

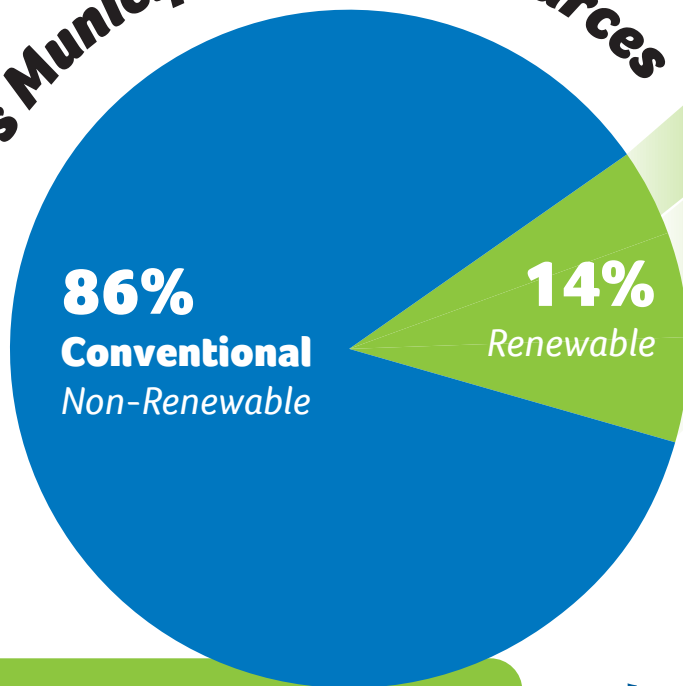
Municipal Operations 2019 Energy and Emissions Inventory

Becoming a Renewable City

Regina City Council voted unanimously for Regina to join the growing number of municipalities around the world and commit to becoming a 100 per cent renewable city by 2050.

The City of Regina will take a holistic approach that focuses on the community's economic, social and environmental health collectively. The City of Regina is committed to being informed by the community at large to develop policies and action plans that support growth, sustainability and build on work that is already being done to achieve its renewable goals.

City of Regina's Municipal Energy Sources



Landfill Gas to Energy 4%

City Biogas 5%

Green from SaskPower 5%

Total Energy Generated:
11,700,000 kWh*

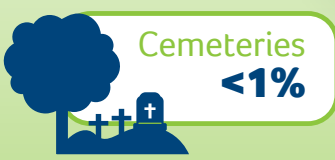
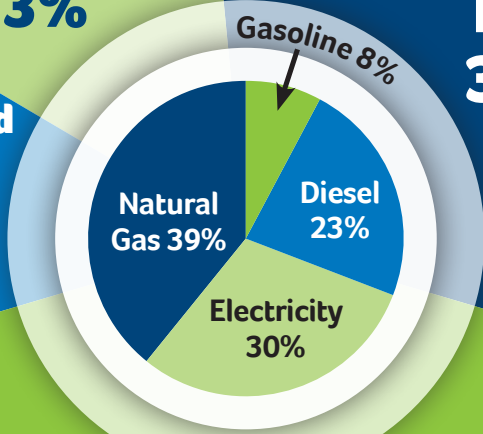
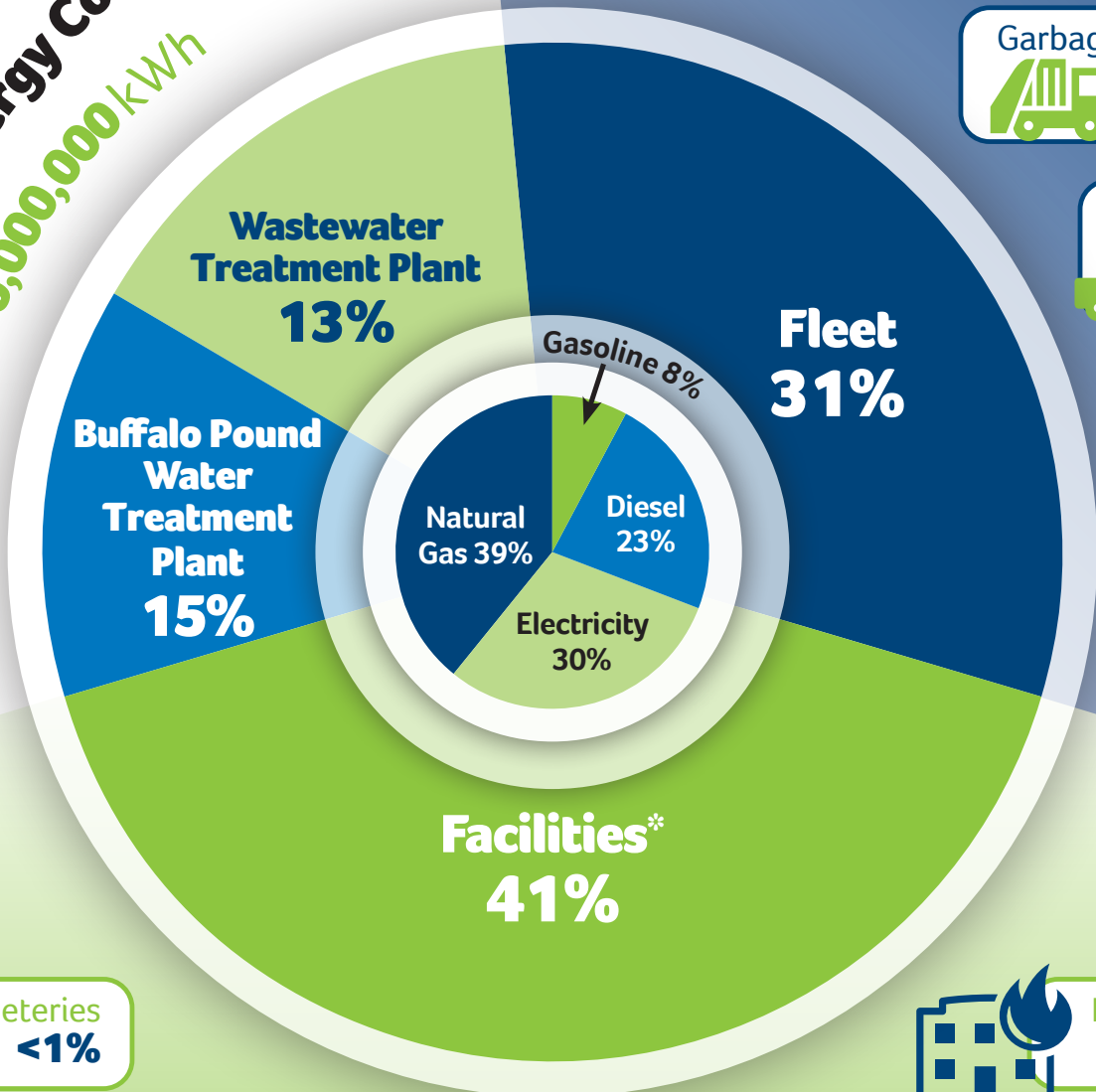
* Reflects municipal operations only

* Equivalent to powering 2,700 homes

2,700

Definition: A renewable city is one whose annual energy consumption is equal to or less than the amount of renewable energy generated or sourced in alternative to non-renewable energy sources.

TOTAL Municipal Energy Consumption:
230,000,000 kWh



*does not include Evraz Place and Mosaic Stadium

Regina's Renewable Journey

The City of Regina's commitment to being renewable by 2050 is reinforced by policies in *Design Regina: The Official Community Plan (OCP)* which outlines a community vision for Regina to be "Canada's most vibrant, inclusive, attractive, sustainable community, where people live in harmony and thrive in opportunity."

As with the OCP, which was developed through extensive community consultation with citizens and stakeholders, community engagement is a vital component to achieving Regina's renewable goal. The first step is the creation of an Energy & Sustainability Framework. This will outline the guiding principles and resulting action plan needed to facilitate greater reliance on renewable sources of energy throughout Regina. The City will seek community input to guide the creation of this Framework and will ensure that the input is representative of Regina's diverse population and interests.

Operationally, the City has continued to advance OCP policies through projects that have reduced emissions, energy consumption and the organization's environmental impact, and which bring us closer to a renewable Regina.



Environment

Goal D2:

"To protect, promote and expand Regina's urban forest and street tree canopy"



Transportation

Goal D3:

"To create sustainable transportation choices"



Infrastructure

Goal D4:

"To design infrastructure that conserves resources and minimizes impacts on the environment"

2019 Municipal Greenhouse Gas (GHG) Emissions From Energy Consumption



Facilities
77%
65,000,000 kgCO₂e

Fleet
23%
19,400,000 kgCO₂e



- Greenhouse gas emission reduction
- Electrical savings
- Natural gas savings
- Money savings

What We've Done So Far:



Regina's Urban Forest

Named one of the Tree Cities of the World, Regina has more than 500,000 hand-planted trees that are responsible for assisting with flood reduction, natural cooling, and removing the CO₂ equivalent of 3,330 mid-sized vehicles from the atmosphere.

12,500 tonnes CO₂e/year



Wastewater Treatment Plant (WWTP)

Designed for efficiency, the new WWTP was completed in 2018. Electrical consumption has been reduced through more efficient pumping equipment. Geothermal energy is the primary source of office space heating in the winter, reducing natural gas usage; and renewable biogas is used to heat the digesters.

2,600,000 kgCO₂e

11,100,000 kWh

1,300,000 m³

\$300,000/year



Fire Hall 4

Received LEED (Leadership in Energy and Environmental Design) Gold Standard certification in 2013. Designed with high-efficiency heating and cooling technology, plus energy efficient doors, windows and lighting installations.

average 10,400 kgCO₂e/year

15,960 kWh average (average reduction from 2013-2019 compared to 2012 consumption)

average \$2,000/year



Landfill Gas to Energy Facility

Since 2017, the City of Regina has operated a 1MW gas engine/generator that uses the methane gas resulting from waste decomposition at the landfill for power generation. This renewable energy source feeds SaskPower's grid and produces revenue for the City.

30,000 tonnes of CO₂e each year or the equivalent of 8,000 cars

7,800,000 kWh, enough to power 1,000 homes

Current Projects:



Transit Master Plan

A Transit Master Plan is being developed that will chart the path forward for the City's transit services, which includes exploring alternative fuel sources and new technologies to improve the overall efficiency and sustainability of the system.



Transit Fleet Maintenance Facility

The Transit Fleet Maintenance Facility will enable the City to deliver expanded transit services to existing and new neighbourhoods. The facility is being designed and constructed to contemporary energy, environmental and sustainability standards to improve the working environment and reduce greenhouse gas emissions.



On-Demand Transit

An on-demand transit pilot project will run from September to December 2020. It will assess route optimization through the use of software that enables transit riders to request service when needed on select routes.



Waste Management Centre

The new Waste Management Centre blends operational, environmental and energy efficiencies between the Solid Waste branches by sharing crew spaces, office support areas and vehicle and equipment storage.



Maple Leaf and Wascana Pools

Energy efficiency and environmental sustainability are a priority for these planned outdoor pools. This will include water conservation features such as filtration systems and low consumption plumbing fixtures, as well as high efficiency heaters, LED lighting, variable speed pumps and solar panels to reduce electricity and natural gas consumption.



Solar Lighting Pilot Project

This five-year project will test LED and solar lights along pathways throughout Regina.



Automated Meter Infrastructure

This technology will help the City and water users to better understand water consumption in real time and to detect and fix leaks sooner. Less unintentional water consumption also means less energy consumed in the treatment and delivery of the service.



Telematics

Data acquired from City fleet through GPS will help improve route efficiency and reduce fuel consumption.



Energy Monitoring and Optimization Infrastructure

The City is initiating a pilot for energy monitoring technology to reduce energy consumption in City facilities. Realtime energy consumption data will help the City identify where and how energy is being used and support Administration in making decisions about how and where to implement change to reduce overall consumption.