



OUR ENVIRONMENT
OUR ROLE

2015 REPORT TO
THE COMMUNITY
ENVIRONMENTAL
MASTER PLAN

ABOUT THIS REPORT

THIS REPORT IS A SNAPSHOT OF OUR PROGRESS IN MEETING THE TARGETS SET IN THE ENVIRONMENTAL MASTER PLAN.

Environmental sustainability is a long held community value for Red Deerians. The creation of the Environmental Master Plan (EMP) in 2011 demonstrates our commitment to ongoing stewardship of all components of our environment. It is an ambitious plan. It set benchmarks and targets in seven focus areas to help define our progress in environmental performance, it outlines clear goals and ways to achieve them.

The EMP is a 25-year plan with short and long-term goals. Most of the short-term goals were identified as five-year marks. In some areas we have already exceeded our goals, in others we still have a lot of work to do.

The actions of local Red Deerians are central to improving our environmental performance. As previous annual reports demonstrated, action by government alone is not enough. We need the participation of the community, our many partners and local organizations to help move us forward in reaching our environmental goals and a sustainable future.

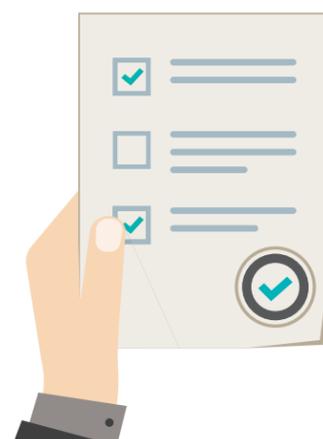
ENVIRONMENTAL ADVISORY COMMITTEE

The Environmental Advisory Committee brings focus to the goals of the EMP by identifying and discussing some of the key environmental issues when advising City Council and Administration on matters. The committee also acted as ambassadors of the plan to raise public awareness of our environmental sustainability targets.



TEST YOUR ENVIRONMENTAL IQ

QUIZ



Find out how much you really know with this quiz.

7 FOCUS AREAS

-  WATER
-  ECOLOGY
-  AIR
-  BUILT ENVIRONMENT
-  TRANSPORTATION
-  ENERGY
-  WASTE

HITTING OUR TARGETS

19 METRICS

ARE BEING MEASURED TO DEFINE OUR PROGRESS IN MEETING THE EMP GOALS.



ON TARGET

- Potable water consumption
- Natural areas
- Man-made green areas
- Integrated pest management
- Length of trail kilometres per resident
- 'Footprint' of per capita land consumption
- Use of renewable energy

ON THE BOARD

- Fuel consumption per capita
- Modal split
- Community gardens
- Greenhouse gas emissions
- Building energy: average building intensity
- Waste diverted
- Amount of residential solid waste
- Overall per capita disposal rate

TAKING AIM

- Water quality of receiving bodies
 - Urban forestry
- These targets need more research in order to establish the measurement metrics to determine baselines and set targets.

NEAR MISSES

- Dwelling unit proximity to community amenities. This measures the share of households within 400 metres, comfortable walking distance to common amenities. Distance to transit stops and trails/parks or green space were achieved, however the measure fell short for proximity to commercial sites and schools.
- Air quality is measured by reporting on a group of compounds (ozone, sulphur dioxide, nitrogen dioxide, and carbon monoxide) in the air. Targets for all compounds have been met with the exception of fine particulate matter.

WATER

RESIDENTIAL POTABLE WATER CONSUMPTION:

2015 TARGET: DECREASE 8% FROM 2009 TO 223 L/CAPITA/DAY

Residential potable water consumption increased slightly by 8 L/cap/day from 195 L/cap/day in 2014 to 203 L/cap/day in 2015. However, the overall trend is showing continued success at achieving and even exceeding water conservation targets.

2009 Baseline Residential: 242 L/capita/day

WATER QUALITY

2015 TARGET: IN PROGRESS

Water quality monitoring began in 2012 to assess key points along the Red Deer River and creek tributaries. The first three years of data has been collected. Baselines and targets are being established and will be integrated into the EMP.

IN THE WORKS:

Rain Barrel promotion established in 2015. Coupon program was successful in collaborating with the private sector to support the community in installing rain barrels to capture rainwater for use in irrigation for yards and gardens. This program continues to be very successful!

INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL POTABLE WATER CONSUMED PER PERSON, PER DAY:



112 L/cap/day
2014

110 L/cap/day
2015

Industrial, commercial and institutional potable water consumption saw a decrease to 110 L per capita per day in 2015 down from 112 L per capita per day in 2014.

2009 Baseline: 135 L/capita/day

2015 Target: 124 L/cap/day has been achieved

QUIZ #1

How many litres of water can be saved in one summer by using a rain barrel?

- A 10,000 L
- B 500 L
- C 1,000 L
- D All of the above

AIR

AIR QUALITY

- Red Deer is meeting its targets for reduced emissions in ozone (O₃), sulphur dioxide (SO₂), nitrogen dioxide (NO₂) and carbon monoxide (CO).
- Improvement needed: Fine particulate matter (PM_{2.5}) has decreased from 30 µg/m³ in 2014 to 26 µg/m³ in 2015 but it is still in exceedance of the Canadian Ambient Air Quality Standards. Alberta Environment and Parks is working with partners including The City to develop a management plan to address these levels in the Red Deer region.

2009 Baseline: PM_{2.5}: 15.9 µg/m³; O₃: 57.5 ppb; SO₂: 0.44 ppb; NO₂: 12.1 ppb; and CO: 0.25 ppm

IN THE WORKS:

Collicutt Centre reduced greenhouse gases by 440 tonnes, mostly in relation to their new Combined Heat and Power (CHP) unit. The CHP unit combines waste-heat recovery technology in producing both heat and electricity for the facility. By using the CHP unit in 2015, the Collicutt Centre reduced their electrical consumption from the grid by 1,613,054 KWh and realized a savings of \$122 895.

CORPORATE GREENHOUSE GAS EMISSIONS:



1.45 tonnes/capita
2014

1.32 tonnes/capita
2015

The City of Red Deer is working on reducing corporate emissions to achieve the 30 per cent emissions reduction target set in the EMP.

2010 Baseline: 1.55 tonnes/capita

2020 Target: 1.09 tonnes/capita

QUIZ #3

How long do you have to warm up your vehicle on cold winter days?

- A 2-3 minutes
- B 5 minutes
- C 10 minutes
- D The longer, the better

ECOLOGY

NATURAL AREAS

2015 TARGET: INCREASE 5% FROM 2009 TO REACH 906 HA

In 2015 The City had 916 ha of land devoted to trees, wetlands and grasslands that exceeds the target of 906 ha.

2009 Baseline: 863 ha

MAN-MADE GREEN AREAS

2015 TARGET: INCREASE 5% FROM 2009 TO REACH 849 HA

Red Deer met the target set for creating and preserving parks, shrub beds and naturalized areas increasing this land to 872 ha in 2015 up from 854 ha in 2014.

2009 Baseline: 809 ha

IN THE WORKS:

Preparing for the Urban Forestry study to begin in 2016. This study will consider topics such as the urban forest coverage, the percentage of area within the city's developed area covered by tree canopy, and the role trees play in our city's natural environment.

INTEGRATED PEST MANAGEMENT TOXIC PEST CONTROL PRODUCT USED:



197 ml/acre
2014

117 ml/acre
2015

The City continues to look at ways to reduce herbicide and insecticide use in our parks and green spaces.

2009 Baseline: 210 ml/acre

2015 Target: 206 ml/acre has been achieved

QUIZ #2

Which plant does the Alberta Government not consider a noxious weed?

- A Creeping Bell flower
- B Dame's Rocket
- C Clover
- D Oxeye Daisy

BUILT ENVIRONMENT

LAND DEVELOPMENT FOOTPRINT

2015 TARGET: DECREASE OF 1%/YEAR FROM 2011 TO 711 M²/PERSON

This is the amount of land each person 'takes up' to live, work, learn, play and travel. Red Deer is meeting its targets with improvements each year, for example growing food locally or living more compactly are ways to reduce one's footprint. 2014 results showed 717 m²/person and in 2015 another drop to 693 m²/person.

2011 Baseline: 741 m²/person

IN THE WORKS:

Timberlands North development includes an innovative new housing type with 75 Single Detached - Carriage House (R1C) lots. The carriage home is a secondary dwelling unit above a rear-detached garage. They provide an efficient use of space, increase density, and reduce the development footprint in the neighbourhood.

LAND AREA USED FOR COMMUNITY GARDENS:



0.21 m²/capita
2014

0.18 m²/capita
2015

The land devoted to urban agriculture and community gardens decreased in metres squared per capita from 2014 which reflects our population growth.

2009 Baseline: 0.4 m²/capita

2015 Target: 0.5 m²/capita

QUIZ #4

Which of the following fruits and vegetables cannot be grown in Red Deer?

- A Apples
- B Figs
- C Asparagus
- D Broccoli

TRANSPORTATION

DWELLING UNIT PROXIMITY TO COMMUNITY AMENITIES

This metric is the percentage of dwellings within 400 metres of amenities that people commonly walk to such as trails, commercial sites, schools and transit stops. The 2015 targets have been achieved for public trails, parks or green space, and transit stops with the measures falling short for proximity to commercial sites and schools. Overall, at this time we have maintained a 24 per cent proximity to amenities.
2012 Baseline: 23%

LENGTH OF TRAIL INFRASTRUCTURE

2015 TARGET: INCREASE BY 5% TO 1 KM:639 PERSONS

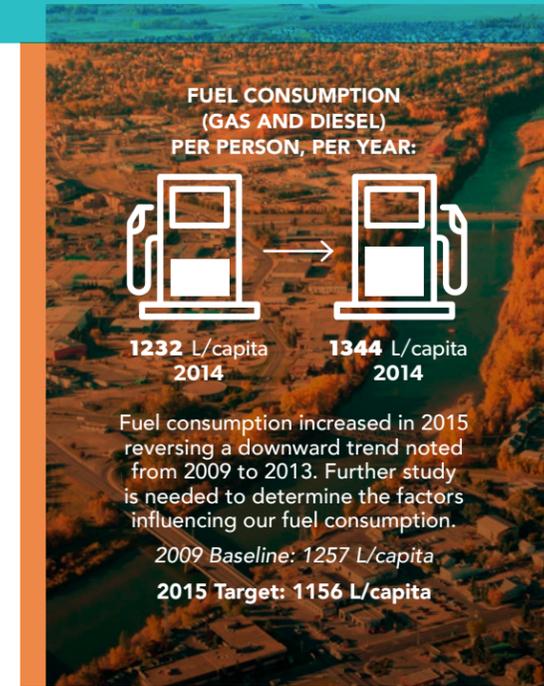
Red Deer has surpassed this target with a cumulative total of 178 km of trails, which equals 1 km of trail for every 566 persons. 2015 showed an increase in multi-use asphalt trails to 112 km up from 108 km in 2014.
2009 Baseline Length of Trail infrastructure: 1 km:672 persons

IN THE WORKS:

In addition to a great trail system, The City continues to work on promoting carpooling and alternative modes of transportation within the community with World Car Free Day and Carpool.ca initiatives.

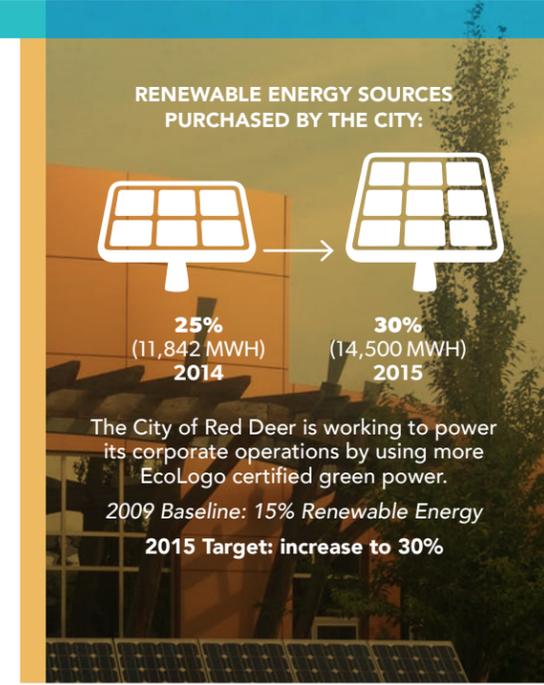
QUIZ #5

- What is Red Deer Transit's regional bus service to Blackfalds and Lacombe called?
- A BLT
 - B The Metro
 - C BOLT
 - D The Green Line



QUIZ #6

- How many solar installations - commercial and residential - were there in Red Deer in 2015?
- A None
 - B 15
 - C 26
 - D 92



WASTE

RESIDENTIAL SOLID WASTE

2016 TARGET: 500 KG/HOUSEHOLD/YEAR

The 2015 figures show a decrease to 619 kg from 656 kg in 2014. The metrics indicate residential garbage has decreased, but is not on track to achieve the short-term target as set for 2016.
2009 Baseline: 641 kg/household/year

OVERALL DISPOSAL RATE

2016 TARGET: 700 KG/CAPITA/YEAR

The 2015 result indicates an improvement from 899 kg/capita in 2014 to 872 kg/capita in 2015. The metric indicates a decrease in the overall disposal rate but the short-term 2016 target has not yet been achieved.

IN THE WORKS:

Green Cart Pilot Program launched April 27, 2015 with approximately 2,000 households receiving weekly collection of organics including yard waste, food waste and pet waste. The pilot program is still running and extensive data is being collected.

QUIZ #7

- How many units of garbage is each household allowed to put out each week?
- A 5
 - B 3
 - C 2
 - D Unlimited



ENERGY

BUILDING ENERGY

2015 TARGET: REDUCTION OF 5% FROM 2012 LEVELS TO REACH 444 EKWH/M²

This measures the amount of energy (natural gas, electricity and diesel) used per unit area to run a building including energy used for heating, cooling, lighting and running appliances/machinery. This measure is for city owned and operated buildings. Data is under review.

IN THE WORKS:

The Community Energy and Emissions Plan was started in 2015 and will work to provide baseline data for energy use and greenhouse gas emissions in the broader community, and recommend ways for the community to lower its emissions through means such as conservation.

QUIZ #6

- How many solar installations - commercial and residential - were there in Red Deer in 2015?
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 - B 15
 - C 26
 - D 92

THANK YOU TO OUR PARTNERS

- | | |
|--|---------------------------------|
| The Red Deer Public Library | Primary Care Network |
| Red Deer River Watershed Alliance | Re-Think Red Deer |
| Waskasoo Environmental Education Society | Green Energy Doors |
| Parkland Airshed Management Zone | Alberta Environment and Parks |
| Red Deer's Community Associations | Carpool.ca |
| Local School Boards | Alberta Bike Swap |
| Red Deer College | The Heart and Stroke Foundation |
| Red Deer Sheraton Hotel | ICLEI Canada |
| NOVA Chemicals | RONA |
| Lafarge Canada | |

1. WATER (A) 10,000 L
2. ECOLOGY (C) Clover
3. AIR (A) 2-3 minutes
4. BUILT ENVIRONMENT (B) Figs
5. TRANSPORTATION (C) BOLT
6. ENERGY (C) 26
7. WASTE (B) 3

QUIZ ANSWERS



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