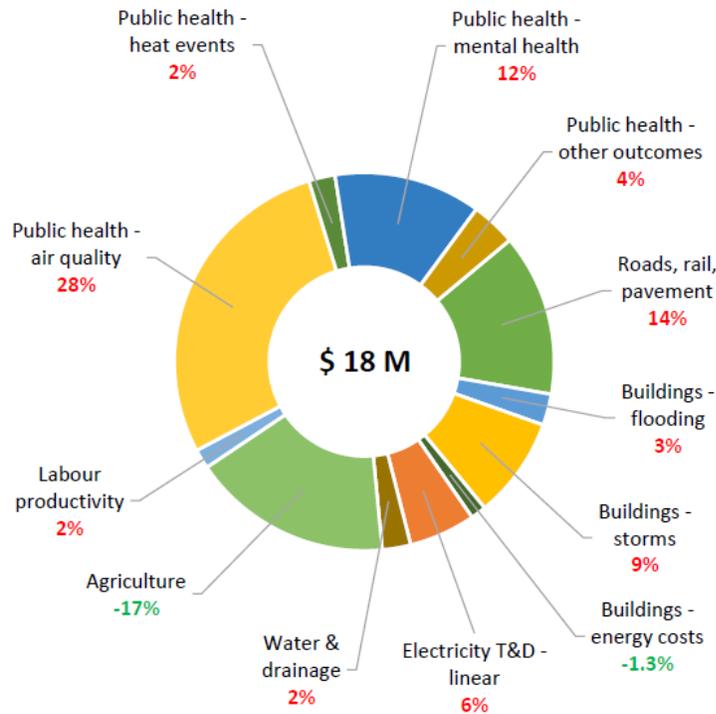
Projections for the Pincher Creek region by the 2070s:

- Hotter temperatures, with increases in maximum temperature, minimum temperature and the number of hot days
- Less cold, with higher mean and minimum winter temperatures and fewer cold days
- Drier summer conditions, with more dry days, and an increase in drought risk
- Wetter conditions overall, with more heavy precipitation days and potential flooding
- A longer summer season with fewer frost days, a longer growing season with more degree days

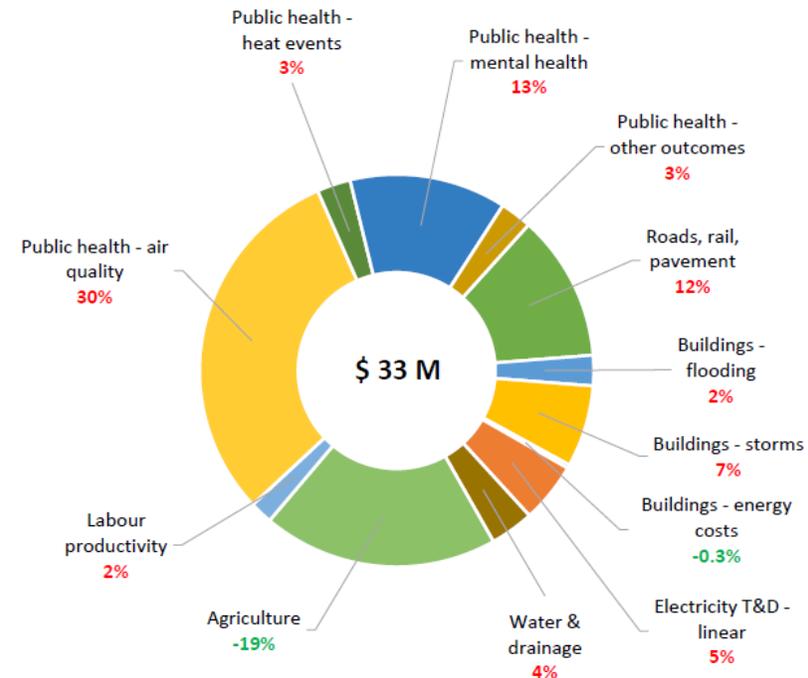
# Economic Analysis

- While climate change is anticipated to bring some benefits for the Pincher Creek region, the total economic impact is projected to be overwhelmingly **negative**.
- Economic losses for the region estimated at **\$18.3 million** and **\$32.8 million** (in 2020 dollars) per year, on average, by the 2050s and 2080s

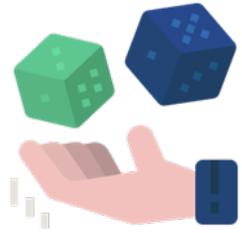
**2055**



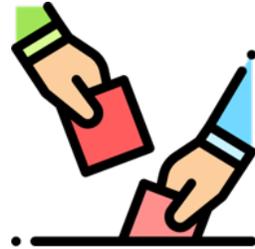
**2085**



# Climate Risk Assessment



Likelihood  
Score



Consequence  
Score



**Overall Risk  
Score**

# Climate Impact Scenarios

CONSEQUENCE	Very high					
	High		River and creek flooding	Wildfire Drought Water shortage		
	Medium		Overland flood	Dam flooding Invasive weed outbreak Vector-borne disease Changing ecosystems	Extreme heat Loss of winter recreation	Wildfire smoke
	Low			Hailstorm	Invasive species outbreak Blizzard	Windstorm Freezing rain Ongoing flooding
	Very low					
			Rare	Unlikely	Possible	Likely
LIKELIHOOD						

# Priority Climate Impacts



Extreme heat impacts to human health and livestock



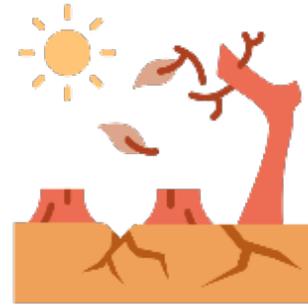
Wildfire causes damage to homes and infrastructure



Wildfire smoke reduces air quality causing local health impacts



River and creek flooding causes damage to homes and properties



Prolonged drought affecting local farmers, ranchers, wildlife, and vegetation



Water supply shortage reduces community service levels



Loss of winter recreation

# Guiding Vision, Themes, and Goals

## Vision:

*“Our region is safe and resilient for all to enjoy responsibly”*

	<b>Health &amp; Wellbeing</b> Goal: People and communities remain safe and healthy in the face of climate change and continue to enjoy a high quality of life
	<b>Disaster Resilience</b> Goal: Pincher Creek is prepared to respond and recover from climate-related events and disasters
	<b>Infrastructure</b> Goal: Pincher Creek’s capital assets are resilient and adapted to the future climate
	<b>Parks &amp; Environment</b> Goal: Improve and adapt our parks and natural assets and protect wildlife and ecosystems
	<b>Economy</b> Goal: The regional economy and local businesses are climate-ready and resilient



## Health and Wellbeing Actions

- Support community gardening
- Install outdoor water features
- Upgrade the spray park
- Purchase temporary shading structures
- Install permanent shade structures
- Adjust recreation programming during extreme heat and smoke events



## Disaster Resilience

- Update Land Use Bylaws to enhance flood protection
- Develop a heat alert response plan
- Develop a smoke alert response plan
- Develop a homeowner climate change vulnerability assessment toolkit
- Develop a Drought Response Plan that considers climate change
- Enhance emergency preparedness education and communication
- Conduct research to understand future wind patterns
- Develop a plan for enhanced fire department response capabilities
- Update development legislation with FireSmart revisions
- Conduct forest fuel treatments and vegetation management
- Retrofit designated emergency reception centres



## Parks & Environment Actions

- Develop a Natural Asset Inventory and Management Plan
- Develop a water sharing agreement between that Town and MD
- Develop a Source Water Protection Plan
- Develop a Water Conservation, Efficiency and Productivity Plan
- Update the Water Utility Bylaw with an improved water pricing structure
- Enhance support for watershed planning and protection
- Develop a tree planting program
- Enhance irrigation infrastructure
- Enhance environmental monitoring



## Economy Actions

- Provide climate resilience education materials to farmers and ranchers
- Develop a Tourism & Recreation Master Plan
- Improve accessibility to outdoor recreation
- Enhance marketing of the Pincher Creek region



## Infrastructure Actions

- Develop a climate resilient procurement policy
- Research climate resilient building materials and infrastructure
- Upgrade municipal buildings to provide better protection from extreme heat
- Upgrade and enhance flood mitigation infrastructure
- Install a solar covering on the Town water reservoir

# Implementation recommendations

In addition to the 35 climate adaptation action recommendations, the following additional recommendations are provided to support implementation:

ID	Action	Description
IM 1	Dedicate staff time and resources	The Pincher Creek Climate Adaptation Team, consisting of representatives from the Town, MD and Piikani Nation, should be maintained and continue to meet regularly to support action implementation. A climate adaptation implementation 'champion' should be identified and supported.
IM 2	Commit annual funding	Funding should be committed annually to support implementation activities, including funding for monitoring and evaluation of action implementation. Grant funding should be sought to support implementation projects where possible.
IM 3	Monitor and evaluate implementation results	The Climate Adaption Action Plan should be monitored and evaluated on a regular basis and should be updated every 5-10 years.

# All One Sky

— F O U N D A T I O N —



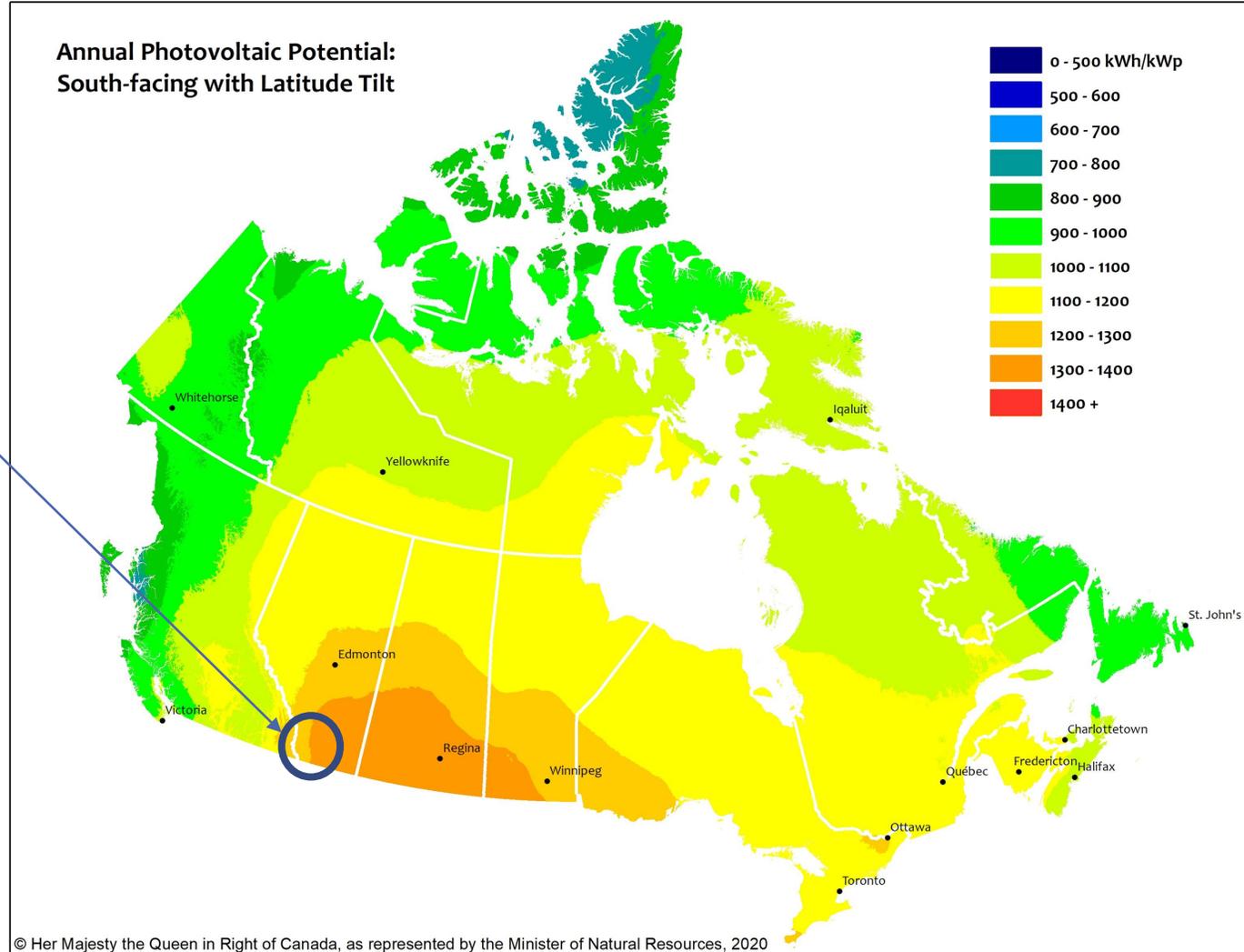
THANK  
YOU

# Renewable Electricity & EV's

June 27, 2023

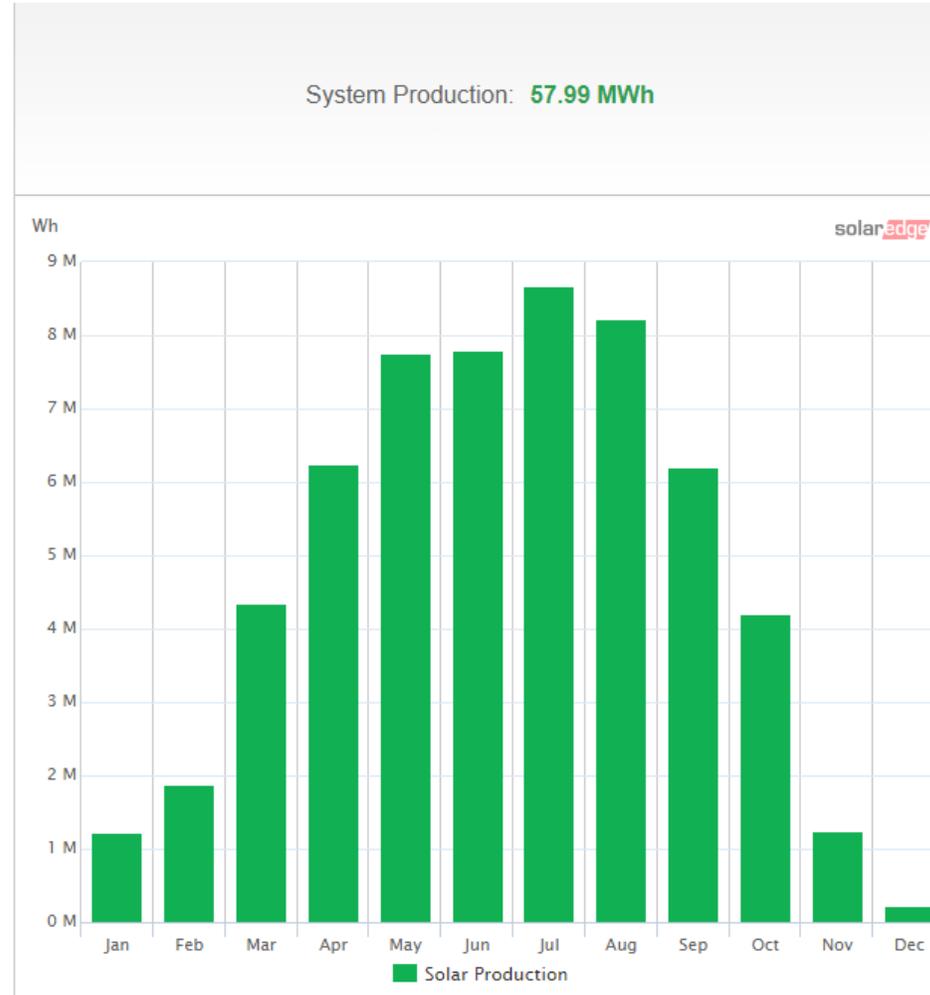
# Solar Electricity

Pincher Creek  
1,200-1,300  
kWh/kW

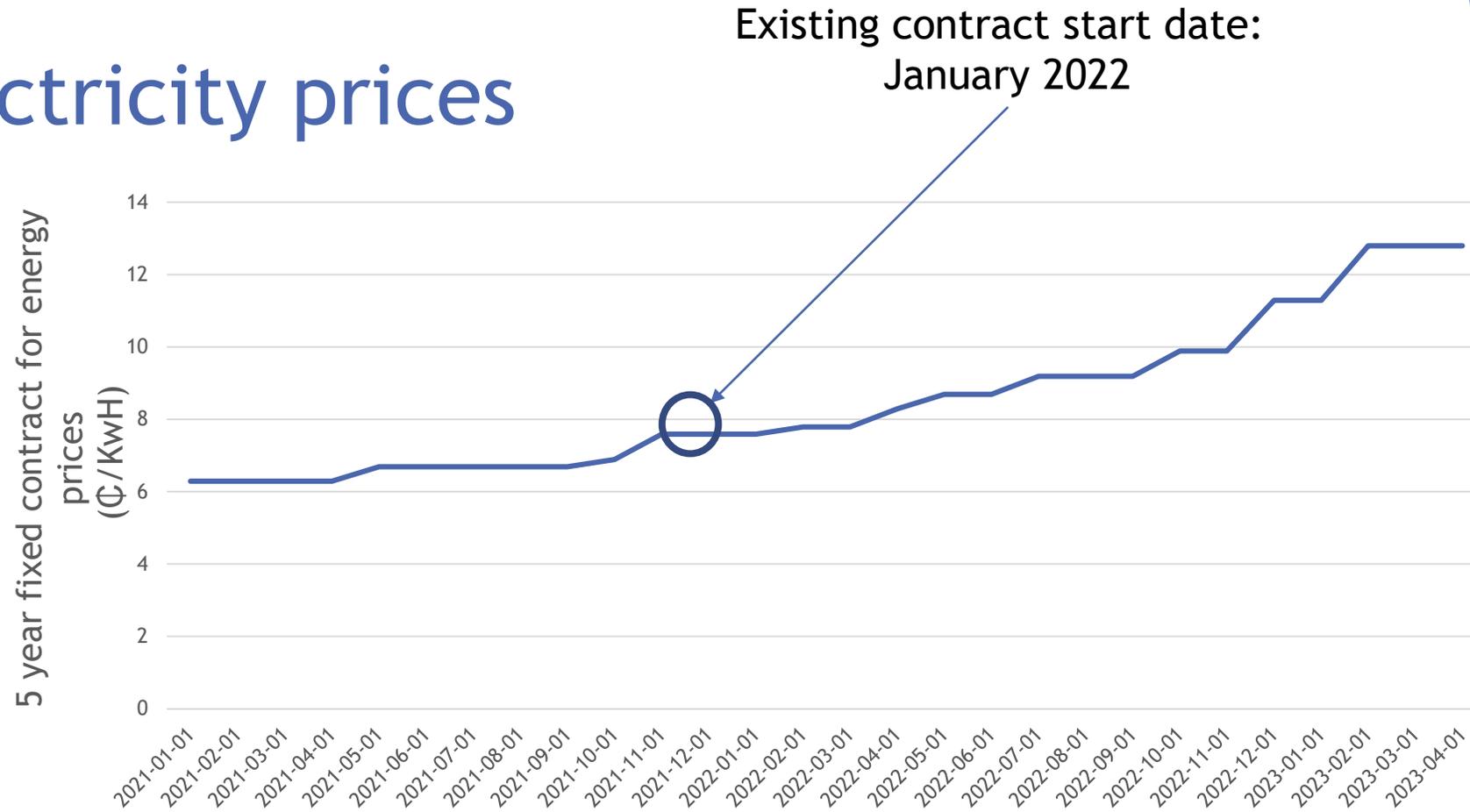


# Cardston Example

- ▶ 49.3 kW installed
- ▶ Generation
  - ▶ 2022: 57.99 MWh
  - ▶ 2021: 60.48 MWh
- ▶ Approx. 1,200 kWh/kW annually



# Electricity prices



We signed a contract for 5.7 cents/kWh in 2022

Due for renewal in January 2026

If we were to renew now it would be at 12 cents/kWh

# Value of efficiency and generation

The MD used 593,268 kWh in 2022

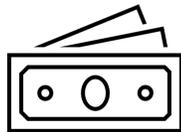
This cost us \$33,816 in energy and \$88,103 in Transmission & Distribution

Contracted rate



\$33,816 + T&D

Capped rate



\$80,091 + T&D

Uncapped market rate



\$127,552 + T&D

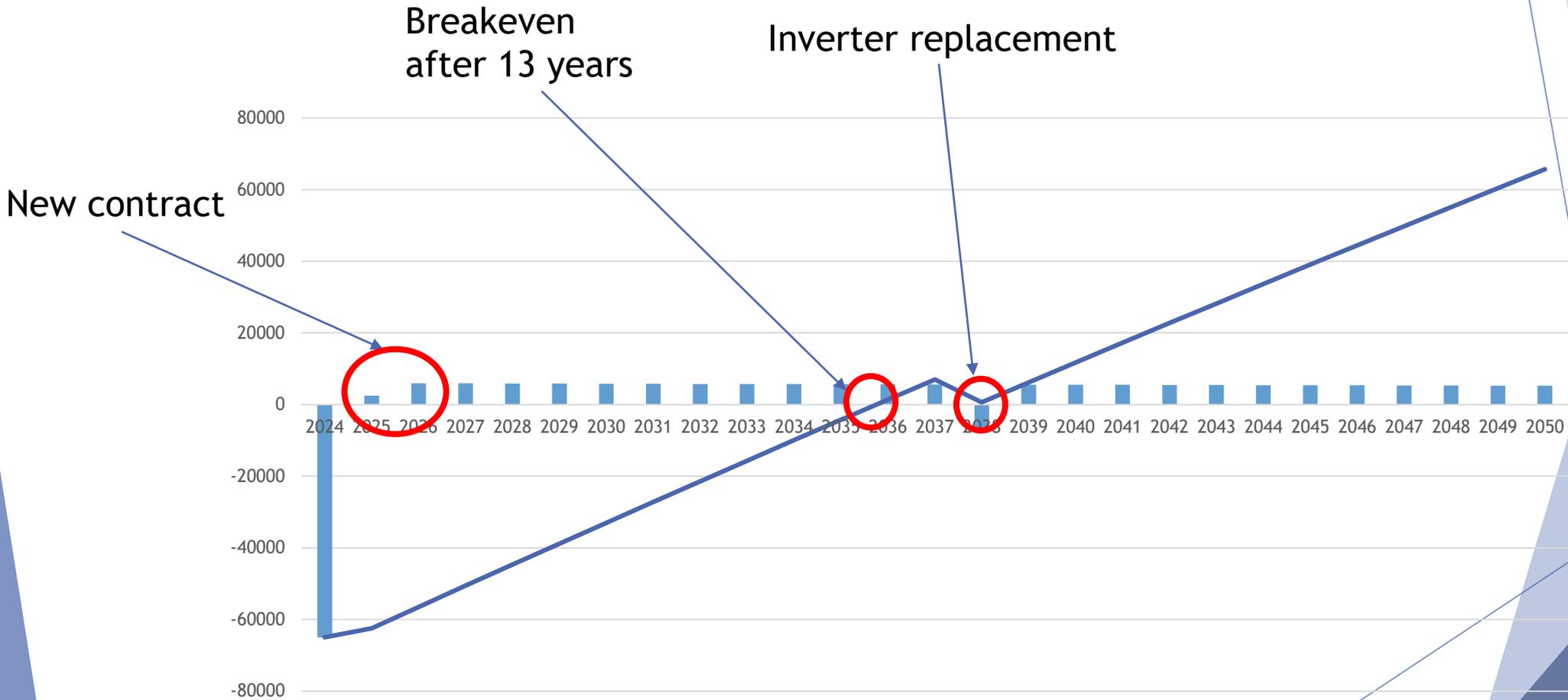
170% increase

280% increase

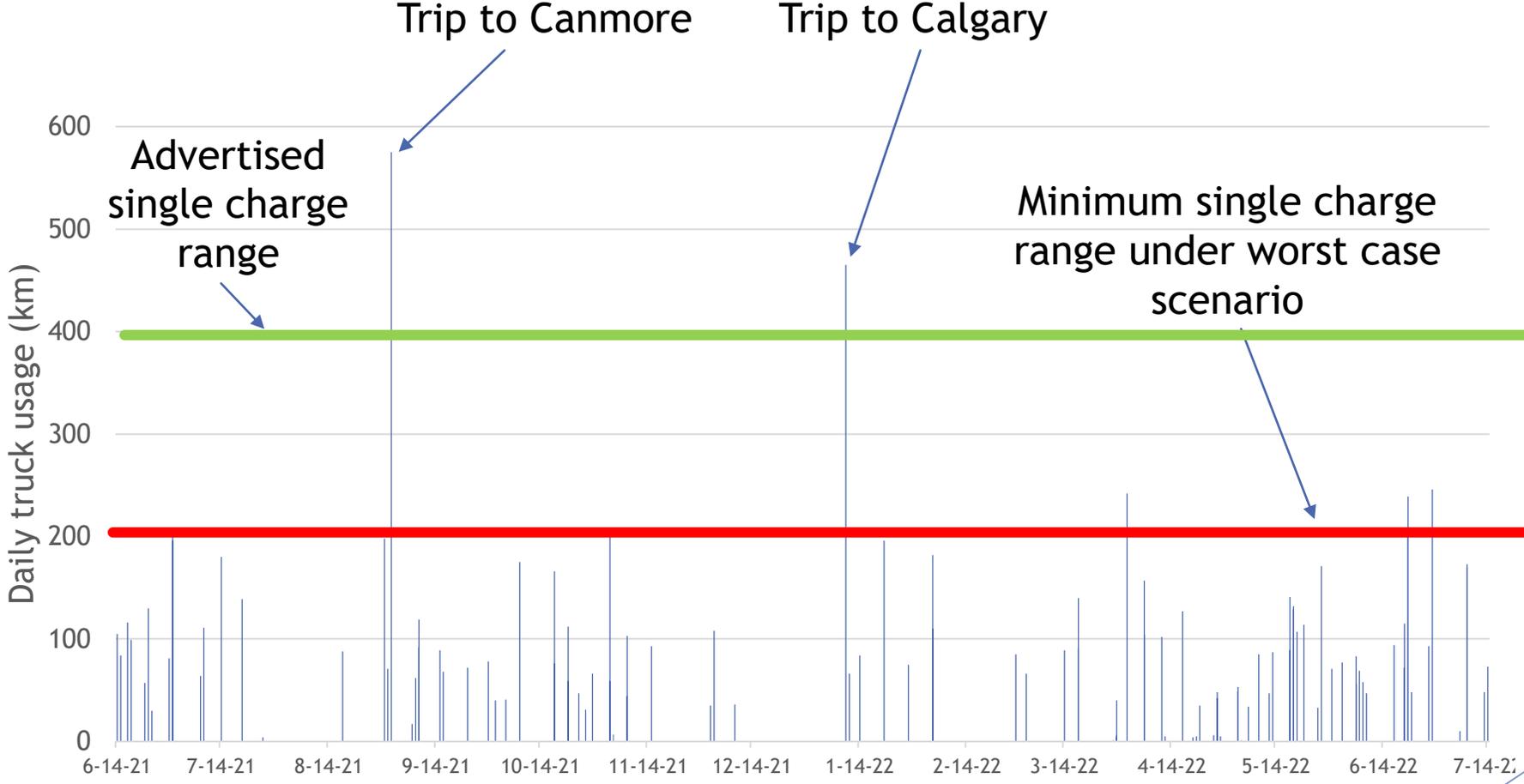
# Airport example

- ▶ 34.24 kW installation
- ▶ Costs: \$67,900
- ▶ Annual cost reduction at current rates: \$2,537 + T&D (5.7 cents per kWh expires Dec 2025)
- ▶ Annual cost reduction at renewed contract with current capped rates: \$6,009
  - ▶ Used for estimates
- ▶ Annual cost reduction at renewed contract should rate caps be removed: \$8,900
- ▶ Regulated rates projected to go up to \$0.3/kWh this summer

# Airport example



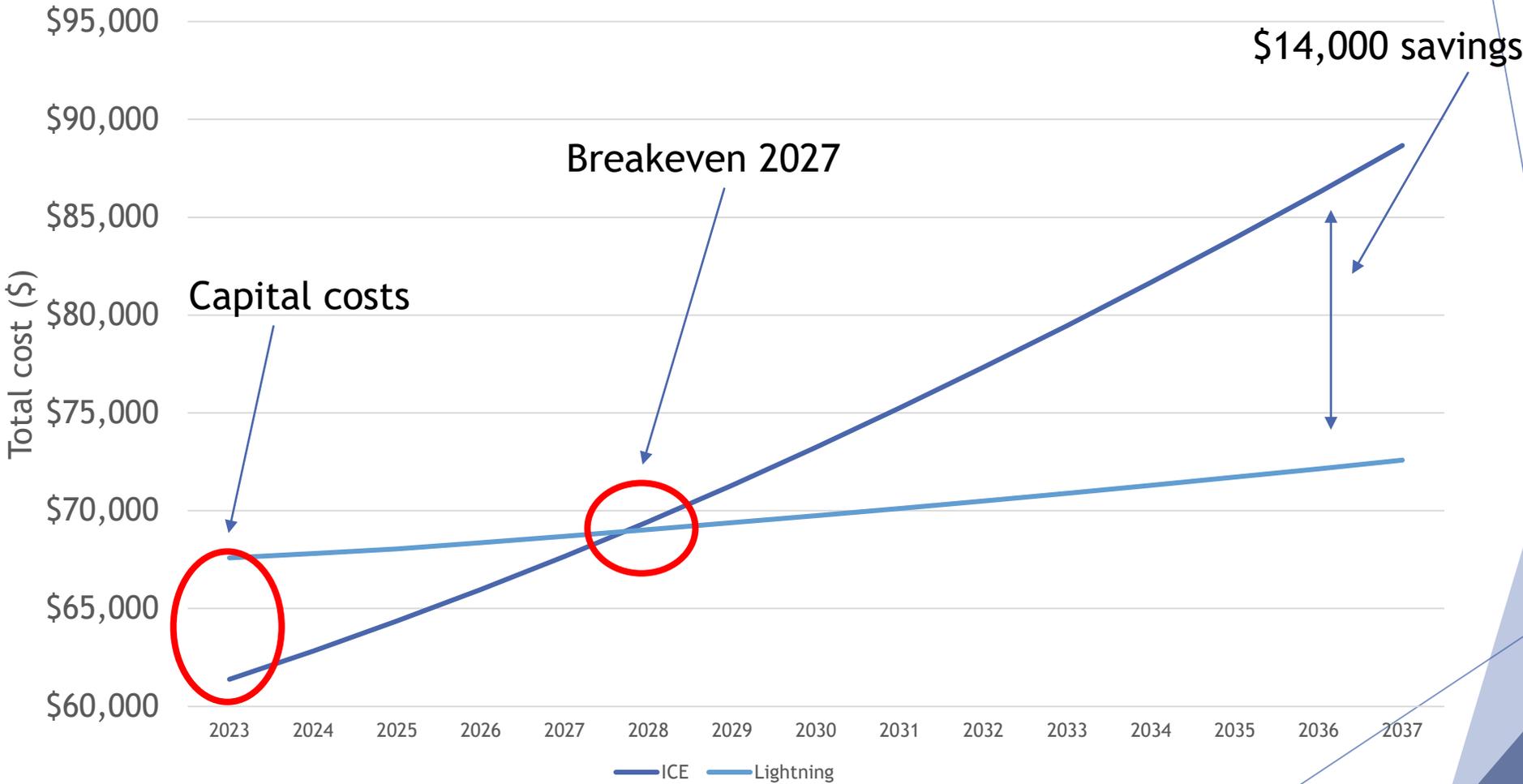
# Ford Lightning



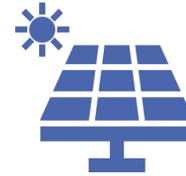
# Ford Lightning

	Combustion	Lightning
Cost	\$60,000	\$81,371.25
Grants	-	\$14,000
Net	\$60,000	\$67,371.25
Costs	\$1.35/L + 3% inflation and carbon tax increase	\$0.08/kWh -> \$0.12/kWh in 2026 +3% inflation
Annual savings	\$1,093 (\$2,547 used as PW)	
Payback	6 years (3 years used as PW)	

# Ford Lightning



# Benefits of Renewables and EVs



Gas		Electricity	
PROS	CONS	PROS	CONS
Known technology	Exposed to variable pricing and global markets	MD can generate electricity to lock in \$/kWh long-term and reduce exposure to future pricing	More expensive as of now
Cheaper capital costs right now	High emissions	Regulated Transmission and Distribution grids	Range
	MD can't refine gas	Grant funding available	Increasing T+D costs
	Exposed to government policy and carbon pricing	Modular and controllable with technology based on pricing methods	Developing technology