

OUR CITY. OUR ENVIRONMENT.

EcoVision EDMONTON: REPORT TO CITIZENS

Edmonton's vision for an environmentally sustainable city



A healthy ecosystem is the foundation of a sustainable community. Knowing this, City Council is taking action to protect our environment through *EcoVision Edmonton*.

Edmontonians have many reasons to be proud of their environmental achievements. We're home to North America's largest continuous stretch of urban parkland, a full 460 parks, and among the world's best waste management programs and wastewater treatment facility. We built North America's first LEED (Leadership in Energy and Environmental Design) gold certified police station and are looking to build more. Many civic departments have achieved ISO 14001 environmental certification by passing rigorous third-party audits. All we do will be highlighted on a world stage during the 2009 ICLEI Local Governments for Sustainability World Congress.

But Edmonton continues to face challenges of urban sprawl, automobile dependence and a large ecological footprint. Clearly, there is more we must do. Despite our excellent performance in many areas, we — and our entire region — need to do much more to meet our environmental commitments.

Edmonton is working on the national level, too. The City now leads a working group through the Big City Mayor's Caucus focused on establishing national measurement standards for Canadian municipalities. This group will help all cities come to grips with their impact on the environment and their ability to contribute to emissions reductions overall.

If you're looking for ideas, this report can get you started. If you already have well-developed green habits, it shows you what sort of impact good green practice is having. To all Edmontonians, thank you for all you do to make Edmonton Canada's greenest City!

Stephen Mandel

Mayor Stephen Mandel
City of Edmonton



EcoVision Edmonton is Edmonton City Council's vision for an environmentally sustainable city. This brand represents all City of Edmonton environmental programs and services delivered to citizens.



AIR

Alberta Environment rated our air quality “good” 97.5% of the time in 2007, a marked improvement over decades past thanks largely to today’s cleaner fuels and better motor vehicle emission controls. “Fair” and “poor” ratings, although infrequent, are taken seriously because they often result from ground-level ozone and particulate matter, which can cause health problems at relatively limited exposure.

How are we protecting our air?

- **Regional air quality plans:** In 2007, stakeholders in the Edmonton region began developing two air quality plans. The first will manage particulate matter and ground-level ozone levels in the entire region; the second will address nitrogen oxide and sulfur dioxide emissions from industries in and beyond northeast Edmonton.
- **South LRT extension:** With Light Rail Transit scheduled to reach South Campus in 2009 and Century Park in 2010, ridership is expected to double, shifting more trips away from automobiles.
- **New diesel buses:** Having purchased 231 clean diesel buses to replace more than 25% of our bus fleet, Edmonton Transit expects nitrogen dioxide and particulate matter emissions to drop by 86 tonnes a year.
- **Expanded urban forest:** The City and developers plant 5,000 – 10,000 trees annually that provide a range of environmental benefits, including improving the quality of air we breathe and helping to keep the city cool.
- **Excessive-idling awareness campaign:** Initiatives aimed at reducing motor vehicle idling include a public awareness campaign and a draft bylaw. Expect results on both initiatives before the end of 2008.

What can you do?

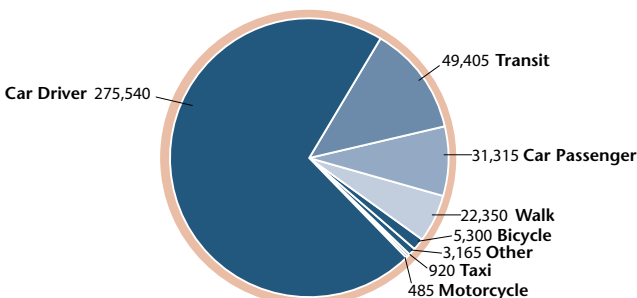
- Make it a habit to take transit or carpool (www.carpool.ca).
- Travel actively, on bike and on foot.
- Choose fuel-efficient vehicles.
- Keep all engines well tuned.
- Don’t idle unnecessarily.
- Have your furnace inspected each year and change filters regularly.
- When building or renovating, use materials and paints containing ultra low volatile organic compounds.
- Plant and water trees.



AIR QUALITY INDEX — EDMONTON

| Air Quality Rating | 2003 % of hours | 2004 % of hours | 2005 % of hours | 2006 % of hours | 2007 % of hours |
|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Good | 95.78 | 97.26 | 99.31 | 96.77 | 97.51 |
| Fair | 4.14 | 2.69 | 0.69 | 3.18 | 2.47 |
| Poor | 0.07 | 0.04 | 0.00 | 0.05 | 0.02 |
| Very Poor | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |

JOURNEY TO WORK 2006: (NUMBER OF TRIPS BY MODE)



At 740,000, Edmonton's population has increased 25% since 1990 and rapid growth has put pressure on our natural areas and agricultural land. During the last decade, three hectares of natural areas were lost for every two protected. During the last five years, nearly 4,000 hectares of agricultural land were rezoned, more than half of that for residential use. Although efforts to avoid urban sprawl are seeing some success, population density remains fairly constant at 18 to 19 persons per hectare in Edmonton's built areas.

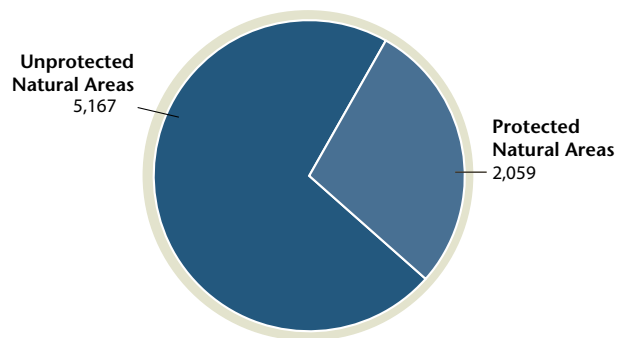
Solid waste management is an important part of protecting our land. Edmonton's residential waste grew 24% in the past decade, largely due to a 21% population increase. Through the efforts of the City and residents, the recycled portion of that waste rose to 18.5%, up from 11.9% since 1997. The City's recycling and composting programs were successful in diverting 60% of our residential waste from landfill in 2007 and we hope to reach 90% by 2012.



How are we protecting our land?

- **Edmonton Area Land Trust:** With just 28% of our natural areas protected, the City took a lead role in developing a multi-partner trust to acquire and preserve natural areas in the region. Our support includes an endowment of \$2.5 million for operational funding.
- **Natural area purchase:** Purchase of a 70-hectare river valley park below the Edmonton Golf and Country Club enables the City to preserve an important ecological corridor of old growth forest and open meadows.
- **Electrical and electronic waste recycling:** A new facility constructed at the Edmonton Waste Management Centre will process 30,000 tonnes per year of old computers, televisions, and a wide range of electronic and electrical waste materials.
- **Biofuel from waste:** Work begins on a facility that will convert waste into methanol and raise the amount of residential waste diverted from landfill to 90%.
- **Eco Stations:** A record number of Edmontonians visited Eco Stations in 2007 to drop off household hazardous wastes, up 25% from 2006.
- **Minimizing herbicide use:** Only 4.5% of parkland turf was treated with herbicide to control weeds in 2007, a dramatic reduction from 51% in 1998.

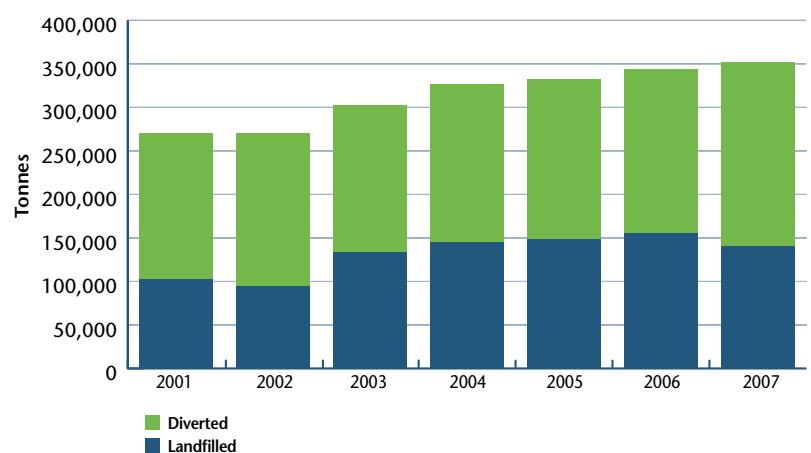
EDMONTON'S NATURAL AREAS 2005 (AREA = 7226 HA)



What can you do?

- Generate less waste.
- Compost food and yard waste.
- Buy reusable, rechargeable, bulk or refillable items.
- Choose non-toxic household cleaning products.
- Use cloth or reusable plastic bags — or none at all.
- Pick up litter when you see it.
- Participate in public hearings on land-use zoning changes.
- Stick to the trails in parks and natural areas.
- Participate in the annual River Valley Cleanup and Capital City Clean Up.
- Landscape with native Alberta plants to protect biodiversity and minimize the need for weed control.
- Mow high to discourage weeds.
- Take household hazardous waste (paint, solvents, cleaning products, batteries) to an Eco Station.
- Take unwanted computers, TVs and electrical appliances to an Eco Station or donate them for reuse.
- Do not use fertilizer herbicide combination products to manage weeds on your lawn.

QUANTITIES OF RESIDENTIAL WASTE LANDFILLED 1997 – 2007



BAG SAVVY SHOPPING. Carry a cloth bag and always keep some in your backpack, bike bag and car. Avoid traditional plastic bags in favour of reusable ones. At the till without a bag? Try carrying your items without a bag.



CLIMATE

Edmonton's annual average temperatures have increased 0.9°C over the past 59 years, with winter and spring temperatures rising the most. A 2007 report by the Intergovernmental Panel on Climate Change concludes that the case for global warming is unequivocal, and many natural systems are already being impacted.

This expert panel points to elevated concentrations of human-caused greenhouse gas (GHG) as the main culprit and warns that, without corrective action, the warming will accelerate. Water scarcity is the greatest risk faced by our province, according to Natural Resources Canada, but we also stand to lose such advantages as cold-winter kill-off of diseases and pests. Climate change is also considered to be a major threat to biodiversity.

In 2001, the City initiated Carbon Dioxide Reduction Edmonton (CO₂RE) with a goal of reducing GHG emissions 20% by 2020. Instead, we are producing greater amounts of GHG, both as a community and per capita. Adapting to and mitigating climate change demands that we take dramatic steps to reduce our reliance on fossil fuels and use water more efficiently.



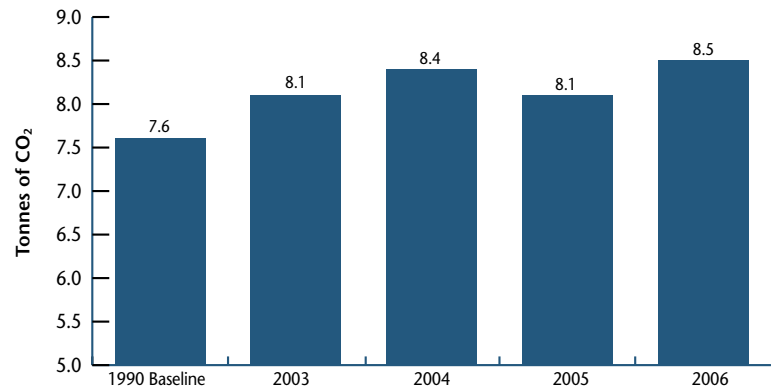
How are we addressing climate change?

- **Incentives to reduce GHG:** During 2007, the City's CO₂RE program offered rebates to encourage purchase of energy efficient furnaces, distributed 10,000 free compact fluorescent bulbs and provided tips for reducing GHG emissions to thousands of Edmontonians through community events and other media.
- **LEED Silver:** City Council has directed that all new and retrofitted civic structures will provide superior sustainability and a rate above standard energy efficiency as defined by LEED (Leadership in Energy and Environmental Design) and other programs.
- **Promoting www.carpool.ca:** Partnership with Trans Canada Carpool.ca to provide online ride-matching encouraged more than 30 major employers and 1,200 individuals to register by early 2008.
- **Conserving electricity at fire stations:** Behavioural changes such as turning off lights when not required, eliminating unnecessary use of overhead doors, unplugging appliances and using air conditioners less reduced electricity consumption at fire stations by 8%.
- **Drought-tolerant turf:** City crews continue to expand the amount of parkland seeded with grasses that tolerate drought.

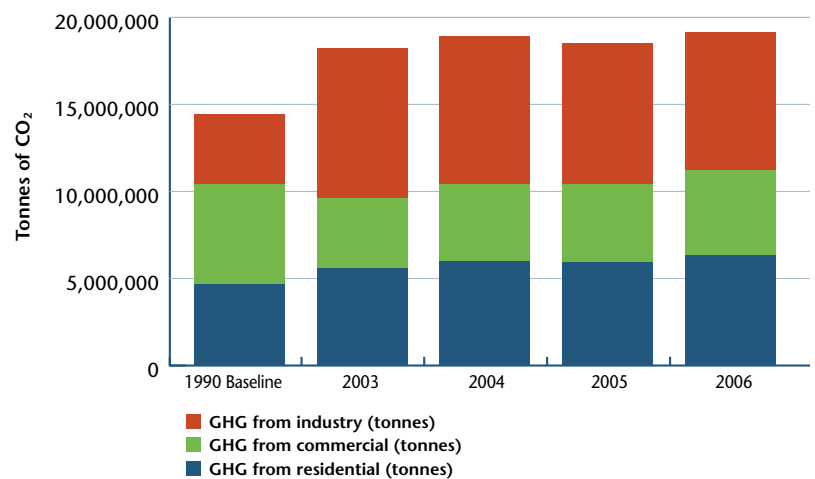
What can you do?

- Get an EcoEnergy Audit and make your home as energy efficient as it can be.
- Install compact fluorescent light bulbs, which use 75% less energy and last 10 times longer.
- Buy local food and products to reduce your footprint and help sustain local businesses.
- Wash in cold water and avoid using your dryer to reduce your carbon footprint as much as 250 kg a year.
- Turn off your computer and unplug appliances when not in use.
- Purchase green energy to encourage the shift away from fossil fuels.
- Join and use www.carpool.ca.
- Choose a fuel-efficient vehicle and keep it tuned up.
- Drive less and avoid idling unnecessarily (10 seconds when parked; 30 seconds when warming up the vehicle).
- Vacation at home! When was the last time you visited Fort Edmonton Park or spent a couple of days hiking the river valley?
- Offset your travel by purchasing carbon credits.
- Take old refrigerators, freezers and air conditioners to an Eco Station or the Edmonton Waste Management Centre.

GREENHOUSE GAS EMISSIONS PER PERSON (FROM RESIDENTIAL SOURCES)



SOURCE OF EDMONTON'S GREENHOUSE GAS EMISSIONS BY SECTOR



DID YOU KNOW? Utility companies estimate that between 8 – 15% of a home's electricity use supports appliances in sleep mode or useless LED indicators. They call it your "phantom load."



WATER

River quality: Protecting the North Saskatchewan River is important because it supplies nearly all of the water used in Edmonton and many communities downstream. Although water quality drops from “good” to “fair” after the river passes through Edmonton and the Industrial areas near Fort Saskatchewan, downstream conditions have improved in the past decade, largely due to upgrades in Edmonton’s wastewater treatment system.

Drinking water: Edmonton continues to enjoy high quality drinking water that is continuously monitored by certified staff and protected by bypass safety measures and UV disinfection. In 2007, our drinking water achieved a quality score of 99.8 out of 100 while home water sniffing tests scored 91.5% satisfaction.

Per capita use: Residential water use in Edmonton averaged 230 litres per person per day in 2007. Historically, our per capita use is below many Canadian cities thanks to city-wide metering and use-sensitive rates, as well as public education and a relatively short summer season. Yet Edmonton has much to learn from such jurisdictions as Germany, the United Kingdom and France, where each person uses about 50% less water.



UV disinfection

How are we protecting our water?

- **Water efficient fixtures:** Bylaw 14571 requires water efficient toilets, faucets, showerheads and other fixtures in all new construction and renovations large enough to require plumbing permits.
- **Primary treatment upgrade:** A new Enhanced Primary Treatment facility at Gold Bar Wastewater Treatment Plant significantly reduces the amount of untreated sewage entering the North Saskatchewan River during wet weather. The facility uses screening, enhanced clarification and UV disinfection to improve bacteria counts.
- **Reduced ammonia in wastewater:** The Gold Bar Wastewater Treatment Plant achieved record-low concentrations of ammonia in its treated effluent in 2007.
- **Fewer combined sewer overflows.** Construction began on a sewer line (Rat Creek River Crossing) that will eliminate most of Edmonton’s remaining combined sewer overflows. The overflows from the older sewers discharge wastewater directly into the river during heavy rainstorms.
- **Reusing Wastewater:** Edmonton is treating about 15 million litres of wastewater every day to a level where it can be used again by industry. This great environmental project is reducing the water demand on the river.
- **Reusing swimming pool water:** City branches and NAIT worked together to reuse 5.3 million litres of water from local swimming pools on local parkland, sport fields and other green areas.
- **Naturalized constructed wetlands:** The City’s constructed wetlands enable the natural filtration of pollutants out of the water, making us less dependent on water treatment and protecting our aquatic ecosystems.

What can you do?

- Use a rain barrel to catch water for plants and/or toilets, ensuring that overflows are directed away from your foundation.
- Install ENERGY STAR® rated water-efficient fixtures.
- Purchase a low flush toilet when making renovations or purchasing a new home.
- Shower for no more than five minutes, turning the tap off while soaping.
- Wash your clothes less; they’ll last longer while you save water.
- Keep a jug of water in the fridge to cool rather than running excess water from the tap.
- Keep chemicals, solid materials and other contaminants out of storm drains or manholes.
- Do not wash your car at home, where contaminants flow into the river.
- Do not litter or drop cigarette butts on the ground to be washed into the river.
- Avoid applying weed killers when rain is in the forecast.
- Don’t flush unused prescription drugs, personal care products or cleaning chemicals. The wastewater plant cannot remove many of these, and they end up in the river.
- Reduce or eliminate the use of pesticides and fertilizers where possible.



DRINKING WATER QUALITY

| Water Quality Indicator | 1997 | 2003 | 2004 | 2005 | 2006 | 2007 |
|--|------|------|------|------|------|------|
| Drinking Water Quality Index (out of 100) | 99.5 | 99.6 | 99.7 | 99.8 | 99.8 | 99.8 |
| Home Water Sniffing Per Cent Satisfaction | 91.5 | 96.3 | 95.5 | 96.5 | 94.8 | 91.5 |

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