



OUR ENVIRONMENT OUR ROLE

**2016 REPORT TO
THE COMMUNITY**
ENVIRONMENTAL
MASTER PLAN



LOOKING BACK: 2016 HIGHLIGHTS

The Environmental Master Plan (EMP) was created in 2011 to provide both The City and the community with a road map to improved environmental sustainability. The plan established short, medium and long-term goals and measures in seven focus areas, and set a course for achieving these outcomes. This report focusses on the 2016 results, along with our progress towards the plan's medium-term (2020) goals.

This year marked the conclusion of the Environmental Advisory Committee (EAC). Comprised of citizen representatives and City Councillors, EAC members were ambassadors for the plan and brought attention to important environmental issues. The City thanks all members of the EAC – past and present – for their passion and dedication to environmental stewardship.

LOOKING FORWARD: REFRESHING THE EMP

As a 25-year vision, it's important we take a step back and review the EMP at regular intervals to ensure it continues to be relevant and reflects how the community, technology and trends are changing. In 2017 we began a refresh of the EMP, including the plan's metrics, associated targets and the actions to reach the targets, with the intent of ensuring The City remains on the best path for the community. Public participation – including a Community Engagement Group made up of citizens – will play an important role in the review to ensure the EMP meets the needs of the community.



ENVIRONMENTAL MASTER PLAN AT A GLANCE



SHORT,
MEDIUM AND
LONG-TERM
TARGETS

7 FOCUS AREAS

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

20
METRICS
MEASURED AND
REPORTED ON
ANNUALLY



6
ANNUAL
COMMUNITY
REPORTS

LOCAL,
NATIONAL AND
INTERNATIONAL
PARTNERSHIPS





WATER

POTABLE WATER CONSUMPTION

Since 2009, residential water consumption has decreased from 242 litres/capita/day (L/cap/day) to 191 L/cap/day in 2016. Industrial, commercial and institutional use (ICI) has also shown decreases, from 135 L/cap/day in 2009 to 108 L/cap/day.

2020 TARGET
DECREASE BY 22 PERCENT (189 L/CAP/DAY FOR RESIDENTIAL; 105 L/CAP/DAY FOR ICI).

GETTING THERE

With the help of various initiatives, including our successful residential Rain Barrel Rebate Program, and continued public education on water conservation, we're on track to meet the 2020 targets.

WATER QUALITY

Water quality data collection began in 2012 to assess key points along the Red Deer River and creek tributaries, and 2016 marks the first year that baseline results and targets have been included in the EMP. In 2016, results were: total phosphorus (0.0135 mg/L); total nitrogen (0.410 mg/L); total suspended solids (3.4 mg/L); dissolved oxygen (11.2 mg/L) and E.Coli (11 counts/100 ml).

2020 TARGET
DO NOT EXCEED: TOTAL PHOSPHORUS (0.017 MG/L); TOTAL NITROGEN (0.381 MG/L); TOTAL SUSPENDED SOLIDS (4 MG/L); DISSOLVED OXYGEN (10.4 MG/L); AND E.COLI (9 COUNTS/100 ML).

GETTING THERE

We continue to learn about and implement Low Impact Development (LID) techniques to reduce our impact on waterways, which can be seen in the new Timberlands North neighbourhood, where native vegetation was planted, allowing for improved drainage, more absorption and increased stormwater infiltration.



ECOLOGY

NATURAL AREA AND MAN-MADE GREEN AREAS

In 2016, there was a change in how natural areas (land devoted to natural areas including trees, wetlands and grasslands) and man-made green areas (land devoted to natural features such as city parks, turf areas, shrubs beds and naturalized areas) are calculated: we're now using Yardstick, an internationally recognized benchmarking and measurement system, which is also used by our Parks Department. Other than the change in measurement method, there was no change in these measures in 2016, and we're on track to meet the 2020 targets for natural areas (increase by 10% to 949 hectares) and man-made green areas (increase by 20% to 890 hectares).

INTEGRATED PEST MANAGEMENT

We continue to reduce the volume of toxic herbicide and insecticide use in our parks and green spaces. Since the development of the EMP, the usage has decreased by 42% (ml/acre), and at 121 ml/acre, we've already far surpassed the 2020 target of 199.5 ml/acre.

URBAN FORESTRY

While a baseline and metric are yet to be set for this measure, work got underway in 2016 on an Urban Forest Management Plan with the goal of supporting a healthy, sustainable urban tree canopy; how we define and best measure this will be determined by the results of the plan.



AIR

CORPORATE GREENHOUSE GAS EMISSIONS

Corporate greenhouse gas (CO₂) emissions decreased slightly in 2016 from 1.32 tonnes per capita in 2015 to 1.29 tonnes per capita. While it's good news to see this number trending downward, we still have a lot of work to do to reach the 2020 target.

2020 TARGET
30% REDUCTION TO 0.97 TONNES PER CAPITA.

GETTING THERE

Our Greening the Fleet initiative aims to reduce Green House Gas (GHG) emissions by reducing the environmental impact of our fleet. In addition, implementation of the GHG inventory analysis report, completed and approved by Council in 2013, continues, with an audit of five year results expected in 2017.

AIR QUALITY

We continue to meet air quality measures, with the exception of Fine Particulate Matter (PM 2.5), which exceeded national standards. We've developed a response plan in partnership with Alberta Environment and Parks, and we're proactively implementing initiatives, such as Greening the Fleet, Idle Free Program, regional partnerships (including the BOLT regional bus service), World Car Free Day and other education campaigns, with the goal of meeting or being within the provincial and national air quality standards.



BUILT ENVIRONMENT

LAND DEVELOPMENT FOOTPRINT

Every person has a "footprint", which refers to the amount of land they use to live, work, learn, play and travel in the city. Land development footprint is measured in square meters per person, and while there was a slight increase in 2016 to 699.5 m²/person from 692.6 m²/person in 2015, The City is still making progress in this area.

2020 TARGET
674 M²/PERSON.

GETTING THERE

The Downtown Red Deer's Investment Attraction Plan, approved in 2016, includes recommendations and strategies for developing underutilized sites, including greyfield and brownfield sites.

LAND AREA USE FOR COMMUNITY GARDENS

The demand for urban gardening is growing and we increased the space dedicated to community gardens in 2016, offering 0.23 m²/capita, compared to 0.18 m²/capita in 2015.

2020 TARGET
0.75 M²/CAPITA.

GETTING THERE

This measure will be considered as part of the EMP refresh to reflect the community's needs, including space for community gardening, growing food at home and supporting locally grown food.





TRANSPORTATION

FUEL CONSUMPTION (GASOLINE AND DIESEL)

Fuel consumption continues to be an area where we're falling short of the targets, and we're seeing it increase instead of decrease: since 2009 it has increased by 23%.

2020 TARGET

NO TARGET SET FOR 2020; STILL WORKING TOWARD 2015 TARGET (1,156 L/CAPITA WHICH IS AN 8% REDUCTION FROM BASELINE).

GETTING THERE

Decreasing fuel consumption requires a multi-pronged approach. This is an area we'll be considering as we review the EMP in 2017.

LENGTH OF TRAIL INFRASTRUCTURE

Red Deer is well known for its trail system, and in 2016 the city clocked in with a cumulative total of 190.7 km of trails, an increase from 178 km last year. At a ratio of 1 km to 524 people, we've already achieved the 2020 target of 1 km to every 605 people.

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. Like last year, we've met the targets for public trails, parks or green space (100%), and transit stops (99%), but there's still work to do when it comes to proximity to commercial sites (59%) and existing schools (37%).

2020 TARGET

NO NEW TARGETS HAVE BEEN SET FOR 2020, BUT WE'RE WORKING TOWARDS ACHIEVING THE 2015 TARGETS FOR COMMERCIAL SITES (60%) AND EXISTING SCHOOLS (45%).

GETTING THERE

We're designing more walkable and higher density communities: the carriage homes and live-work zoning in Timberlands North allows more people to enjoy the amenities in the area, and the vision for Capstone at Riverlands puts people first offering great spaces to live, work and play.



ENERGY

BUILDING ENERGY

This measures the amount of energy (natural gas, electricity and diesel) to run City owned and operated buildings, including energy used for heating, cooling, lighting and running appliances/machinery. While the 2016 results (42.3 ekWh/sq.ft and 455 ekWh/sq.m.) show a decrease, the overall results are up from the 2012 benchmark and we aren't on track to meet the 2020 target.

2020 TARGET

20% DECREASE FROM 2012 LEVELS: TO 29.28 EKWH/SQ.FT. AND 314.72 EKWH/SQ.M.

GETTING THERE

We continue to explore options to operate City facilities in a less energy intense, more environmentally sustainable way.

RENEWABLE ENERGY SOURCES

Like last year, 30% of energy used by City buildings was from renewable sources in 2016.

2020 TARGET

40% OF ENERGY UTILIZED IS PRODUCED FROM RENEWABLE SOURCES.

GETTING THERE

We are proud of our solar panels at some City facilities, and continue to explore options for ways to best incorporate renewable energy sources into City operations.





WASTE

RESIDENTIAL SOLID WASTE

We continued to make progress on decreasing the amount of waste generated in our community, and we're on track to meet the 2019 target of 450 kg annually per residence, as set out in the EMP and Waste Management Master Plan. This year saw the implementation of the three unit limit, a food waste campaign, and the continued composting at home campaign, which we expect will contribute to this continued downward trend.

OVERALL DISPOSAL RATE

We're also making progress on the overall disposal rate, which is the total amount of solid waste for all customers in the city. At 799 kg per customer, we didn't achieve the Waste Management Master Plan 2016 target of 700 kg, but we believe we're on track to meet the 2020 target.

2020 TARGET
600 KG PER CUSTOMER.

GETTING THERE

The move to a three unit limit, along with the upcoming Green Cart program, which will roll out city wide in Spring 2018, will help us achieve the 2020 target.

WASTE DIVERSION

Waste diversion is a critical element in helping us achieve our other environmental goals, and we continue to make progress. In 2016, our waste diversion rate, measured as a percentage of waste diverted per year per tonne of waste land-filled, was 16%.

2020 TARGET
INCREASE THE DIVERSION RATE TO 30%.

GETTING THERE

Continued education and initiatives, such as the expanded plastics recycling program, will help us increase our diversion rate.



THANK YOU TO OUR PARTNERS

- Red Deer Public Library
- Red Deer River Watershed Alliance
- Waskasoo Environmental Education Society
- Parkland Airshed Management Zone
- Red Deer's Community Associations
- Local School Boards
- Red Deer College
- Red Deer Sheraton Hotel
- NOVA Chemicals
- Lafarge Canada
- Primary Care Network
- Re-Think Red Deer
- Green Energy Door Open
- Alberta Environment and Parks
- Carpool.ca
- Alberta Bike Swap
- The Heart and Stroke Foundation
- Trout Unlimited Canada
- Green Communities Canada
- Recycling Council of Alberta
- Executive Home Building Centre

**2016 REPORT TO
THE COMMUNITY**
ENVIRONMENTAL
MASTER PLAN



**THREE
QUESTIONS**
HAVE YOUR SAY

AS WE LOOK AHEAD TO THE REVIEW OF THE EMP,
WE'D LIKE TO HEAR FROM YOU ON SOME KEY ISSUES.

GO TO REDDEER.CA/SHAPEOURCITY
(CLICK ON SURVEYS)

AND HAVE YOUR SAY BY ANSWERING
THREE SHORT QUESTIONS. THE FEEDBACK
WILL HELP US AS WE PREPARE FOR THE
NEXT CHAPTER OF THE EMP.