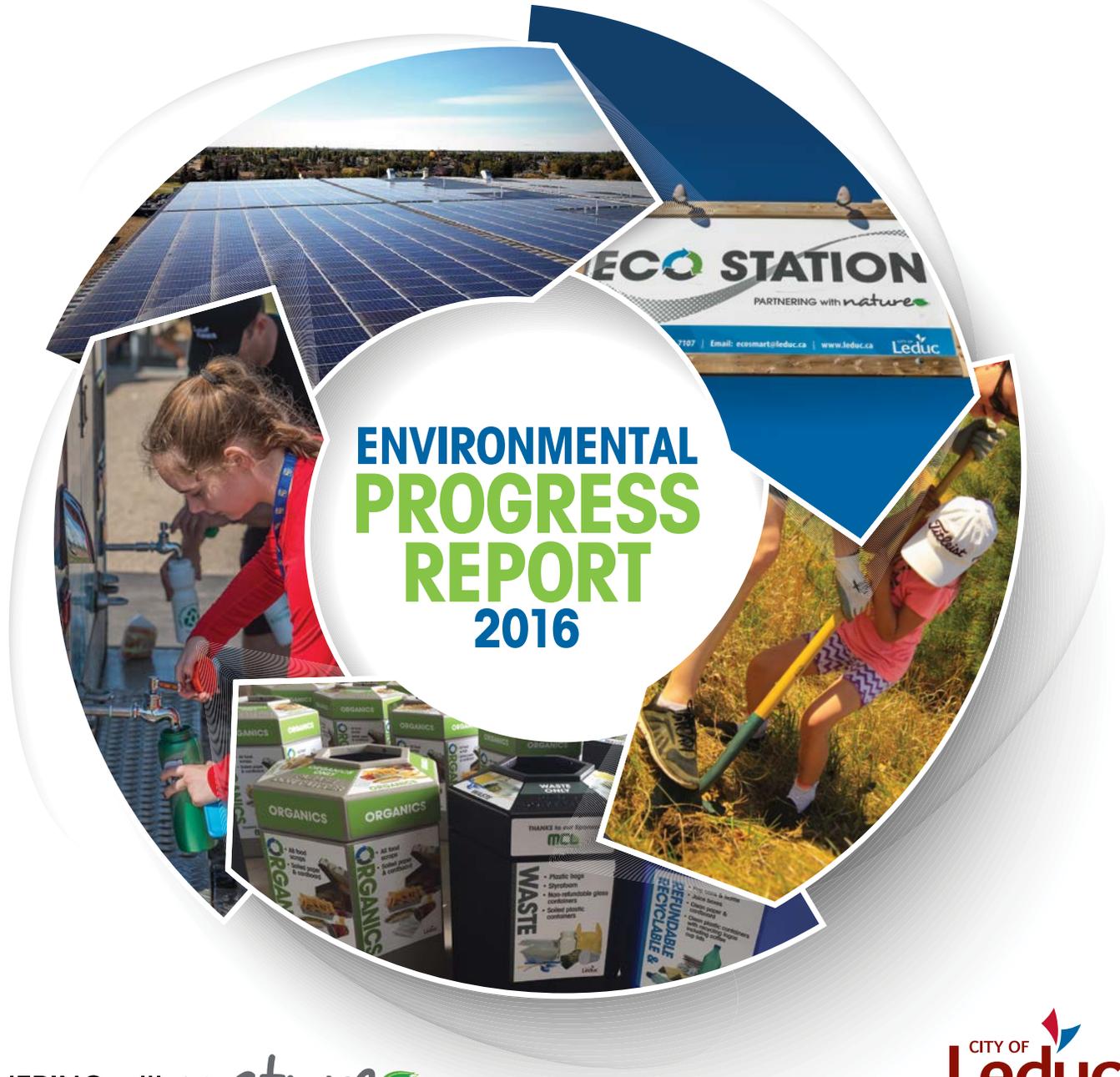


Growing a clean, green and healthy Leduc



PARTNERING with *nature*

CITY OF  
**Leduc**

Achieving Leduc's vision of a healthy, sustainable environment takes long-term commitment – from the city, residents, businesses and stakeholders.

A shared vision and shared work to achieve each milestone leading to our vision is the key to success.

## CITY STEWARDSHIP

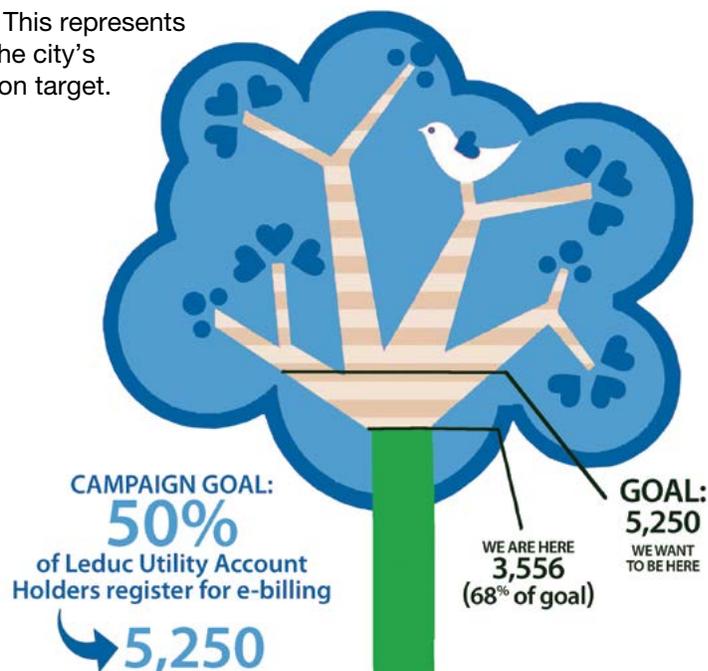
*...civic departments step up for the environment*

Every city department is contributing to Leduc's environmental vision, helping our community work toward an environment that protects and enhances Leduc's quality of life now and for future generations. Specific goals and initiatives are set out in the 2014 – 2018 Leduc Strategic Plan.

Work remains to ensure the city's environmental initiatives support the community's vision of environmental priorities and action plans, but our community is making good progress toward its environmental vision.

### 2016 civic projects

- The city's construction projects now typically require an eco-plan that addresses waste management.
- The city shares a concrete recycling process with Leduc County in which concrete that does not contain re-bar is recycled and crushed for use as road bases.
- The city stores, separates and mills its asphalt so it can be reused for filling potholes, the Eco Station road base, etc.
- More than 3,500 Leduc utility account holders – 3,556 – have registered for e-billing. This represents 68% of the city's registration target.
- The city passed a resolution to become a member of the Federation of Canadian Municipalities (FCM) – ICLEI Partners for Climate Protection program, indicating a commitment to work on a greenhouse (GHG) emissions reduction action plan.
- All city facilities now have four-stream waste receptacles. Outdoor bins were introduced at the Alberta Summer Games and continue to be used during outdoor city events to divert organics and recyclables.



e-Billing campaign



TREES SAVED

# LEDUC STRATEGIC PLAN *environmental initiatives*

	LEAD DEPARTMENT	KEY ACTIONS & RESULTS
<b>Goal 1 Community Character</b>		
1.2 Successfully host the 2016 Summer Games	Community and Protective Services	<p><b>SUSTAINABILITY OUTCOMES:</b></p> <ol style="list-style-type: none"> <li>1. LRC achieved 68% waste diversion.</li> <li>2. LRC was powered with 100% clean energy.</li> <li>3. 2,300 litres of water was distributed to participants using their own refillable water bottles, eliminating over 4,500 disposable water bottles.</li> <li>4. Public education: direct engagement of 3,500 people during the Games; additional 24,000 reached through related advertising and promotion.</li> </ol> <p><i>See Pages 6 &amp; 7 for details.</i></p>
1.3 Plan and construct Telford Lake amenities	Community Development and Culture	<ul style="list-style-type: none"> <li>• Several community groups helped with the Leduc Lions Park clean-up.</li> <li>• Wetland and related applications for future development of Telford Lake boardwalk extension completed.</li> </ul>
1.4 Refine and implement elements of the Phase 2 of Leduc's Downtown Master Plan	Planning and Development	Installation of three-stream waste receptacles began. Once complete, 21 receptacles will be installed along 50 Avenue.
<b>Goal 2 Community Wellness</b>		
2.1 Implement initiatives identified in the Environmental Sustainability Plan	Environmental Services	<ul style="list-style-type: none"> <li>• The 2016 curbside waste diversion rate was 51%, exceeding the target of 45%.</li> <li>• Residents and businesses made 2,000 more trips to the Eco Station in 2016 than in 2015.</li> <li>• 600 trees planted on Arbour Day.</li> </ul> <p><i>Check out Pages 11, 12 and 14 for details.</i></p>
<b>Goal 3 Transportation</b>		
3.2 Evaluate and optimize Leduc's transit system and service	Public Transportation	Leduc Transit continued to enhance rider amenities, which will encourage transit use.
<b>Goal 4 Economic Development</b>		
4.2 Leverage joint economic development opportunities with regional partners		Coordinated stakeholders and investors to promote and develop green business with a focus on the Alberta Aerotropolis Agri-Business cluster (e.g.) vertical greenhouse production
<b>Goal 5 Regional Partnerships and Governance</b>		
5.1 Strengthen relationship with key stakeholders in the Leduc region	All departments	The city kept stakeholders, Capital Region municipalities, other orders of government and others updated on initiatives including the Alberta Summer Games sustainability and the Leduc solar project.
5.2 Review and assess regional collaboration studies		
<b>Goal 6 Fiscal Sustainability</b>		
6.4 Regular review of select services for efficiency / effectiveness	All departments	The solar arrays at the LRC and Operations Building will save up to \$140,000 annually in electricity costs (full-year reporting will begin in 2017).

# SETTING THE GROUNDWORK

The City of Leduc had a busy environmental agenda throughout 2016.

Leduc's solar project and the 2016 Alberta Summer Games captured the highest profile. Both initiatives helped cement the city's reputation as an environmental leader.

In addition, the city increased its focus on the Eco Station, promoting its valuable role to all residents including those in multi-family units and to businesses in helping to divert material from the landfill.

At the same time, single-family home residents received some timely reminders about sorting smarter to keep green cart materials free from waste such as plastic bags and diapers.

A variety of other initiatives - including participation in Leduc Environmental Advisory Board (LEAB) activities - helped our community move closer to its environmental targets.

## Community outreach & communication highlights:



**Business Expo:** The city promoted proper cart placement as well as the value of light efficiency and Dark Skies areas where urban light pollution is minimized at this April 16-17 event.



**Committee involvement:** The Capital Region is working together on a range of sustainability subjects such as waste diversion, sharing ideas and collaborating on potential solutions.



*“The 2nd Leduc Scout troop participating in the 2016 Arbour Day really enjoyed the day. They all felt like they had accomplished something. Their participation significantly helped develop their understanding of community involvement and its benefits.”*

Frank MacWhirter, Group Commissioner, 2nd Leduc Scouting

### Community gardening

**workshop:** This workshop spurred the creation of the community-organized one-year Southfork community garden pilot project.

### Community Information

**Registration Day:** A Toss and Sort game offered an entertaining way to profile sorting smarter and the Sort Smart app.

**Earth Hour:** The city again participated in this one-hour event, on March 19, to highlight the need to take action on our changing climate.



### Environment Week:

The city and LEAB hosted several events to celebrate the week: the Green Gold event, Peter Puffin school presentations, a composting workshop and the spring bird count.



### Environmental Achievement Award - Willow Park School:

The school earned this City of Leduc award for its very successful collection of organic material and for enhancing other waste diversion initiatives.

### Festive initiatives:

A bird tree promoting the Christmas Bird Count and giveaway paper games promoting festive environmental tips were featured at the Festival of Trees. The library's festive display included a special wreath promoting seasonal green tips.

### Festival of Trees:

The Environmental Services tree took second place at the November festival. The display promoted alternative energy sources by encouraging passers-by to light the tree with their own pedal power.

### Large item pickup:

Residents disposed of 16 tonnes of large items in 2016. This clean-up event is held each year in May.

### Reporting environmental

**progress:** About 750 copies of the Environmental Progress Report 2015 were distributed to residents, environmental partners and stakeholders.

# SUSTAINABILITY at the 2016 ALBERTA SUMMER GAMES

July 14-17, 2016

More than 2,700 athletes, coaches and officials — and thousands of spectators — were encouraged to support Leduc's environmental goals during the Games.

## Sustainability goals

### 1. Achieve 80% waste diversion at the Leduc Recreation Centre (LRC).

- All plates, cutlery and cups in the food centre were compostable so they, and food leftovers, could easily be sorted into the provided organics bins.
- Recycle bins were provided for the Games weekend by the Alberta Beverage Container Recycling Corporation for juice and milk containers.
- Four-stream waste bins were installed at the LRC and three-stream waste stations installed at outdoor venues.



After 3 meals,  
athletes  
sorted...



...with only **5**  
garbage bags  
collected

Food centre waste diversion = **89%**



Waste diversion including  
the LRC and waste from  
the park: estimated

**68%**

## 2. Power the LRC with 100% clean energy.

- ENMAX sponsored a renewable energy certificate, which guaranteed the estimated weekend use of 480,000 kWh was offset by wind power.
- This goal led to the installation of the LRC commercial roof-top solar array before the Games began.

## 3. Host a disposable water bottle free event.

- All athletes received a reusable water bottle as part of their athlete's packages. Another 3,500 bottles were given to spectators.
- All food vendors were asked to refrain from selling bottled water; in return, they were given reusable water bottles to give away.
- Bottles were also handed out at the sustainability booth in the park.

- Four water refill stations were available for spectators with numerous others available to participants.



## Water, water everywhere

- About 2,300 litres of drinking water were distributed through two mobile water units, replacing 4,500 disposable water bottles.
- Athletes had sole access to two water stations hooked directly into the water supply. They used 8,000 litres of water.

## 4. Educate 5,000 visitors and residents about sustainability at the Games.

- The city developed an Eco Champ campaign to promote sustainability at the Games in a fun, engaging way.
- Staff at the sustainability booth spoke to an estimated 1,000 visitors.
- Athletes received information from the website, their handbook, food centre, table cards and shower timers with posters profiling the importance of water conservation.
- The volunteers' handbook included similar information.
- An estimated 2,000 Eco Champ stickers were distributed to visitors refilling water bottles or using the waste stations.



## The sustainability torch

Leduc will pass on a “sustainability torch” to the organizer of the next Alberta Summer Games.

Leduc picked up the practice from organizers of the 2015 Alberta +55 Summer Games in Strathmore when they passed down a planter filled with flowers planted in compost made from organics collected from their games. The planter is visible out the east doors of the LRC.

# THE CITY OF LEDUC'S SOLAR PROJECT

LRC rooftop solar array

**3,622** Panels    Total capacity: **1.1** MWh    **14.5%** of all the LRC's annual consumption

City Operations Building

**2,000** Panels    Total capacity: **630** kW    Enough to produce **100%** of annual consumption

*On target for Net Zero!*

The Operations Building is now considered to be a Net Zero facility because it produces as much energy as it uses.

**#1**  
*in Canada!*

The LRC is home to Canada's largest commercial rooftop solar array!



## Solar power production

(From installation to mid-March 2017)

	LRC	OPERATIONS BUILDING	TOTAL
Production (MWh)	205	61	<b>266</b>
GHGs reduced (kg)	80,243	23,949	<b>104,192</b>

This production is equivalent to:



Planting  
**348**  
trees



Lighting  
**805,448**  
lightbulbs for a day

According to Alberta Energy, the average Alberta home uses 600 kWh of energy per month. That means the LRC and the Operations Building produced enough electricity to mid-March 2017 to power 37 homes for a year.

## Reducing greenhouse gas (GHG) emissions

Leduc's two solar rooftop arrays will reduce annual GHG emissions by an estimated 1,090 tonnes for the next 40 years — the equivalent of taking over 200 vehicles off the road every year.

## Community outreach

Leduc and district residents have had lots of opportunity to learn about the solar project.

At the Alberta Summer Games, a solar TV displayed hourly, daily, annual and lifetime production as well as the environmental impacts of the arrays. A solar trailer photo booth at the Games encouraged “selfies” with a solar roof backdrop.

About 20 people attended a September 9, 2016 Green Energy Doors Open public tour of the LRC solar array. The city is developing a related display for the LRC.

The array is also introducing other alternative sources of power. The city's display at the Festival of Trees underlined the concept of alternative sources with its “pedal power light the tree” promotion.

## Leduc's solar project quick facts

- Total system capacity: 1.77 MWh.
- LRC panels were installed by early July 2016. Operations Building installation was complete by mid-September 2016.
- Array lifespan is estimated at 40 years.
- ENMAX will monitor, maintain and repair the system under a 15-year lease.
- Civic departments directly involved: Finance, Environmental Services and Facilities.

## Waste diversion... we **we** SORT SMARTer

Understanding that waste diversion is an integral part of life in the Leduc community, the city took advantage of some already-established initiatives and the opportunity presented by the Alberta Summer Games to increase recycling and material sorting options for all visitors and athletes at the Games — and for Leduc residents after the Games.

Increased Eco Station promotion was designed to raise awareness of all Leduc residents of the importance of the Eco Station to effective waste division. Promotions included messages to residents living in multi-family units and to Leduc businesses.

Single-family home residents received some timely reminders throughout the year, and particularly during a fall 2016 anti-contamination campaign, about sorting smarter to keep green cart materials free from waste.

### Policy development

#### **Multi-family and business waste diversion:**

Consultations with business reps and owners of multi-family units concluded in early 2016. An engagement report was completed and reviewed. The report is now tabled and ready for appropriate followup in 2018/19.

#### **Sorting compliance awareness:**

The city is strengthening its communication efforts to increase correct sorting and reduce materials contamination through a more regular audit and compliance program. Beginning in 2017, tags put on carts containing incorrect materials will remind residents that fines for non-compliant sorting are outlined in City of Leduc Waste Bylaw No. 800-2012.



Leduc continued to record strong population growth in 2016 – and both longer-term and new residents are participating well in the curbside organics program.

Since its introduction in the fall of 2012, the curbside organics program has diverted more than 9,880 tonnes of organics from the landfill.

Blue bag collection shows a continuing trend with less material collected than the previous year.

The amount of household waste increased both in the total amount collected and per household.





## Curbside ORGANICS\*

\* INCLUDES CHRISTMAS TREES PICKED UP BY SPECIAL COLLECTION  
\* CURBSIDE SERVICE STARTED IN SEPTEMBER 2012



	2012	2013	2014	2015	2016
MATERIAL COLLECTED (TONNES)	278	2,138	2,415	2,375	<b>2,675</b>
PER HOUSEHOLD (KG)	40	294	318	294	<b>319</b>
% DIFFERENCE / HOUSEHOLD (KG) FROM 2012					<b>+698%</b>

## Curbside BLUE BAG RECYCLING



	2012	2013	2014	2015	2016
MATERIAL COLLECTED (TONNES)	1,075	1,360	1,439	1,328	<b>1,197</b>
PER HOUSEHOLD (KG)	157	187	189	165	<b>143</b>
% DIFFERENCE / HOUSEHOLD (KG) FROM 2012		+19.1%	+1.1%	-12.7%	<b>-9%</b>

## Curbside WASTE COLLECTION



	2012	2013	2014	2015	2016
MATERIAL COLLECTED (TONNES)	4,423	3,148	3,327	3,395	<b>3,683</b>
PER HOUSEHOLD (KG)	644	433	437	421	<b>440</b>
% DIFFERENCE / HOUSEHOLD (KG) FROM 2012		-32.8%	+0.9%	-3.7%	<b>-32%</b>

## RESULTS: % RESIDENTIAL CURBSIDE DIVERSION



## Composting

- The Yard Waste Transfer Station continues to accept yard waste that won't fit in organics carts, and branches.
- Residents bought 33 composters at the third annual 'Green Gold' event and picked up more than five yards of compost.

### YARD WASTE TRANSFER STATION TONNES

2013	1,041
2014	585
2015	437
<b>2016</b>	<b>614</b>





# ECO STATION



	VISITS	BLUE BAG RECYCLABLES	CARDBOARD (COMPACTED ONLY)	ELECTRONIC WASTE <sup>†</sup>		HOUSEHOLD HAZARDOUS WASTE <sup>†</sup>
		TONNES	TONNES	UNITS	TONNES	LITRES
2013	21,651	263	N/A	2,959	56.1	60,094
2014	20,119	344	15.39	3,316	59.5	54,608
2015	25,786	271	29.65	3,944	68.6	92,865
	▲	▲	▲	▼	▼	▼
<b>2016</b>	<b>27,995</b>	<b>302</b>	<b>28.93</b>	<b>3,447</b>	<b>59.3</b>	<b>90,645</b>

<sup>†</sup> INCLUDING MATERIALS COLLECTED AT THE OCTOBER 2016 TOXIC & E-WASTE ROUNDUP

*Good to see you!*

With its services and extended hours becoming even more familiar, visits to the Eco Station increased **8.6%** in 2016 over 2015 – and an impressive **39%** since 2014.



## Toxic & E-Waste Roundup

- Despite inclement weather, 336 vehicles entered the gate to drop off materials.
- Just over 200 people visited the information tent.
- Social media promotion proved effective. There were 29,801 Twitter impressions and 107 clicks to the city's events website page. Facebook reached 16,579 people an average of 3.32 times with 177 individuals taking action.

	ELECTRONIC WASTE		HOUSEHOLD HAZARDOUS WASTE
	UNITS	TONNES	LITRES
2013	150	2.3	<b>14,370</b>
2014	104	2.1	<b>8,010</b>
2015	240	4.4	<b>11,410</b>
	▼	▼	▼
<b>2016</b>	<b>125</b>	<b>2.0</b>	<b>9,597</b>



## Program development & implementation

The third annual '**Green Gold**' event, held May 28 and again supported by RONA, offered discounted composters and rain barrels, and free compost. The event attracted about 300 residents who bought 90 rain barrels (sold out after three hours), 33 composters and seven green lid organic bin starter kits. Participants picked up an estimated five yards of compost.

A **composting workshop for beginners** was held at the Leduc Public Library during Environment Week.

A review of waste collection and disposal at city facilities led to **adding recycling and organic disposal services at all city facilities** to support the addition of new four-stream waste receptacles.

Various **school initiatives** took place throughout the year, including a special Peter Puffin performance that delighted 383 Leduc students.

## Communication & community outreach

- The city increased its use of social media to promote various events including: the spring and Christmas bird counts, Arbour Day, the Green Gold event, the Toxic and E-Waste Roundup – and, of course, the various environmental initiatives at the Alberta Summer Games.
- The Sort Smarter phone app was updated.
- An anti-contamination Sort Smarter public education campaign, launched in September, encouraged residents to fine-tune their organics material sorting practices.
- A bean bag Sort Smarter trivia challenge game proved popular at several events including the Toxic Roundup and as part of a Business Expo display at the LRC.

## Social media

These tools were valuable in promoting initiatives and good practices throughout 2016.

Highlights –

### FACEBOOK

#### Alberta Summer Games sustainability promotion

- Solar panel time lapse video: 6,523 people reached, 2,400 views, 56 likes, 27 shares
- Edmonton Journal solar array story posts: 4,694 people reached, 62 likes, 27 shares
- Ja-Co water truck post: 1,751 people reached, 43 likes, 5 shares
- Sustainability torch photos: 1,684 people reached, 18 likes, 1 share
- ENMAX solar video: 1,915 views
- Solar array post 1: 16,731 people reached, 149 likes, 148 shares
- Solar array post 2: 1,240 people reached, 11 likes, 2 shares

#### Toxic & E-Waste Roundup promotion

- 16,579 people reached, 55,048 impressions
- 177 viewers took an action, 11 likes, 70 event responses

### TWITTER

#### Toxic & E-Waste Roundup promotion

- 8,992 impressions
- 80 clicks to the city's event page on Facebook



# ENHANCING *our natural areas*

## Program development & implementation

### Environmentally Sensitive Areas Study:

The study will help the city better manage the natural areas in Leduc and will form the foundation for future development and restoration decisions.

**Tree Canopy Cover report:** This report gives the city a good database of all urban trees.

### Southfork Community Garden:

Southfork neighborhood residents initiated a community garden pilot project after attending a LEAB workshop on managing a community garden. With support from the city, several garden plots were available to residents to plant vegetables and pollinator-friendly plants.

**Telford Lake:** North Telford Recreational Lands clean-up continued with the support of local community groups. The city completed all wetland and related applications for the development of the future Telford Lake boardwalk extension along the northwest shore.



## WHAT WE ACHIEVED:

### SPRING BIRD COUNT

	Birds	Bird Species
2014:	3,179	109
2015:	1,022	101
2016:	<b>1,253</b>	<b>98</b>

### CHRISTMAS BIRD COUNT

	Birds	Bird Species
2014:	690	31
2015:	677	30
2016:	<b>744</b>	<b>28</b>

### TREE PLANTING

	# Volunteers	# Planted
2014:	215	960
2015:	70	600
2016:	<b>200</b>	<b>600</b>

Arbour Day at William F. Lede Park



# MANAGING

## *our water resources*

The city completed a study of 25 storm water management (SWM) facilities in Leduc as recommended by the city's Weather and Climate Readiness Plan. The study identified potential risks and impacts on the SWM facilities facing a one-in-a-100-year, 24-hour storm.

**Result:** One pond does not have sufficient capacity to accommodate the storm scenario. The city will review ways to increase the capacity of this pond and improve water quality and overall aesthetics where possible. No other risks to infrastructure were identified.

## Program development & implementation

- Leduc's Weather and Climate Readiness Plan, approved in 2014, prompted several inquiries from other municipalities interested in Leduc's leadership on this issue. Staff made presentations at conferences and to stakeholders outlining current actions being taken such as stormwater vulnerability assessments.
- During hot, dry summer periods, the city continued to encourage residents to reduce water use where possible. This included using the established odd-even alternating system for lawn watering where residents living at odd-numbered addresses water only on odd-numbered calendar days and likewise for residents with even-numbered addresses.



# ENERGY CONSERVATION

## *- reducing our carbon footprint*

### FCM Partners for Climate Protection Program:

The city's resolution to become a member of this program indicates a commitment to develop a GHG emissions reduction action plan. The city has started a GHG inventory. The completed inventory will help the city make informed decisions about how best to reduce the city's energy use and related emissions.

**Street light conversion:** The city approved conversion of 3,000 existing street lights to LED lighting. Once all lights are converted, expected savings are 1,140,400 kWh/year, equivalent to taking 156 cars off the road, operating 146 homes or planting 33,450 trees. All lights are expected to be converted in 2017/18.

**Clean Air Day:** City employees again participated in this June 8 event and the city offered free transit to residents.



# PUBLIC TRANSIT

*good for the environment*

Leduc Transit continued to enhance rider amenities. Two heated shelters (Leduc County Centre and Alexandra Arena) and 20 non-heated shelters were added. A few more bus stops were added to Route 3 to accommodate passenger requests.

Construction is expected to begin in mid-2017 on a bus pullout spot on 50th Street at the main bus stop for Route 1 at Alexandra Arena. The pullout is expected to be complete by fall 2017.

Leduc Transit is an inter-municipal transit partnership between the City of Leduc and Leduc County, funded in part by the Government of Alberta's Green Transit Incentives Program (Green TRIP). Leduc Transit provides service between Leduc and Edmonton, three local routes, and 96 bus stop locations connecting Leduc, the Leduc Business Park, Nisku and the Edmonton International Airport (EIA).



## WHAT WE ACHIEVED:



**Increasing transit ridership reduces use of private vehicles, making a positive impact on air quality.**

2011	2012	2013	2014	2015	2016
33,106	41,600	53,800	58,269	69,301	<b>68,641</b>
					<b>+107%</b>

% DIFFERENCE FROM  
START OF SERVICE IN 2011



### FOR MORE INFORMATION:

City of Leduc Civic Centre #1 Alexandra Park Leduc AB T9E 4C4

Eco-smart Hotline: 780-980-7107 E-mail: [ecosmart@Leduc.ca](mailto:ecosmart@Leduc.ca)

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