

# What We Heard Report

## City of Leduc GHG Reduction Action Plan

Date: August 8, 2018

**Submitted to:**

Kerra Chomlak,  
Environmental Sustainability Coordinator  
City of Leduc  
(780) 980-8442  
Kchomlak@leduc.ca

**Submitted by:**

Karen Gorecki,  
Associate  
All One Sky Foundation  
(250) 946-7746  
karen@gorecki.ca

## Executive Summary

The City of Leduc is creating a local action plan to reduce greenhouse gas (GHG) emissions and is engaging the public and key stakeholders to get their perspectives and input on actions to be included in the plan. Engagement activities are planned in two phases: one in the spring and another in the fall and winter. Engagement activities completed through the spring of 2018 included:

- Communication through a paid print and digital advertising, a dedicated section on the Leduc website and a brochure,
- Written feedback through an engagement hub and online survey,
- Education and input through a Climate Mitigation Express workshop,
- Ongoing input through the Leduc Environmental Advisory Board (LEAB) GHG Reduction Sub-Committee, and
- Stakeholder engagement workshop.

Public and stakeholder input is now being incorporated into scenarios to be modelled for GHG, energy and socio-economic implications to establish a GHG reduction target. An open house to review the draft GHG reduction plan will be offered in early 2019.

### Engagement Overview by the Numbers

Between April 1<sup>st</sup> and June 5<sup>th</sup> 2018,

- Our Climate Solutions webpage received 492 views.
- Three Facebook survey promotion posts by the City of Leduc in April and May collectively reached almost 4,000 people and received 11 likes, 5 shares and 71 post clicks.
- Two Facebook paid advertisements collectively appeared over 95,000 times and received 398 total clicks.
- Leduc's online survey had 247 people respond.
- The engagement hub had 94 stickies posted.
- A total of 27 stakeholders from 18 different organizations were invited to attend the stakeholder workshop with 12 stakeholders attending.

### What We Heard – Survey

#### 1.1 Benefits

Based on the 200+ survey responses received, the top four benefits of a GHG reduction plan include:

- Improved health and well-being (78% rated this result as “more important”, that is, 4 or better out of a scale of 8),
- Lowering energy bills (70% rated more important),
- Lower GHG emissions (65% rated more important), and
- Walkable and bicycle-friendly neighbourhoods (51% rated more important).

All proposed City of Leduc GHG reduction actions are supported by the majority of those who responded. The top six City of Leduc GHG reduction actions include:

- Planting trees and preserving natural areas (93% of participants agree),
- Encouraging of composting and recycling by residents and businesses (over 89-86% of participants agree),
- Improving energy efficiency (83% agree),
- Neighbourhood planning to encourage walking (75% agree),
- More walking and biking paths (71% agree), and
- Increased public transportation (67% agree).

All resident and business GHG reduction actions listed are supported by the majority of those who responded. The top six resident and business GHG reduction actions include:

- Planting trees and preserving natural areas (90% agree),
- Composting and recycling (87% agree),
- Improving energy efficiency (85% agree),
- Biking or walking more (71% agree),
- Carpooling (63% agree), and
- Using renewable energy (54% agree).

## 1.2 What We Heard Stakeholder Workshop

Overall the feedback from the stakeholder workshop was positive as they supported the majority of GHG reduction actions proposed. The list of GHG Reduction Actions reviewed can be found on page 35. The following additional action items were suggested:

- A waste management program that collects organics from businesses,
- Education on the benefits of walk and transit-oriented development,
- Enhance transit service so it accessible for Leduc, Leduc Industrial, Nisku and Edmonton,
- Continue to enhance and plan for multi-use trails,
- Pursue anti-idling through City leadership, bylaws and signage,
- Consider solar carports, and
- Consider the introduction of biodigesters.

# Table of Contents

- Executive Summary ..... 1
  - Engagement Overview by the Numbers ..... 1
  - What We Heard..... 1
- 1 Engagement Approach ..... 5
  - 1.1 Spring Public Outreach and Engagement..... 6
- 2 Engagement Overview by the Numbers ..... 8
  - 2.1 Website ..... 8
  - 2.2 Social Media ..... 8
  - 2.3 Online Survey ..... 9
  - 2.4 Engagement Hub ..... 10
  - 2.5 Stakeholder Workshop..... 11
- 3 What We Heard..... 12
  - 3.1 Survey..... 12
    - 3.1.1 Most Important Results of a GHG Action Plan..... 12
    - 3.1.2 City of Leduc GHG Reduction Actions..... 15
    - 3.1.3 Resident and Businesses GHG Reduction Actions ..... 17
  - 3.2 Combined Written Comments ..... 18
  - 3.3 Stakeholder Workshop..... 20
    - 3.3.1 Waste and Wastewater and Education ..... 20
    - 3.3.2 Urban Planning ..... 21
    - 3.3.3 Transportation ..... 21
    - 3.3.4 Energy Supply ..... 22
    - 3.3.5 Buildings ..... 22
- 4 Next Steps..... 24
- 5 Appendix..... 25
  - 5.1 Survey Questions ..... 25
  - 5.2 Survey Tables ..... 28
  - 5.3 Display Comments ..... 34
  - 5.4 Stakeholder Workshop Attendees..... 34
  - 5.5 Leduc GHG Reduction Options ..... 35
    - 5.5.1 Energy Supply – Corporate..... 35
    - 5.5.2 Energy Supply – Community ..... 35
    - 5.5.3 Buildings – Corporate ..... 36

5.5.4	Buildings – Community.....	36
5.5.5	Transportation .....	36
5.5.6	Transportation .....	38
5.5.7	Urban Planning .....	38
5.5.8	Waste & Wastewater .....	38
5.5.9	Education & Awareness.....	39

## 2 Engagement Approach

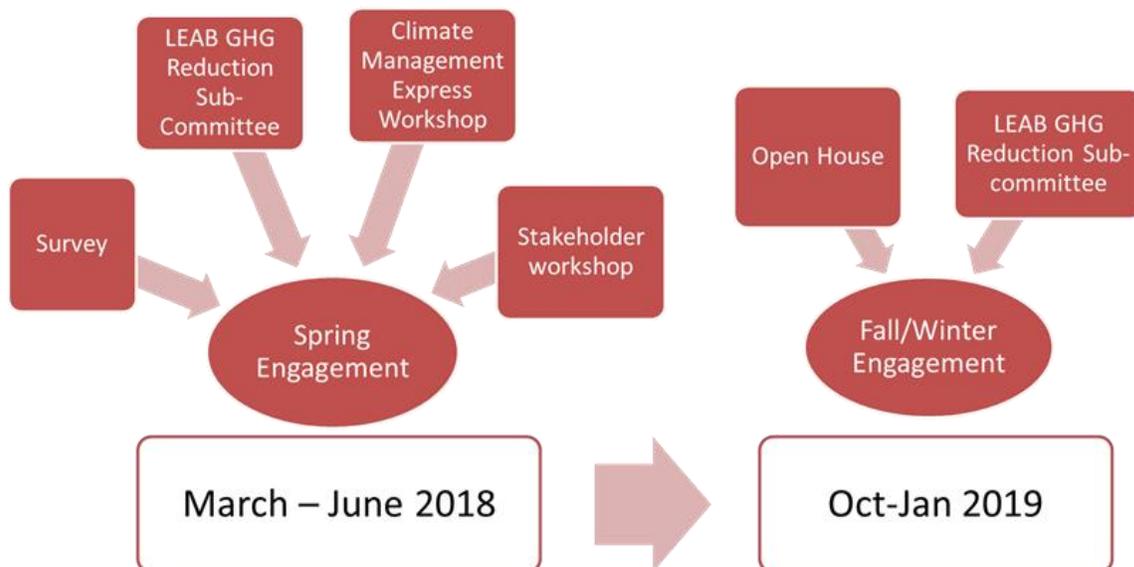
The City of Leduc is in the process of creating a local action plan to reduce greenhouse gas (GHG) emissions to guide their activities towards meeting a community and a corporate reduction target. Throughout this process, the City is engaging with the public and key stakeholders to get their perspectives and input on GHG reduction actions to be considered for the plan.

Public and stakeholder engagement was planned in two stages (see Exhibit 1 below):

1. **Spring 2018 engagement** – the objectives are to inform public and stakeholders of the GHG planning process, educate on climate change, understand perspectives on high-level actions, gather GHG reduction action ideas, and develop a vision and principles to guide the planning process; and
2. **Fall/Winter 2018/2019 engagement** – this engagement will occur when the GHG reduction scenario modelling, a draft target, and a draft plan are complete. The objectives are to gather public and stakeholder perspectives on a draft GHG reduction plan and targets and educate on climate change.

The initial spring engagement is now completed.

**Exhibit 1 Summary of Methods to Obtain Public and Stakeholder Input for Leduc GHG Reduction Plan**



## 2.1 Spring Public Outreach and Engagement

The spring outreach to stakeholders and the public included:

- Website, Brochure, and Engagement Hub

A designated webpage on the City of Leduc website ([Leduc.ca/ourclimatesolutions](http://Leduc.ca/ourclimatesolutions)) provides an electronic 'home' for information about the GHG reduction planning process, engagement opportunities, education on climate change, and related materials.

An engagement hub consisting of pull up displays, display boards and a take-away brochure provide a non-electronic outreach method to present education on climate change. The booth and brochures were displayed at the Business Expo April 13 and 14th. When not at an event, the booth was rotated between the library, the Civic Centre and the Leduc recreation centre (LRC). The booth has two pull-up display panels on City of Leduc GHG reduction accomplishments (that will be used beyond the planning process) and less permanent display boards that educate on climate change, the GHG reduction planning process and provide an opportunity for written input on stickie notes.

- Online Survey

An online survey was released April 10<sup>th</sup> to June 1<sup>st</sup> gauging citizens perspectives on perceived benefits, and preferred GHG reduction actions. The survey was promoted through emails to specific stakeholders, social media posts, social media advertising, LED boards (at the library, the LRC, and the Civic Centre), a press release, hand-outs at the displays, and a half-page and a full-page ad. Note: the advertisements also promoted the benefits of GHG reduction projects and the GHG reduction planning process timeline. Six Google Home Minis were offered as a prize draw for responding to the survey.

- Public Workshop: Climate Management Express

A customized Climate Management Express workshop was delivered April 25, 2018, as an engagement mechanism for interested LEAB committee and community members. Ideas generated at this public event fed directly into the development of initial action options presented at the stakeholder workshop as well as the vision and principles for the plan.

- LEAB GHG Reduction Sub-Committee

A six person GHG reduction sub-committee of the Leduc Environmental Advisory Board (LEAB) was formed including City staff and an elected official. The list of the members can be found on page 34. A GHG reduction committee can be an effective means to garner community support,

feedback, and substantive input on a GHG reduction plan, target, and to move implementation actions forward post approval. The sub-committee has an established terms of reference and are mandated to report back to LEAB.

## 2.2 Stakeholder Engagement Sessions

A 2.5 hour stakeholder workshop was held at the LRC. The stakeholder engagement workshop had the following objectives:

- Create an opportunity for direct stakeholder input and feedback about the initial mitigation options put forward by the City of Leduc and consulting team,
- Make connections to gather information on feasibility, and cost of various action options,
- Outline the process of evaluating options for the plan,
- Increase awareness amongst area stakeholders about the GHG reduction initiative and action plan development, and
- Discuss the importance of creating a GHG inventory as a precursor to a GHG reduction plan and the importance of establishing a baseline.

A presentation on the importance of the GHG planning process and an outline of plan development was followed by group discussion focused on any missing GHG reduction action options, related concerns, and identification of the action options for further consideration.

## 2.3 Council and Staff Engagement

Throughout the project, council has and will be presented with information on the GHG reduction planning and engagement process along with results on public and stakeholder perspectives. A presentation on the engagement plan and the GHG reduction planning process was given to council at a Committee of the Whole (CoW) meeting in April, 2018. A CoW presentation on proposed GHG reduction targets and related modelling will be provided in October, 2018. Finally, Leduc's GHG reduction plan will be presented to council for approval in April, 2019.

Staff input has and will be an integral part of the plan development. Involving staff is essential to ensure the recommended actions in the GHG reduction plan align with existing and future priorities; it also provides an opportunity for staff knowledge growth on potential GHG emission reduction opportunities. A staff workshop was held May 14, 2018, prior to the stakeholder engagement workshop to vet the list of potential GHG reduction actions and add to the list where actions were missing. The following departments participated: planning, public services, facilities, engineering, and transit. Further staff input was gathered through follow-up interviews and emails, to assist with developing the plan implementation timeline and GHG reduction scenarios to be used for GHG reduction target setting, Staff will also have the opportunity to review the draft targets and plan to ensure the language and content reflects the overall vision and goals for their department.

### 3 Engagement Overview by the Numbers

#### 3.1 Website

Between April 1<sup>st</sup> and June 5<sup>th</sup> 2018, Our Climate Solutions webpage received 492 pageviews with 369 unique pageviews. Viewers spent an average of 99 seconds on the page. The subpage most frequented was “engagement opportunities” (154 hits), followed by “about the project” (86 hits), and “project information library” (49 hits). See further details in Exhibit 2 below.

**Exhibit 2 Our Climate Solutions Website Views, April 1<sup>st</sup>- June 5<sup>th</sup>, 2018**

<b>Page</b>	<b>Pageviews</b>	<b>Unique Pageviews</b>	<b>Avg. Time on Page (secs)</b>
<b>ourclimatesolutions</b>	492	369	99
<b>about-project</b>	86	62	132
<b>project-information-library</b>	49	17	57
<b>engagement-opportunities</b>	154	138	64

#### 3.2 Social Media

Three Facebook survey promotion posts (see example in Exhibit 3 below) by the City of Leduc in April and May 2018, collectively reached 3,945 people and received 11 likes, 5 shares and 71 post clicks.

### Exhibit 3 Example Facebook Post to Promote the Survey



Two Facebook paid advertisements collectively reached almost 36,000 devices – appearing almost 95,000 times. The advertisements received 373 unique clicks and 398 total clicks.

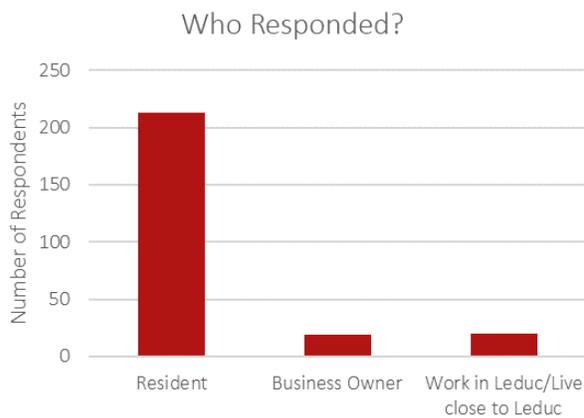
### 3.3 Online Survey

Leduc’s online survey had over 247 people respond. Over 200 respondents (89%) are residents, 19 business owners (8%), and 20 non-residents (8%) who work, shop or in other ways spend time in Leduc (see Exhibit 4 below).<sup>1</sup>

---

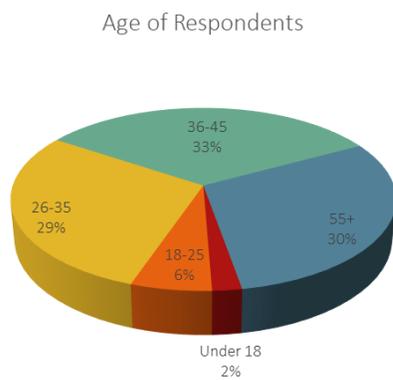
<sup>1</sup> These categories overlap therefore the percentages add up to more than 100%.

#### Exhibit 4 Respondents Relationship with Leduc (Resident/Business Owner/Other)



In general, younger ages were underrepresented in the survey results. Over 90% of respondents are over the age of 26 and only 8% of respondents are under 25. Most of the respondents are between the ages of 36 and 45 (see Exhibit 5 below).

#### Exhibit 5 Age Distribution of Respondents



### 3.4 Engagement Hub

At the engagement hubs in the Civic Centre and the LRC 94 stickies providing feedback were posted on display boards.

## Exhibit 6 GHG Reduction Plan Display at the Library and the LRC



### 3.5 Stakeholder Workshop

A total of 27 stakeholders from 18 different organizations were invited to attend the stakeholder workshop. In the end, 12 stakeholders attended the GHG reduction workshop.

## 4 What We Heard

### 4.1 Survey

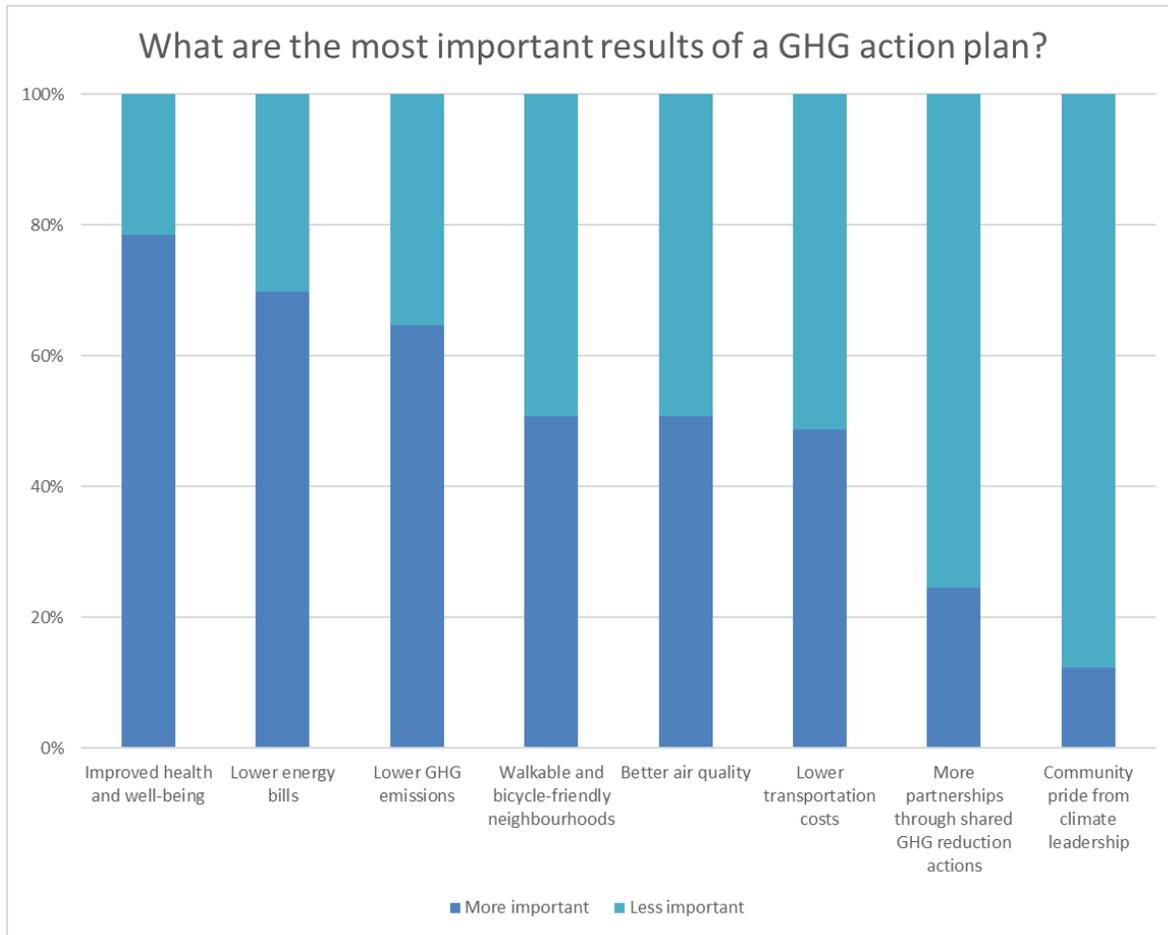
#### 4.1.1 Most Important Results of a GHG Action Plan

The benefits of a GHG reduction plan received a positive rating of 1 through 4 (based on a ranking of 1 to 8 - see Exhibit 7 below) by the majority of respondents. The highest ranked outcome is improved health and well-being (78%)<sup>2</sup>. Also, a relatively high level of importance is placed on lowering energy bills (70%) followed by lower GHG emissions (65%). “Walkable and bicycle-friendly neighbourhoods” and “better air quality” and “lower transportation costs” were also rated fairly high (51%, 51%, and 49% respectively). However, “community pride from taking climate leadership” and the “creation of partnerships through shared emission reduction actions” were deemed less important relative to the other results (25% and 12% respectively).

---

<sup>2</sup> On a scale of 1 to 8, 78% rated this result 4 or better – 1 being the more positive result. See Exhibit 13 for exact rating of each GHG reduction action benefit.

### Exhibit 7 Most Important Results of a GHG Action Plan



When asked if there are any other important results, a broad range of topics was raised with no emphasis on any one topic (see Exhibit 8 below). There were 7 mentions of GHG emissions being a non-issue.

### Exhibit 8 Most Important Results of a GHG Action Plan - Comments

Theme	Mentions
Non-Issue	7
Waste Management	4
Better Infrastructure	3
Economic Development	3
Air Quality	2
Energy Efficiency	2
Long Term Planning	2
Pollution	2
Sustainable Development	2
Active Transportation	1
Alternative Energy Generation	1
Better Operations	1
Fines	1
Green Spaces	1
Leading The Way	1
Media Bias	1
Mitigation	1
Monitoring	1
New Tech	1
Noise Reduction	1
Urban Planning	1

#### 4.1.2 City of Leduc GHG Reduction Actions

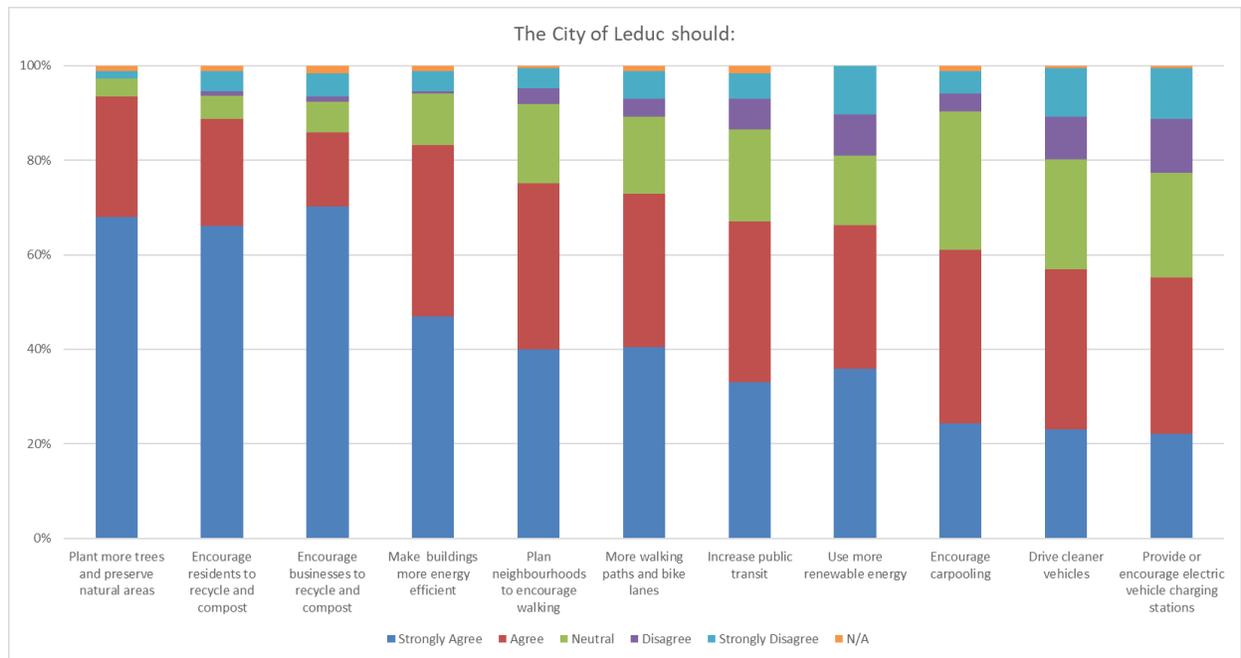
All City of Leduc GHG reduction actions listed are supported by the majority of those who responded.<sup>3</sup> “Planting trees and preserving natural areas” is the most popular action item (93% of participants agree). The City’s encouragement of composting and recycling by residents and businesses also has strong support (over 89-86%). Improving energy efficiency has the fourth highest level of support (83% agree). The above actions had a low level of disagreement (2-6%) and few neutral opinions (4-6%). Planning to encourage walking and biking (i.e. “plan neighbourhoods to encourage walking” 75% agree and “more walking paths and bike lanes” 71% agree); those not in

---

<sup>3</sup> Agree in this paragraph refers to a combined result of agree and strongly agree.

agreement are weighted more heavily towards a neutral opinion (16-17%) than in disagreement (8-10%). The majority of respondents agree that the City should increase public transportation and use more renewable energy (67% and 66% respectively). Actions related to transportation, especially those involving different driving habits (i.e. charging electric vehicles, driving cleaner vehicles, and carpooling) have lower but still majority support (55-61%); these actions had a sizeable portion of “neutral” rankings (22-29%) which may indicate that more information is required prior to forming a less neutral opinion.

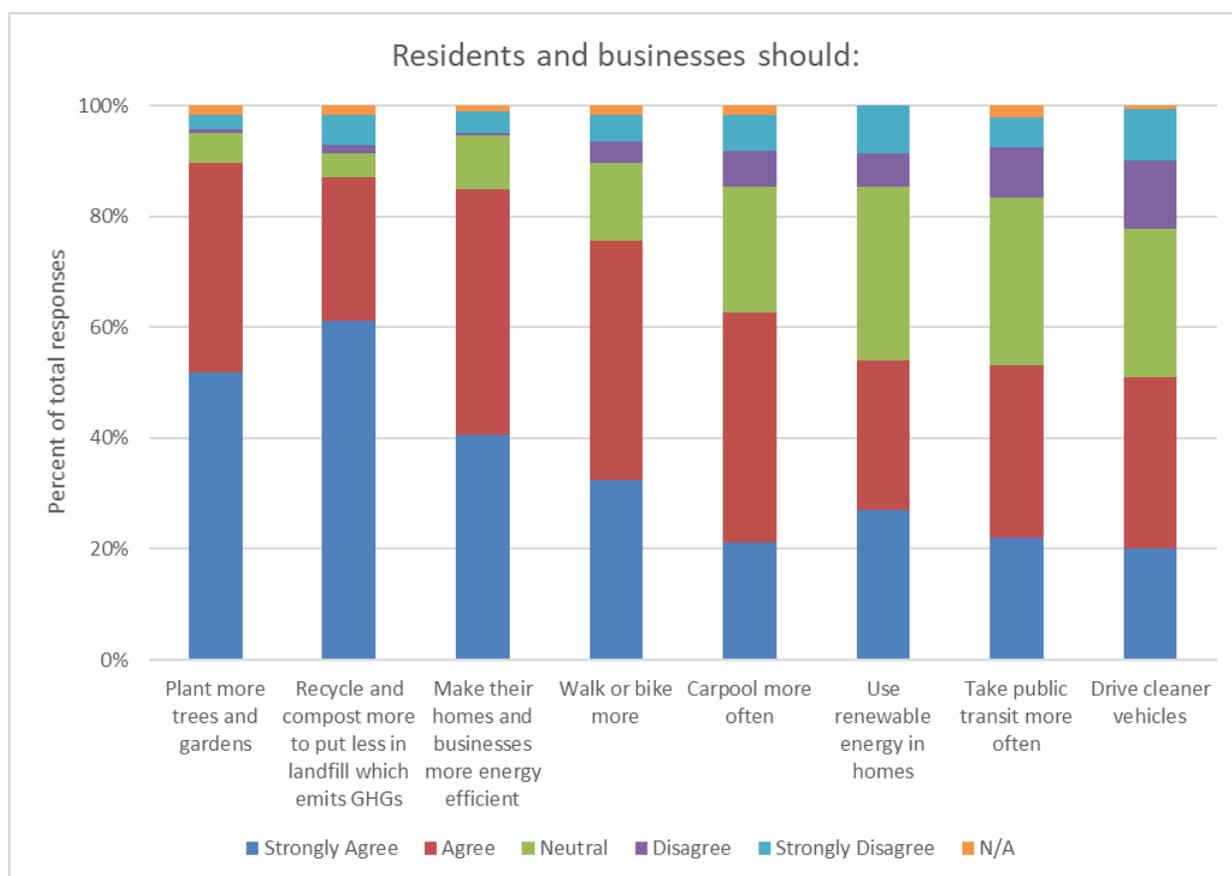
### Exhibit 9 Views on City of Leduc GHG Reduction Actions



### 4.1.3 Resident and Businesses GHG Reduction Actions

All resident and business GHG reduction actions listed are supported by the majority of those who responded.<sup>4</sup> Once again, “Planting trees and preserving natural areas” is the most popular action item (90% of respondents agree). Composting and recycling also have strong support (87% agree). The above actions had a low level of disagreement (3-7%) and few neutral opinions (5-7%). Actions related to transportation, especially those involving different driving habits (i.e. cleaner vehicles, public transit, carpooling), have lower support (63%-51% agree, 23-30% neutral, and 13-22% disagree), although biking or walking more has fairly strong support (71% agree, 14% neutral and 9% disagree). Respondents strongly support improving energy efficiency (85% agree, 10% neutral, 4% disagree), more so than using renewable energy (53% agree, 15% disagree). “Using renewable energy” received a fair number of neutral responses (31% neutral) which may indicate the respondents need more information on costs and the type of supportive actions before having a positive or negative opinion.

**Exhibit 10 Views on Leduc Resident and Businesses GHG Reduction Actions**



<sup>4</sup> Agree in this paragraph refers to a combined result of agree and strongly agree.

## 4.2 Combined Written Comments

Written comments from the display board<sup>5</sup> at the engagement hub and the comments section<sup>6</sup> of the online survey are summarized in Exhibit 11 below. Solid waste management was the most frequently cited topic with ideas such as further opportunities for recycling (i.e. glass, Styrofoam and plastic bags) and support for expansion of the existing composting program for businesses. Other popular themes included ways to increase the uptake of walking and biking as well as support for energy efficiency & conservation initiatives.

Costs were a frequent theme in the survey comments with a desire to ensure the benefits were justifying the costs for action items to be pursued in the plan. The challenge of high capital cost as a barrier to emission reductions was raised, as well as some concern around higher taxes. Some desired a common-sense approach with an appropriately long timeline and projects that achieved “good bang for the buck”.

Renewable energy was a popular topic but there was also some concern around the cost and toxicity of materials used in renewable energy production. Concern was also expressed about the value in promoting electric vehicles given the GHG intensity of Alberta’s electricity grid and ensuring charging stations are “user pays”. A small subset of the comments did not see merit in pursuing a GHG reduction plan.

---

<sup>5</sup> Respondents were asked what the City of Leduc and citizens should do to reduce GHG emissions.

<sup>6</sup> Respondents had opportunity to provide any other comments you feel are important about a Local Action Plan for GHG Emission Reduction.

**Exhibit 11 Themes for Written Comments on the Display Board and Comments Section of Survey**

<b>Theme</b>	<b># of Mentions</b>
Waste management	36
Active transportation	21
Energy efficiency & conservation	17
Cost	17
<i>Cost/benefit</i>	4
<i>Capital cost</i>	3
<i>Taxes</i>	2
Renewable energy	12
Reduce consumption	9
Unsupportive of GHG reduction planning	8
EV concerns	7
Air pollution	6
Renewable concerns	6
Smart urban planning	4
Common sense approach	4
Public wellbeing	3
Electric vehicles	3
Financial incentives	3
Public transit	2
Urban agriculture	2
Carpool	2
No idling	2
Education	1
Management	1
Transportation infrastructure	1
Combined heat and power	1
Plant trees	1
Electrify lawn & garden tools	1
Green recognition programs	1
Pesticide free	1
Smart grid	1
HOV lane	1

## 4.3 Stakeholder Workshop

At the May 15<sup>th</sup> workshop, stakeholders chose which topic to which they would provide input through small group discussions. Groups reviewed a pre-established list of GHG reduction action items (see page 35 in the Appendix for the full list), identified any missing actions, and chose their top three actions. Stakeholder input is summarized below.

### 4.3.1 Waste and Wastewater and Education

An organics diversion program for businesses was recommended. The cost to businesses and space constraints at the Leduc and District Regional Waste Management Facility (LDRWMF) should be considered through an assessment. Some participants noted that Leduc should make sure processing technology is viable and cost efficient, and consider whether technological advancements within the period of the GHG reduction plan will allow for installation of a biodigester to generate fuel or electricity.

Stakeholders suggested removing the following action item: “Assess the feasibility, cost and impact of split collection vehicles (collect waste, organics and other recyclables at same time)”, as this can lead to inefficient routing (and higher GHG emissions) as one side can fill faster than the other. It also requires fleet replacement which has significant capital cost and environmental impacts.

It was also recommended to remove the following action item: “Request contractors to optimize routing to minimize energy consumption.” Routes are already designed to optimize efficiency (e.g. always take right turn) and there is not a lot of room for improvement. Trucks are paid per route which incents the contractor to be efficient (to minimize fuel consumption).

Organics processing at the LDRWMF was supported by stakeholders. However, LDRWMF should consider costs of contamination, operating costs and permitting required by Alberta Environment and Parks (AEP).

When conducting a feasibility study on recycling additional waste streams (i.e. metals, glass, mattresses, Styrofoam) consistency with other municipalities and regional collaboration should be considered. Some barriers may prevent recycling of some materials (i.e. glass may not be recyclable because it is cheaper to use virgin materials).

Given wastewater treatment is managed by the Alberta Capital Region Wastewater Commission and the City of Leduc only manages lift stations, stakeholders wanted to exclude the consideration of wastewater to focus on greater opportunities for emission reductions.

Stakeholders wanted any education program to be accurate, avoid misinformation, and use good/reliable sources. The plan should not rely solely on education, but will need policy/regulation as well.

#### 4.3.2 Urban Planning

Commercial infill (to provide services within walking distances) may be met with opposition as residents may not appreciate change in their neighborhood. Even if commercial amenities are nearby, people may not be willing to use active transportation due to climate and a car-centric culture. Prior to changes, it should be determined if the density of the neighborhood will support the commercial business. It is always easier if commercial is included in a neighborhood from the planning stage. Commercial zoning should be included at the outset as it can easily be removed if required.

Education on the benefits of walkability is required as well as political will to implement policies to ensure walkable, transit-oriented communities.

Secondary suites introduce potential concerns around parking, snow storage etc. These may require new operations/maintenance considerations.

Concern was expressed re passive solar design including the compatibility of current electricity servicing standards and tree canopy trade-offs (trees provide shading and protection from heat island effect but may also block passive solar opportunities).

#### 4.3.3 Transportation

Stakeholders identified the following missing action items:

- Buses will now go between Edmonton and Leduc hourly, all day long (as opposed to a few hours in the morning and a few hours in the evening). The City will be needing two new buses for this service and these could be powered by natural gas (or be hybrid buses);
- Car sharing should be examined although it needs to be determined if it is financially viable; and
- Carpooling sites could also be considered.

The following concerns about existing public transit were expressed:

- When using transit, it is not always safe to walk between stops particularly in industrial areas (i.e. in the winter when it's dark). Further use of crosswalks could be examined. Stakeholders wanted to create a public survey to be able to identify and ultimately to overcome barriers to increased transit use; and

- Better first mile and last mile transportation is needed along with financial incentives and convenience of transit.

The top three transit action items were:

- Enhancing transit service so it accessible for Leduc, Leduc Industrial, Nisku and Edmonton;
- Continue to enhance and plan for multi-use trails; and
- Pursue anti-idling through City leadership, bylaws and signage.

#### 4.3.4 Energy Supply

Stakeholders made the following points around energy supply:

- Consider a bylaw to require all new buildings to have solar (or be solar ready). (Note: there are jurisdictional barriers to this action item).
- City buildings and vehicles should provide leadership and set the example for the wider community.
- Pursue solar hot water only if it makes financial sense.
- Consider wind power (i.e. small wind trees) although one stakeholder cautioned against due to barriers around maintenance and costs.
- Accompany renewable energy with energy conservation. Energy efficiency programs should align with Energy Efficiency Alberta's programs.
- Consider solar carports in Alberta; they are a good match for electric vehicle charging given the GHG intensity of Alberta's electricity grid.
- Support businesses to pursue a closed loop system with waste and energy (i.e. the introduction of biodigesters).
- Use a staged approach to implementation and keep in mind technological advancements that are likely to occur within the next 10 years.

#### 4.3.5 Buildings

Stakeholders had strong support for the following corporate GHG reduction action items:

- Require all new city buildings to meet certain energy efficient and/or green building standard,
- Establish a City policy and implementation plan for energy efficient retrofits of existing buildings, and
- Develop and implement education program for City staff to increase energy saving behaviours at work.

Regarding community buildings GHG reduction actions, the greatest support was for the following:

- Review and amend Bylaws to remove barriers for passive and more energy efficient buildings, in particular, relaxing maximum height requirements and calculating “build-to-lines” from the outer wall, and
- Use financial incentives to promote increased energy efficiency in new buildings.

Some stakeholders wanted the above two actions to be considered for density and infill. There was some concern on a fair and cost-effective process to enable non-financial incentives such as fast-tracking. Consideration should equally be given when looking at existing homes. There was concern that “encouraging the development of “eco-districts” on existing and new industrial sites” was too difficult with little precedence for success. Broad support was also expressed for a voluntary sustainability checklist.

## 5 Next Steps

The results from the initial spring 2018 engagement on Leduc's GHG reduction plan will be used to create GHG reduction scenarios for the City of Leduc. Changes in GHG emissions, energy use and socio-economic considerations will be modelled for each scenario. Out of the modelling results, a target will be suggested and a GHG reduction plan will be drafted. Subsequently, staff and council will provide input on the draft target and GHG reduction plan. The draft plan will then be presented to the public and stakeholders at an open house in early 2019. Once additional public input is incorporated, the plan will be presented to council for input and approval.

## 6 Appendix

### 6.1 Survey Questions

#### Introduction

Leduc has shown strong leadership addressing climate change over the past several years, implementing initiatives that reduce greenhouse gas (GHG) emissions because they save the City money and improve the environment. The City is now developing a Local Action Plan for GHG Reduction. The plan will be a made-in-Leduc solution to a global issue - respecting our unique local priorities.

Have your say in shaping the development of the Plan, by taking 5 to 10-minutes to complete this survey. As a thank you for completing the survey, you may enter into a draw to win one of six Google Home mini smart speakers.

Please note that all information you provide will be kept in strictest confidence and will be used only for the purposes of this study. It is important to note that all analysis and reporting of the survey findings will be provided in aggregate only – no individual responses will be provided.

If you have any questions or concerns about this survey, you may contact the EcoSmart Hotline at 780-980-7107 or email [ecosmart@leduc.ca](mailto:ecosmart@leduc.ca).

Please respond before **June 4, 2018**.

Q1. I agree with the terms and conditions of data collection and data use, as detailed above.

*This question is mandatory.*

- Yes [*GO TO SURVEY*]
- No [*TERMINATE*]

Q2. What best describes you?

- I am a resident of Leduc
- I am a business owner in Leduc
- Other (please describe)

Q3. What is your age?

- Under 18
- 18-25
- 26-35
- 36-45

- 55+

Q4. What are the most important results of a GHG action plan? Please rank between 1 and 8, 1 being the most important.

*Allow respondents to rank the following*

- Lower GHG emissions
- Improved health and well-being (ex. More biking)
- Lower energy bills
- Lower transportation costs
- Neighborhoods that are more walkable and bicycle friendly
- Better air quality (ex. less car exhaust)
- More community pride from taking climate leadership
- More partnerships between the City and other local businesses, organizations, and municipalities through shared GHG reduction actions

Q5. Are there any other results not included above that you believe are important to the development of the GHG plan?

Leduc's Plan to reduce GHGs will guide the City for next ten years. Should the Plan include the following actions?

*Allow the respondent to choose from: strongly disagree, disagree, neutral, agree, strongly agree.*

Q6. The City of Leduc should:

- Use more renewable energy (e.g. solar, wind or geothermal energy) in place of traditional energy sources (coal, natural gas)
- Drive cleaner vehicles (e.g. smaller or electric vehicles)
- Provide or encourage electric vehicle charging stations
- Increase public transit
- Encourage carpooling
- Make their buildings more energy efficient e.g. with insulation, lighting upgrades, high quality windows, etc.
- Plan for more walking paths and bike lanes
- Plan neighborhoods to encourage walking instead of driving
- Plant more trees and preserve natural areas
- Encourage residents to recycle and compost more so less emissions come from landfill
- Encourage businesses to recycle and compost more so less emissions come from landfill

Q7. Residents and businesses should:

1. Use renewable energy in their homes (e.g. solar panels)
2. Drive cleaner vehicles (e.g. smaller or electric vehicles)
3. Take public transit more often
4. Carpool more often
5. Walk or bike more
6. Make their homes and businesses more energy efficient e.g. newer furnaces, weather stripping, efficient lighting etc.
7. Plant more trees and gardens
8. Recycle and compost more to put less in landfill which emits GHGs

Q8. Please provide any other comments you feel are important about a Local Action Plan for GHG Emission Reduction:

- Other: text box that allows 150 words.

### **Contest Release Form**

Thank you for completing the survey! You now have the option to enter a randomly selected prize draw for one of six Google Home mini smart speakers.

In order to enter, please provide your name and an e-mail address and/or telephone number where we can contact you. Personal information will only be used to contact the individual who has won the prize. Your name, phone number and e-mail address will not be used for any other purpose and will remain confidential.

The personal information (name, phone number, and/or e-mail address) provided as part of the Local Action Plan for GHG Reduction survey contest is collected under the authority of section 33(c) of the Freedom of Information and Protection of Privacy Act.

Q9. I would like to enter the contest for the random prize draw:

- Yes
- No

Business Name: \_\_\_\_\_

Q10. First Name: \_\_\_\_\_

Q11. Last Name: \_\_\_\_\_

Q12. E-mail Address: \_\_\_\_\_

Q13. Phone Number: \_\_\_\_\_

Q 14. I confirm that I have read and understood the Contest Rules which are available at [www.leduc.ca/ourclimatesolutions](http://www.leduc.ca/ourclimatesolutions)

- Yes
- No

Q15. I give permission for the City of Leduc to e-mail me information about environmental initiatives from time to time

- Yes
- No

(Leduc logo)

[Engage.Leduc.ca](http://Engage.Leduc.ca)

Partnering with nature

Eco-smart Hotline

E-mail: [ecosmart@Leduc.ca](mailto:ecosmart@Leduc.ca)

## 6.2 Survey Tables

Exhibit 12 Most Important Results of a GHG Action Plan – (Associated Figure - Exhibit 7)

	More important (1, 2, 3, and 4)	Less important (5, 6, 7, and 8)
Improved health and well-being (ex. more biking)	78% 153	22% 43
Lower energy bills	70% 136	30% 59
Lower GHG emissions	65% 126	35% 69
Neighbourhoods that are more walkable and bicycle friendly	51% 99	49% 96
Better air quality (ex. less car exhaust)	51% 99	49% 96
Lower transportation costs	49% 95	51% 100
More community pride from taking climate leadership	25% 24	75% 171
More partnerships between the city and other local businesses, organizations and municipalities through shared GHG reduction actions	12% 48	88% 147

**Exhibit 13 Most Important Results of a GHG Action Plan – Full Detail (Associated Figure - Exhibit 7)**

	1	2	3	4	5	6	7	8
Improved health and well-being (ex. more biking)	16% 32	23% 45	26% 50	13% 26	11% 21	5% 9	3% 5	4% 7
Lower energy bills	29% 57	15% 29	12% 23	14% 27	10% 19	7% 14	8% 16	5% 10
Lower GHG emissions	28% 54	17% 34	10% 20	9% 18	7% 13	11% 22	8% 16	9% 18
Neighbourhoods that are more walkable and bicycle friendly	11% 21	9% 17	15% 29	16% 32	19% 38	17% 34	7% 14	5% 10
Better air quality (ex. less car exhaust)	7% 14	15% 30	17% 33	11% 22	14% 27	21% 40	11% 22	4% 7
Lower transportation costs	2% 4	16% 32	9% 18	21% 41	21% 40	12% 23	10% 19	9% 18
More community pride from taking climate leadership	2% 3	1% 2	5% 10	5% 9	10% 19	14% 28	30% 59	33% 65
More partnerships between the city and other local businesses, organizations and municipalities through shared GHG reduction actions	5% 10	3% 6	6% 12	10% 20	9% 18	13% 25	23% 44	31% 60

Exhibit 14 Views on City of Leduc GHG Reduction Actions (Associated Figure - Exhibit 9)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A	Total	Weighted Average
Use more renewable energy (e.g. solar, wind or geothermal energy) in place of traditional energy sources (coal, natural gas)	10% 19	9% 16	15% 27	30% 56	36% 66	0% 0	184	3.73
Drive cleaner vehicles (e.g. smaller or electric vehicles)	10% 19	9% 17	23% 43	34% 63	23% 43	1% 1	186	3.51
Provide or encourage electric vehicle charging stations	11% 20	11% 21	22% 41	33% 61	22% 41	1% 1	185	3.45
Increase public transit	5% 10	7% 12	20% 36	34% 63	33% 61	2% 3	185	3.84
Encourage carpooling	5% 9	4% 7	30% 54	37% 68	24% 45	1% 2	185	3.73
Make their buildings more energy efficient e.g. with insulation, lighting upgrades, high quality windows, etc.	4% 8	1% 1	11% 20	36% 67	47% 87	1% 2	185	4.22
Plan for more walking paths and bike lanes	6% 11	4% 7	16% 30	33% 60	41% 75	1% 2	185	3.99
Plan neighbourhoods to encourage walking instead of driving	4% 8	3% 6	17% 31	35% 65	40% 74	1% 1	185	4.04
Plant more trees and preserve natural areas	2% 3	0% 0	4% 9	26% 47	68% 153	1% 2	184	4.60
Encourage residents to recycle and compost more so fewer emissions come from landfill	4% 8	1% 2	5% 9	23% 43	66% 123	1% 2	187	4.46
Encourage businesses to recycle and compost more to reduce GHGs from the landfill	5% 9	2% 3	6% 12	16% 29	70% 130	2% 3	186	4.46

Exhibit 15 Views on City of Leduc GHG Reduction Actions (Associated Figure - Exhibit 10)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A	Total	Weighted Average
Use renewable energy in their homes	9% 16	6% 11	31% 58	27% 50	27% 50	0% 0	185	3.58
Drive cleaner vehicles	9% 17	13% 23	27% 49	31% 57	20% 37	1% 1	184	3.40
Take public transit more often	5% 10	9% 17	30% 56	31% 58	22% 41	2% 4	186	3.57
Carpool more often	7% 12	7% 12	23% 42	42% 77	21% 39	2% 3	185	3.65
Walk or bike more	5% 9	4% 7	14% 26	43% 80	32% 60	2% 3	185	3.96
Make homes and businesses more energy efficient	4% 7	1% 1	10% 18	44% 83	41% 76	1% 2	187	4.19
Plant more trees and gardens	3% 5	1% 1	5% 10	38% 70	52% 96	2% 3	185	4.38
Recycle and compost more to put less in landfill which emits GHGs	5% 10	2% 3	4% 8	26% 48	61% 113	2% 3	185	4.38

## Exhibit 16 Respondents Comments About a Local Action Plan for GHG Emission Reduction

Theme	Number of Mentions
Cost	17
<i>Cost/benefit</i>	3
<i>Capital cost</i>	3
<i>Taxes</i>	2
Waste management	12
Active transportation	10
Renewable energy	7
EV concerns	7
Energy efficiency & conservation	6
Unsupportive of GHG reduction planning	5
Air pollution	3
Public wellbeing	3
Realistic approach	3
Public transit	2
Smart urban planning	2
Financial incentives	2
Urban agriculture	1
Reduce consumption	1
Education	1
Management	1
Transportation infrastructure	1
Combined heat and power	1

## 6.3 Display Comments

### Exhibit 17 Display Comments - How Should the City, Residents and Businesses Reduce GHGs?

Theme	City	Residents	Total
Waste management	6	18	24
Active transportation	0	11	11
Reduce consumption	1	7	8
Energy efficiency & conservation	1	7	8
Transit	1	2	3
Electric vehicles	2	1	3
Air pollution	1	2	3
Carpool	0	2	2
No idling	1	1	2
Plant trees	1	0	1
Electrify lawn & garden tools	0	1	1
Green urban planning	1	0	1
Green recognition programs	1	0	1
Smart urban planning	1	0	1
Gardening	0	1	1
Pesticide free	1	0	1
Smart grid	1	0	1
Incentives	1	0	1
HOV lane	1	0	1

## 6.4 LEAB GHG Reduction Sub-Committee Members

- Councilor Lars Hansen
- Katie Oliver
- April Ziegler
- Brad Beesley
- Douglas Hube
- Thorren Koopmans

## 6.5 Stakeholder Workshop Attendees

- Jason Atkinson – Enmax
- Roger Steele – Edmonton Airport
- Barbara Mckenzie – Leduc Nisku Economic Development Association

- Amanda Griffin – Melcor Development
- Mark Filteaw – Atlas Gas Utilities
- Dave Turbul – Canadian Home Builders Association
- Melissa Turnbull – Alta Gas Utilities
- Dennis Peck – Canadian Home Builders Association
- Beverly Beckett – City of Leduc Councilor
- Doug Hube – LEAB member, IDA, LECC
- Andre Banks – Melcor Development
- Tamara Chubb – GFL Environmental

## 6.6 Leduc GHG Reduction Options

This is the list of GHG reduction options that were reviewed at the stakeholder workshop.

### 6.6.1 Energy Supply – Corporate

1. Install more renewable energy units on city owned and operated buildings and facilities

### 6.6.2 Energy Supply – Community

1. Modify permitting process to fast track and standardizes the process of applying and inspecting solar PV and solar thermal systems
2. Promote (market) existing programs that provide support for renewable energy installations
3. Provide “top-up” (additional) financial incentives to enhance offerings from existing programs
4. Encourage new buildings to be solar ready – e.g. by providing developers / builders with a checklist and education materials
5. Determine whether it is cost effective for the City to pursue district energy – including where and what kind of system

### 6.6.3 Buildings – Corporate

1. Require all new city buildings to meet certain energy efficient and/or green building standard
2. Establish a City policy and implementation plan for energy efficient retrofits of existing buildings
3. Develop and implement education program for city staff to increase energy saving behaviours at work

### 6.6.4 Buildings – Community

1. Review and amend Bylaws to remove barriers for passive and more energy efficient buildings
  - a) Relax maximum height requirements
  - b) Calculate “build-to-lines” from the *outer wall*
  - c) Measure floor area from the *inner wall*
  - d) Amend height and floor area ratios
  - e) Allow building projections for passive solar shading to project into the required yard
2. Use non-financial incentives to promote increased energy efficiency in new buildings- e.g., fast-tracking permit applications for buildings that meet certain standards
3. Introduce a (voluntary) sustainability checklist for new developments
4. Increase capacity of city staff to promote green building development—e.g., training, education
5. Encourage development of “eco-districts” on existing and new industrial sites –modify development guidelines to promote eco-industrial districts
6. Pass Bylaw to allow Clean Energy Improvement Financing / Property Assessed Clean Energy (PACE) in Leduc
7. Promote existing programs that provide support for energy efficiency improvements to buildings – e.g., develop and implement outreach program

### 6.6.5 Transportation

#### *Active Transportation*

1. Develop active transportation plan (i.e. walking and biking)
2. Develop and implement education campaign to promote alternative modes of transportation

### *Electric Vehicles*

3. Develop and implement electric vehicle policy for new developments – e.g., require new mixed use, multi-unit residential and parking buildings to have electric vehicle charging infrastructure
4. Introduce City-owned charging stations for electric vehicles

### *Corporate*

5. Establish policy to accelerate the retirement of less efficient vehicles, where justified
6. Establish a vehicle purchasing policy- purchase best in class efficient vehicles, *where justified*
7. Establish a vehicle purchasing policy- purchase natural gas or electric vehicles and buses, *where justified*
8. Establish vehicle maintenance policies and operating (driving) guidelines that reduce energy consumption
9. Incorporate energy efficiency considerations into road construction and maintenance plan – e.g., full depth reclamation, use of warm asphalt

### 6.6.6 Transportation

#### *Public Transit*

1. Increase use of public transit – introduce more park-n-ride lots
2. Increase use of public transit – increase hours of service
3. Increase use of public transit – increase marketing of transit service and benefits of using it
4. Increase use of public transit – introduce dedicated bus lanes
5. Increase use of public transit – develop / strengthen partnerships with schools and businesses to offer passes and/or reduced fares
6. Increase use of public transit – offer responsive transit service such as taxi partnerships or flexible microtransit

#### *Education*

7. Work with local businesses to encourage car pooling to work – e.g., businesses offer incentives to employees
8. Develop and implement anti-idling program

### 6.6.7 Urban Planning

1. Ensure planning processes lays out city blocks to maximize passive solar design where possible
2. Encourage infill – identify areas where further infill is possible and implement measures to encourage infill e.g. engagement and education
3. Encourage infill close to services- Set goals for % population walking distance to various services, identify areas where further infill is possible and implement measures to encourage infill e.g. engagement and education
4. Encourage secondary suites – e.g. streamline process for approving new suites, undertake education campaign, reduce fees
5. Encourage mixed use development – e.g. apply mixed use zoning to downtown and other appropriate areas

### 6.6.8 Waste & Wastewater

1. Mandate separation of food waste for commercial sector, and precede with an education campaign
2. Determine the feasibility and impact of garbage baling technology
3. Assess the feasibility, cost and impact of split collection vehicles (collect waste, organics and other recyclables at same time)
4. Request contractors optimize routing to minimize energy consumption

5. Introduce an organics processing facility at LDRWMF
6. Feasibility study on future Eco-Station enhancements to include other waste streams i.e. metals, glass, mattresses, Styrofoam
7. Reduce collection frequency and/or reduce bin size (plus education)
8. Financial incentives for devices that reduce water consumption
9. Financial incentives for outdoor water saving devices

#### 6.6.9 Education & Awareness

1. Create a GHG reduction education and outreach hub – as part of Leduc’s environmental services
2. Introduce sustainability awards for businesses, efficient buildings, low waste policies etc.