

Calgary

A scenic view of the Calgary skyline across a river. The skyline includes the Calgary Tower, several skyscrapers, and a prominent blue glass tower. The river is in the foreground, with a rocky bank on the left and trees with autumn foliage on the right. The sky is blue with light clouds.

2016 Water Efficiency Plan update

Protecting the water
we depend on

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In Calgary's semi-arid mountain climate, we rely on the Bow and Elbow rivers for drinking water, recreation and places to connect with nature and each other. Our regional neighbours upstream and downstream count on these rivers too, as do the thousands of fish and wildlife that depend on water for life.

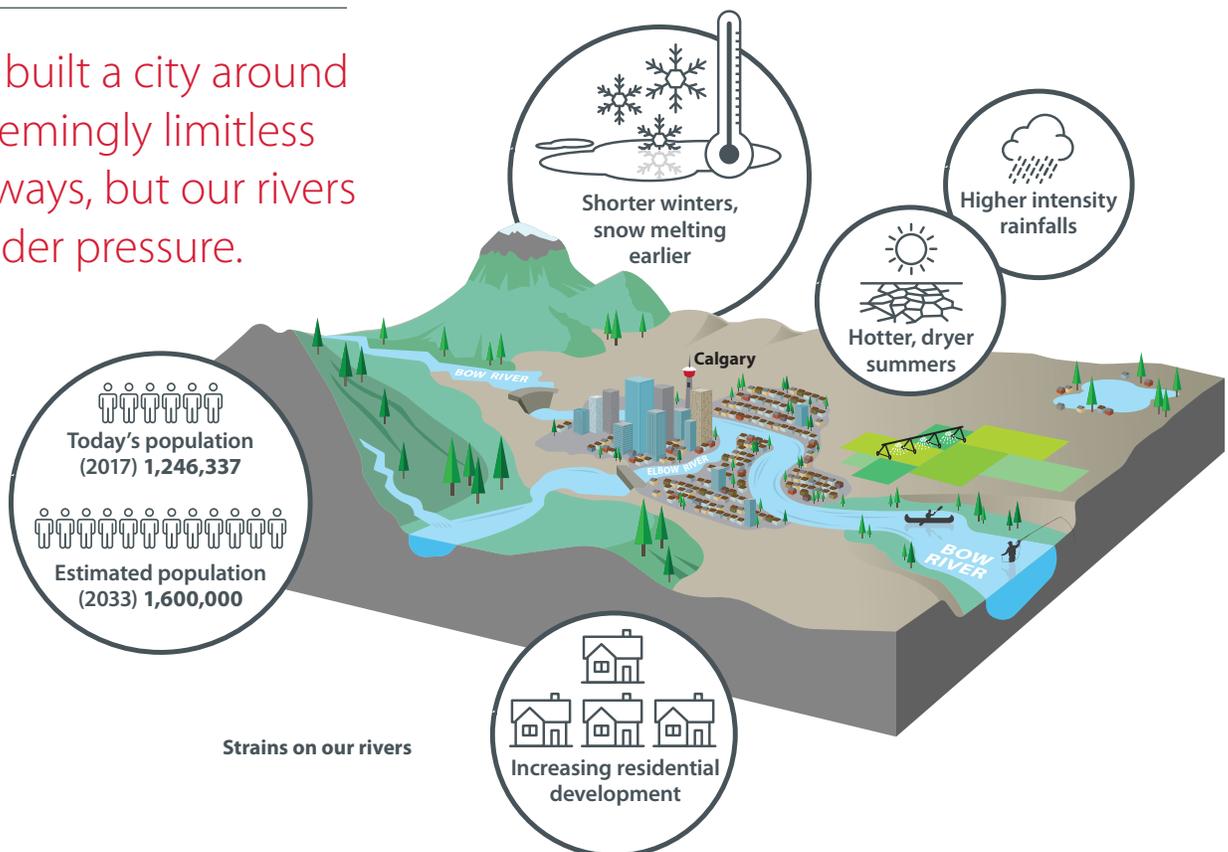
Calgary's rivers are strained by a growing population in and around the city, increasing development, a changing climate of shifting rain and snowfall patterns and increasing periods of hot, dry weather and drought.

Calgarians have been working hard to protect our rivers by using and wasting less water. While we've made great progress, there is still work ahead. This plan celebrates our achievements, and describes the challenges ahead, sharing what each of us can do to protect the rivers that make it possible to call this place home.

From the snow-capped Rockies to the west, vast prairies to the east, and the turquoise rivers winding through, Calgary is a place like no other. Thanks to our semi-arid climate, we are one of sunniest cities in Canada, but we also have some of the most extreme weather too: intense rainfalls deliver much of our rain all at once, snow often disappears with Chinook winds, and our summers are increasingly hot and dry. Living within these extremes requires resilience – be it plants, people or rivers.

Calgary – its landscape, people and character – is unlike anywhere else.

We've built a city around our seemingly limitless waterways, but our rivers are under pressure.



Calgary has evolved around the confluence of two rivers – the Bow and Elbow.

We depend on our rivers to provide a stable supply of drinking water for more than 1.2 million people living in the Calgary region and the businesses that operate here – a number that continues to climb.

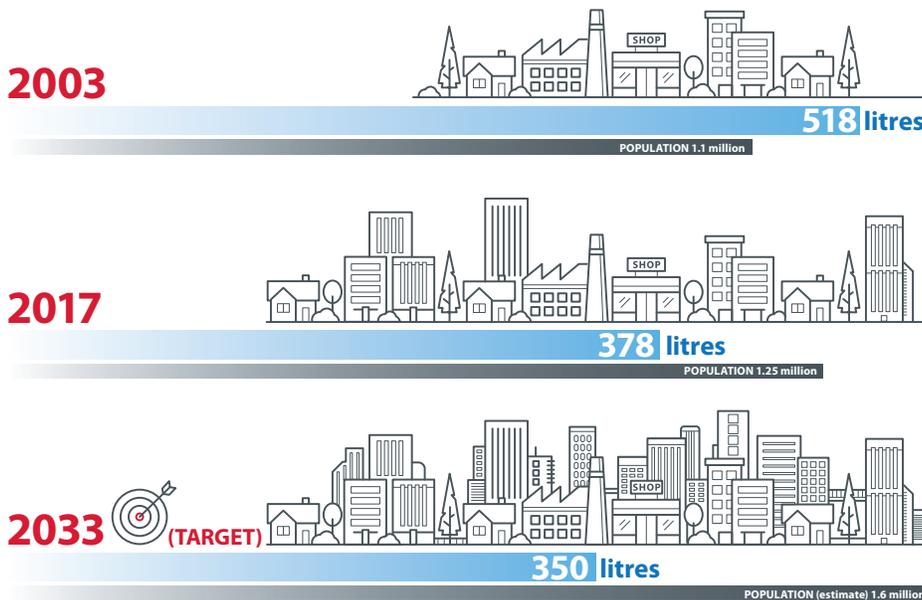
Despite the rising demands for water within Calgary and the region and growth of those communities upstream and downstream of our city, our water supply stays the same. The amount of water we can withdraw from our rivers must remain below 2003 baseline levels of 212.5 billion litres. In addition to water demand, our rivers are faced with greater volumes of stormwater runoff, carrying more sediment and contaminants and increasingly frequent periods of intense drought and flood brought on by a changing climate.

Leading Calgary: 30-in-30 Water Efficiency Plan

Just over a decade ago, we were using more water per person than many other cities in the world.

Our booming population and rapid economic growth placed heavy demands on our water supply, and in 2003, Calgarians were using 518 liters per person, per day, compared to an average Canadian who was using 335 liters per day.

Committed to protecting our water supply, The City developed and approved the 30-in-30 Water Efficiency Plan in 2005 and set the stage for long-term sustainable water management. Our goal is to hold withdrawals from the river steady at 2003 levels, even with population growth. To do this, the plan charted a path of programs and initiatives to reduce water consumption by 30 per cent over 30 years.



Total water used by community = water used by residents, businesses and institutions, as well as water lost through leaks, unaccounted for, or not billed. This total is then divided by the number of people living in Calgary.

Total water use by the community, per person, per day

2016 Water Efficiency Plan update

What is peak day demand and why does it matter?

As the population increases, and our climate experiences shorter winters and hotter, dryer summers, ensuring a stable supply of water for Calgarians, regional communities and those downstream and upstream of our city means we need to pay close attention to our peak day demand.

Peak day demand, which is the day each year that Calgary uses the most water, typically occurs in July or August when we experience a few consecutive days of dry and hot weather. On our peak day, our water usage jumps by 30 to 40 per cent. Meeting this sharp rise in demand each year means The City must develop our treatment, storage and distribution infrastructure to meet our current and future projected consumption needs.

And with the help of Calgarians at the end of 2017, we're on track to reach our goal of 350 litres per person per day. But our work is not done. There is more that we can do to protect our water resources by using and wasting less water.

Calgarians have a deep connection with our rivers. We depend on them for safe, clean drinking water. As special places to spend time with friends and family, our rivers bring us together and help connect us with nature and each other. And there's no doubt that Calgarians are up for the challenge if it means protecting what matters.

It helps keep our rivers healthy. Using and wasting less water reduces the amount of water that we are removing from our rivers. It also minimizes the wasted water that runs off our properties, driveways and roads, carrying contaminants and sediment directly to our waterways. And, it supports the diversity of plants and animals that rely on our rivers for life.

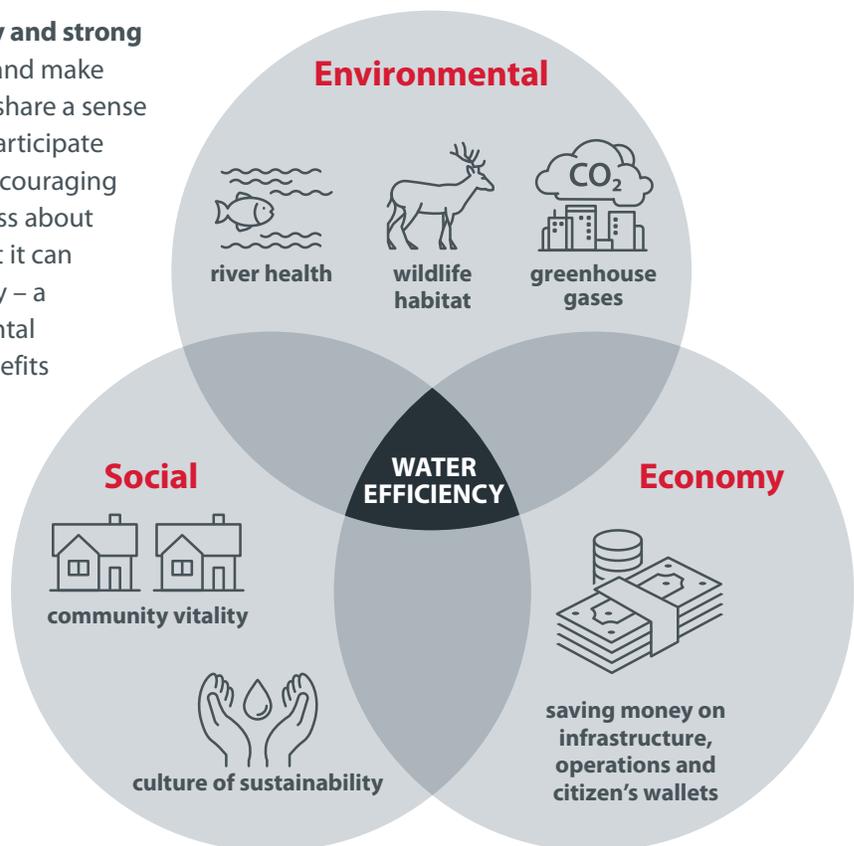
It saves money on treating and delivering water. Treating and delivering water to homes and businesses is an intensive process. Using and wasting less water means we save money on this process which also helps delay the need for costly infrastructure expansion projects.

It helps build a culture of sustainability and strong communities. When we work together and make choices to use and waste less water, we share a sense of community and are able to actively participate in the decisions that impact our lives. Encouraging water efficiency not only raises awareness about the challenges facing our waterways but it can also help foster a culture of sustainability – a kind of enhanced social and environmental consciousness – with wide reaching benefits for our city.

It saves energy. Using and wasting less water means less energy to treat and pump water to and from homes and businesses.

Using and wasting less water is good for our friends, family and businesses, our wallet, our rivers' health and our regional neighbours.

Our rivers – and the security of safe, clean drinking water – matter to Calgarians. Water efficiency helps protect what matters most.



Benefits of water efficiency

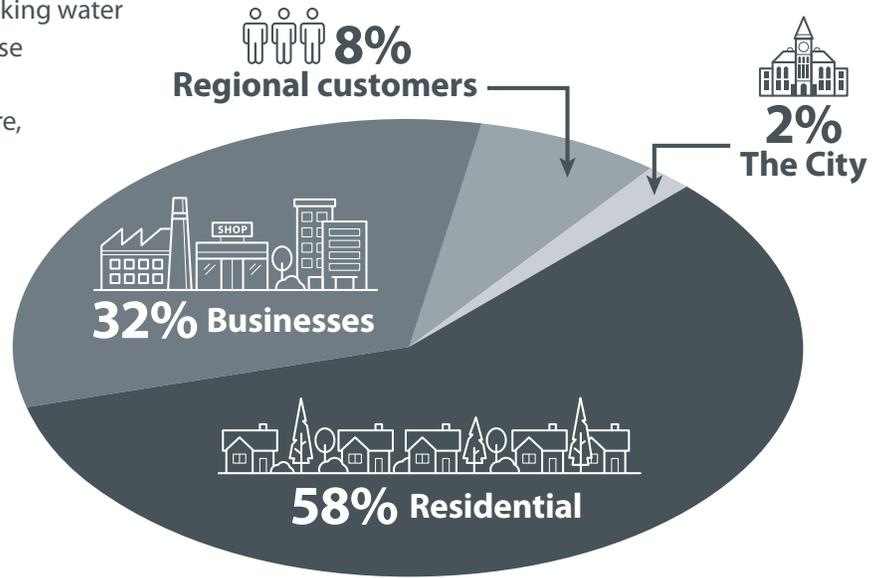
It increases our resiliency to climate change. We will increasingly experience longer and deeper periods of drought as average temperatures increase and precipitation patterns change. Making water efficiency a way of life can help make sure drought is less disruptive to our homes and businesses.

It helps ensure our regional and downstream neighbours have enough. We aren't the only ones depending on our rivers for drinking water – we share these precious resources with regional customers like Airdrie, Chestermere, Strathmore and T'suu Tina, as well as downstream communities including Medicine Hat and Saskatoon.

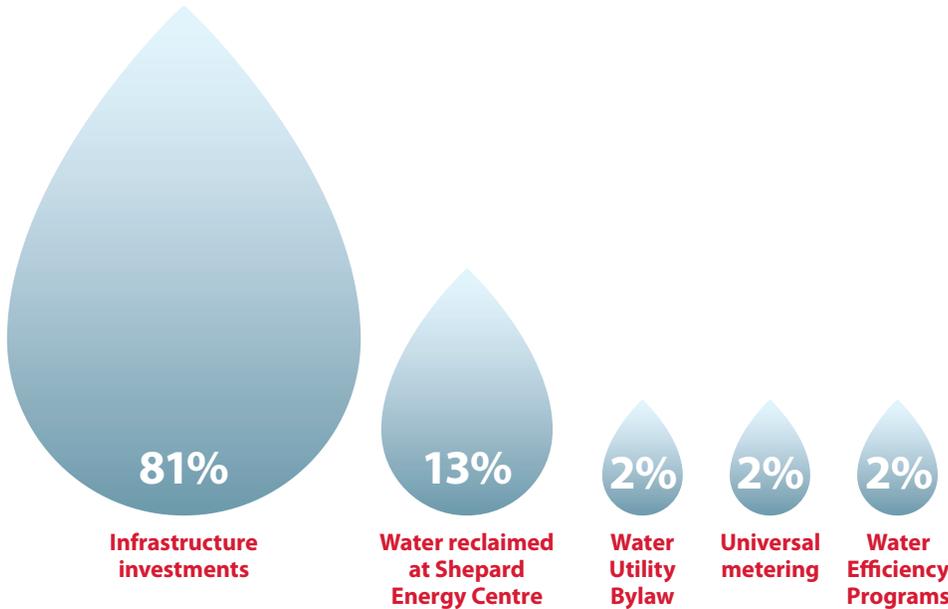
The City of Calgary provides clean, safe drinking water to meet the needs of a diverse customer base including residents, businesses, institutions and regional customers (Airdrie, Chestermere, Strathmore and T'suu Tina).

In Calgary, residential customers make the vast majority of water users and account for 58 per cent of water demand. Businesses, while only making up about 5 per cent of the total water customers in the city, use 32 per cent of the water. The remaining 10 per cent is distributed to regional customers or used by The City in its operations.

We all have a part to play: The City, residents and businesses.



Water demand by customer



Water conservation achievements

Water-efficient technology is a part of what we do.

With our rivers under increasing strain, it's clear that all we all have a role to play in water efficiency.

Calgarians have been steadily reducing water use since 2005, each doing their part to meet our 30-in-30 goal. Nearly 100,000 water-guzzling toilets have been replaced with high-efficiency models through water efficiency programs, water main leaks and breaks are proactively discovered and repaired by City workers, and changes to the Water Utility Bylaw have made water-efficient technology a part of what we do. While we've made significant water conservation achievements and infrastructure improvements, there is more work to be done. We – The City, residents and businesses – must make decisions each day to use and waste less water both indoors and outdoors.

From installing high-efficiency fixtures, to checking for and fixing leaks indoors, to using efficient watering tools that keep water low and slow, to avoid overwatering outside, we can work together to sustain our precious water resources.

The road ahead

In the face of the pressures brought on by a changing climate and a growing city, water efficiency helps keep our rivers – and our community – healthy and resilient, something we know Calgarians care about.

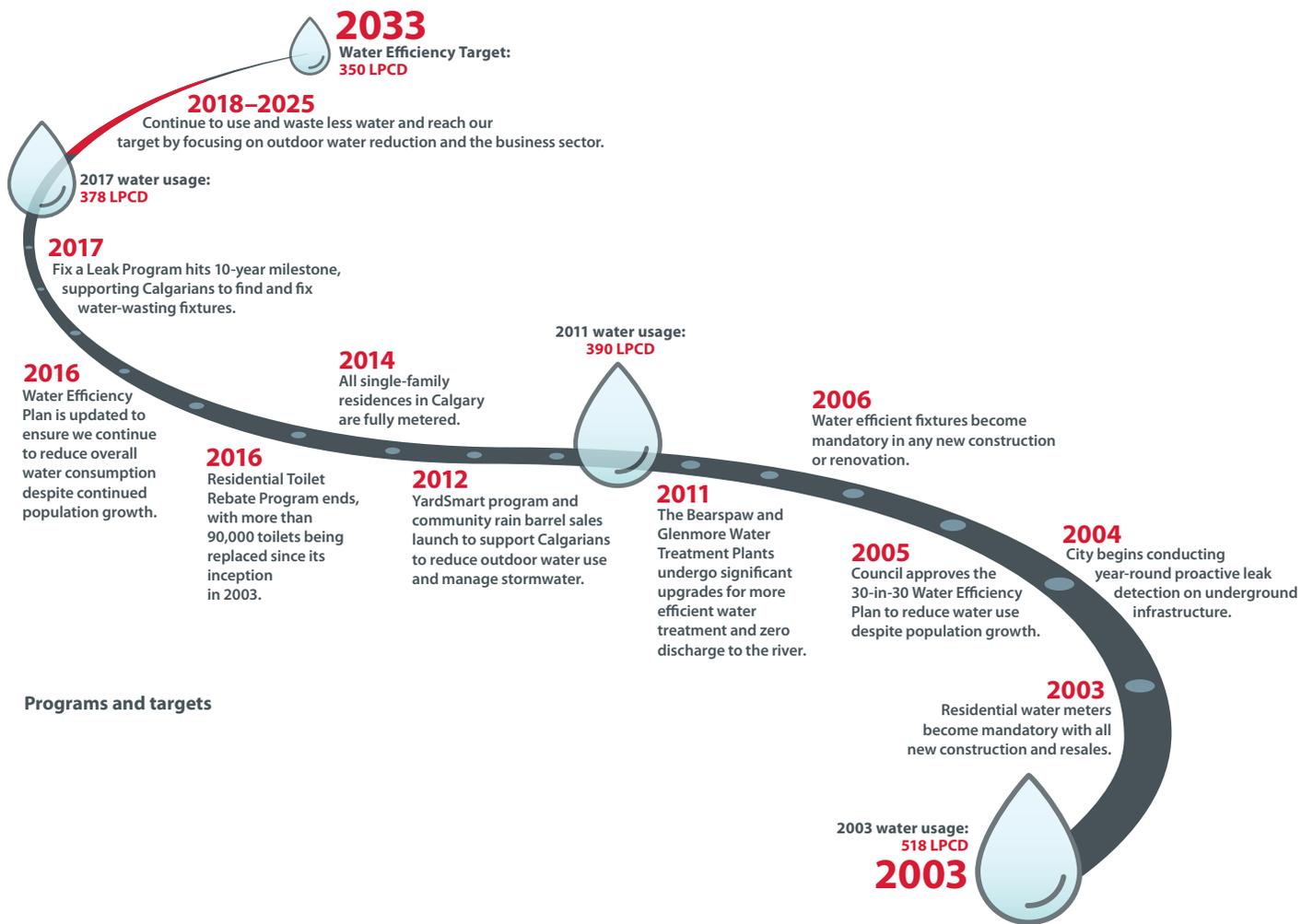
The 2016 Water Efficiency Plan Update reaffirms The City's commitment to protecting our water supply and identifies actions all water users can take to ensure we're always choosing solutions that use and waste less water.

In focus: Water reclaimed at the ENMAX Shepard Energy Centre

Located in southeast Calgary, the Shepard Energy Centre is Alberta's largest natural gas-fuelled power facility. Instead of relying on potable water, Shepard uses reclaimed water for power production, piping it from The City's Bonnybrook Wastewater Treatment Plant through more than 14 kilometres of underground pipes. At full capacity, the cooling towers use approximately 14 million litres of reclaimed water daily.

 The City	 Citizens		 Businesses	
	Indoors	Outdoors	Indoors	Outdoors
<p>Finding and repairing leaks in the water system through the Proactive Leak Detection & Water Main Replacement Program.</p> <p>Improving water efficiency at City-owned facilities by using high-efficiency fixtures.</p> <p>Providing information and offering programs help Calgarians become more aware of their water use.</p>	<p>Find and repair toilets and faucet leaks.</p> <p>Install low flow, high efficiency fixtures and appliances.</p> <p>Only run your dishwasher and washing machine with a full load.</p> <p>Use a garbage for trash (such as tissues and dental floss) instead of flushing them down the toilet.</p> <p>Use your water meter to detect leaks and monitor your water bill to identify abnormally high use that could point to leak.</p>	<p>Replace lawn by planting native, water-efficient plants that thrive in our dry, arid climate.</p> <p>When watering, use the right tool for the job and keep sprinklers low and slow.</p> <p>Watch the weather and only water when necessary.</p>	<p>Check and repair all toilets, fixtures and other water systems that could leak.</p> <p>Conduct a water audit to understand where and how your business uses water.</p> <p>Install water efficient fixtures and equipment.</p>	<p>Replace lawn by planting native, water efficient plants that thrive in our dry arid climate.</p> <p>When watering, use the right tool for the job, and keep sprinklers low and slow.</p> <p>Maintain and optimize your automatic irrigation systems to avoid overwatering and water waste.</p>

Actions we can take to conserve water



Programs and targets

To reach our 2033 target of 350 LPCD, we – The City, residents and businesses – must continue to use and waste less water indoors and outdoors.

Being even more water wise means we can help keep our rivers healthy, build a strong and resilient community, extend the life of our infrastructure and make sure our neighbours have enough. Together, we can protect the water we all depend on.

While we've come a long way, we aren't done.