

Let's talk...

OUR CLIMATE SOLUTIONS



Leduc has shown its strong environmental leadership over the past several years through initiatives to keep our environment even cleaner and greener for many years to come.

Our environmental initiatives – from waste diversion to enhancing our natural areas – help Leduc achieve the vision set out in the Leduc Environmental Plan – Phase 1, approved by Leduc City Council in 2012.

That plan identifies another major initiative – to develop a plan to reduce greenhouse gas (GHG) emissions throughout our community. GHG emissions are a leading cause of our changing climate.

The City of Leduc has already implemented initiatives that save money and reduce GHG emissions because they make good business sense. It's time to take the next step and create a GHG reduction plan. Throughout the process, we will gather ideas from the community through surveys, workshops and public information events and materials to give everyone ample opportunity to offer input.

Leduc's Local Action Plan for GHG Emission Reduction will be a made-in-Leduc solution to a global issue. Our plan will respect our unique local priorities, using the lessons we have learned from our established environmental initiatives and others who have tackled similar challenges.



Benefits of reducing GHG emissions

Our local action plan can:

- produce a cleaner, healthier and even safer community,
- save the city, residents and business money,
- increase community resiliency against future regulations and pricing, and
- reduce impacts to our climate.



SHARE YOUR VIEWS

To develop the most effective plan possible, we need to hear from you!



Check out Leduc.ca/ourclimatesolutions for current engagement activities and events.



Setting the stage for plan development

Our climate is changing. Once again, Leduc is showing its environmental stewardship by both preparing for, and reducing, greenhouse gas emissions (GHGs).

We have already set strong foundations for the project, including:

- approving a 10-year Weather and Climate Readiness Plan that highlights adaptation measures to prepare for changing local weather impacts,
- starting implementation of the readiness plan,
- completing a baseline assessment of Leduc's current greenhouse gas emissions, and
- securing a \$113,600 grant from the Federation of Canadian Municipalities, with assistance from the Government of Canada, to develop the Local Action Plan for GHG Emission Reduction.

Steps to plan development

Development of Leduc's plan will take into account the views of residents, business and community representatives, stakeholder groups, civic staff and City Council, and the Leduc Environmental Advisory Board (LEAB). LEAB will assist the planning team at key points in the planning process and fulfil the role of community advisor.

The following steps will ensure a transparent process that will capture ideas and test recommendations before City Council approves the plan.

- 1 ENGAGE** the Leduc community for plan ideas.
- 2 COMPILE** preliminary recommendations.
- 3 PRESENT** preliminary recommendations to the Leduc community for further input.
- 4 DEVELOP** final recommendations and present them to City Council for approval.



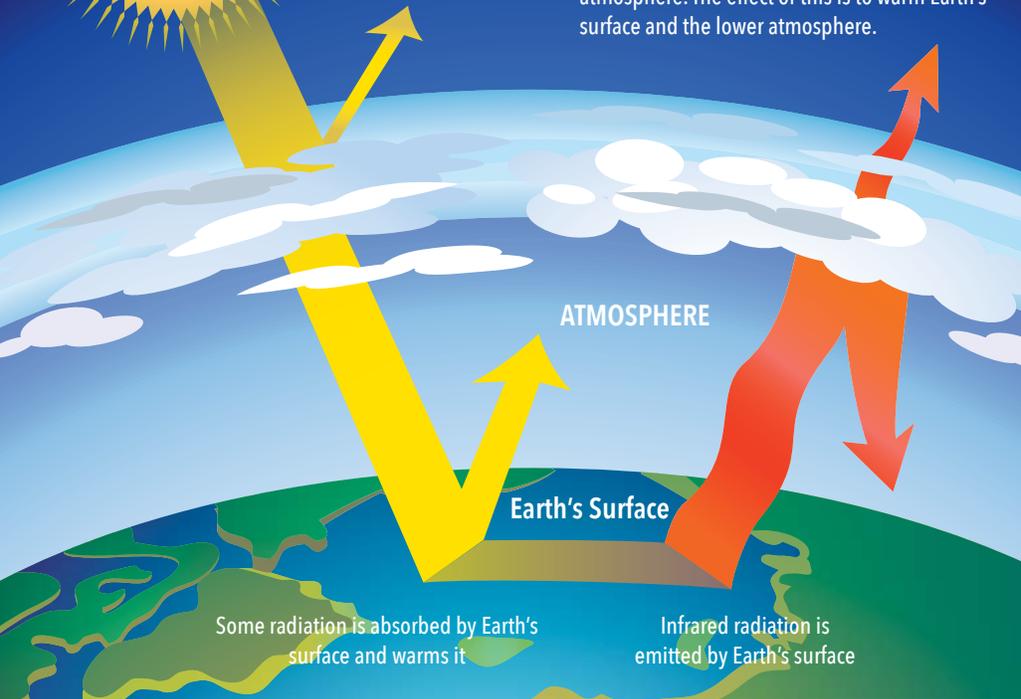
Plan development timeline

Apr - Jun 2018	Conduct public survey and series of civic staff and stakeholders workshops to generate a vision and action options.
Jun - Aug 2018	Screen options and model GHG reduction scenarios from community input.
October 2018	Hold a public open house to present a draft GHG action plan to the community for further discussion.
Nov - Dec 2018	Finalize the plan.
By early 2019	Present final recommendations to City Council.

THE GREENHOUSE EFFECT

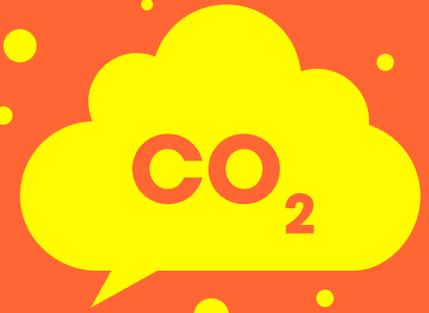
Some solar radiation is reflected by Earth and the atmosphere

Some of the infrared radiation passes through the atmosphere. Some is absorbed by greenhouse gases and re-emitted in all directions by the atmosphere. The effect of this is to warm Earth's surface and the lower atmosphere.



Some radiation is absorbed by Earth's surface and warms it

Infrared radiation is emitted by Earth's surface



Greenhouse gases (GHGs)

The City of Leduc's 2015 Greenhouse Gas Inventory calculates GHG emissions including carbon dioxide (CO_2), methane and nitrous oxide coming from the City of Leduc and the Leduc community. The GHGs are summarized into a standard unit – tonnes of carbon dioxide equivalent (tCO_2e).

Our changing climate



The changing climate is a long-term shift in weather conditions measured by changes in temperature, precipitation, wind, snow cover and other indicators, according to Environment Canada. It can involve changes in average conditions and in extreme conditions.¹

Climate change is a result of the expansion of the natural greenhouse effect. Higher GHG concentrations in the atmosphere are amplifying the greenhouse effect and warming the planet, affecting wind patterns, precipitation and storm events.

Global warming does not mean every day or year will be warmer than the previous one. Changes in weather patterns will continue to produce some unusually cold days and nights, and winters and summers, even as the climate warms. The 15 hottest years on record have occurred between 2001 and 2017.²

There is growing consensus that extreme weather events such as very hot days, very cold days or intense precipitation likely will become more frequent and more intense.

Leduc's climate is changing

Leduc is being impacted by our changing climate. Leduc's mean annual temperature over the past 30 years has increased 2.7°C. Future projections for the Leduc region predict a further increase in mean annual temperature of 2.0°C by the 2050s.³

Stream flows in the North Saskatchewan River are expected to continue to decline as Alberta glaciers are projected to lose 80-90% of their volume by the end of the century.⁴

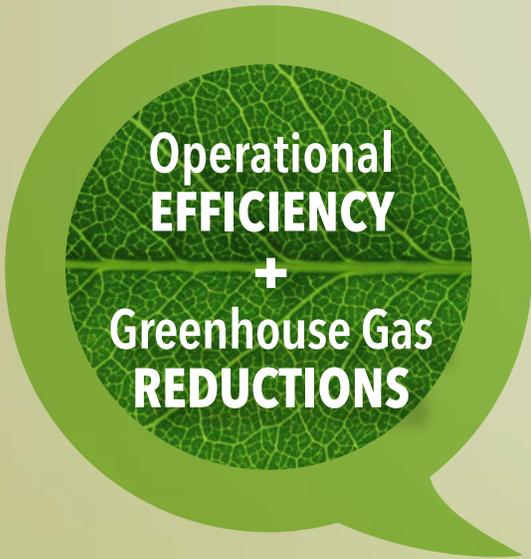
¹ Environment Canada, Frequently Asked Questions About Climate Change

² National Oceanic and Atmospheric Administration

³ City of Leduc Weather and Climate Readiness Plan

⁴ City of Leduc Weather and Climate Readiness Plan

ENVIRONMENTAL *success!*



Operational
EFFICIENCY

+
Greenhouse Gas
REDUCTIONS

LOW GHG WASTE



Organics diversion:
Since 2013 Leduc's curbside organics collection has diverted over 12,000 tonnes of material from landfill.

ANTICIPATED RESULTS:

ORGANICS/
HOUSEHOLD

300 KG
COMPOSTED
/YEAR

GHG
EMISSIONS
REDUCED OVER
40 YEARS FROM
LANDFILL

10,450
tCO₂e

SMART URBAN PLANNING

Crystal Creek Outline Plan:

Key GHG reduction elements include:

- proximity to neighbourhood services and amenities,
- pedestrian-oriented design,
- transportation options, and
- higher density.



tCO₂e = TONNES OF CARBON DIOXIDE EQUIVALENT

RENEWABLE ENERGY



Rooftop Solar Project

Leduc Recreation Centre (LRC)
& City Operations Building

5,622
SOLAR PANELS

ANTICIPATED ANNUAL RESULTS:

OPERATIONAL
SAVINGS

\$100,000

MEGAWATT
HOURS PRODUCED

1,600

GHG
EMISSIONS
REDUCED

1,025
tCO₂e

EQUIVALENT
TO TAKING

220
CARS OFF
THE ROAD



LOW GHG EMITTING TRANSPORTATION

Leduc Transit: Transit use is a major community priority - and more residents are using the convenient service.

ANTICIPATED IMPACTS OF CURRENT RIDERSHIP:

EQUATES
TO REDUCING

278
CARS DRIVING
1 YEAR
(2011-2017)

GHG
EMISSIONS
REDUCED

1,300
tCO₂e

*A passenger is counted each time he or she boards a bus originally or by transfer.

FROM 2011 TO 2017:

INCREASED
RIDERSHIP

147%
33,106 - 81,654

INCREASED
BOARDINGS*

173%
33,106 - 90,504

ENERGY-EFFICIENT BUILDINGS

LRC: Designed with technologies that reduce GHG emissions including:

- a heat recovery system to meet the arena's hot water requirements,
- low flow bathroom fixtures and energy efficient lighting reducing energy consumption,
- an efficient building envelope and reflective roofing system that insulates well and minimizes heat and energy loss, and
- bike storage to help reduce car-based trips.

EFFICIENT INFRASTRUCTURE

LED streetlights: Fortis Alberta, in partnership with the city, has converted 2,500 streetlights. The improved lighting increases safety. As well, the new lights direct their light downward, reducing light pollution.

ANTICIPATED ANNUAL RESULTS:

ELECTRICITY
SAVED

1,100,000
KWH

ENOUGH
TO POWER

150
HOMES

GHG
EMISSIONS
REDUCED

710
tCO₂e

EQUIVALENT
TO TAKING

150
CARS OFF
THE ROAD



PARTNERING with *nature*

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Sign up through Leduc.ca/ourclimatesolutions
for project updates or to share your views directly.