



**CLIMATE
ACTION** WR

Our Progress, Our Path

An Update on Waterloo Region's Community Carbon Footprint

MESSAGE FROM THE MANAGEMENT COMMITTEE

More than three years ago, our community set out to chart a course for living smarter in 2020. Collectively we proposed to reduce our community's greenhouse gas (GHG) emissions to 6% below 2010 levels by 2020. A Climate Action Plan for Waterloo Region provided a foundation for action from private, non-profit and municipal leaders to support that goal. This report marks the halfway point toward 2020. It outlines changes in our community's carbon footprint between 2010 and 2015, and promotes further action by sharing opportunities for community members and local organizations to contribute to reaching our target by 2020. We believe this target can be reached on the path to creating a better future for Waterloo Region.

As you read this report, we hope you see this as your story – our community's story. It is up to each and every one of us to chart our path forward while learning, collaborating, innovating, and growing towards a more sustainable future.

ClimateActionWR Management Committee

Sarah Brown
City Of Kitchener



Anna Marie Cipriani
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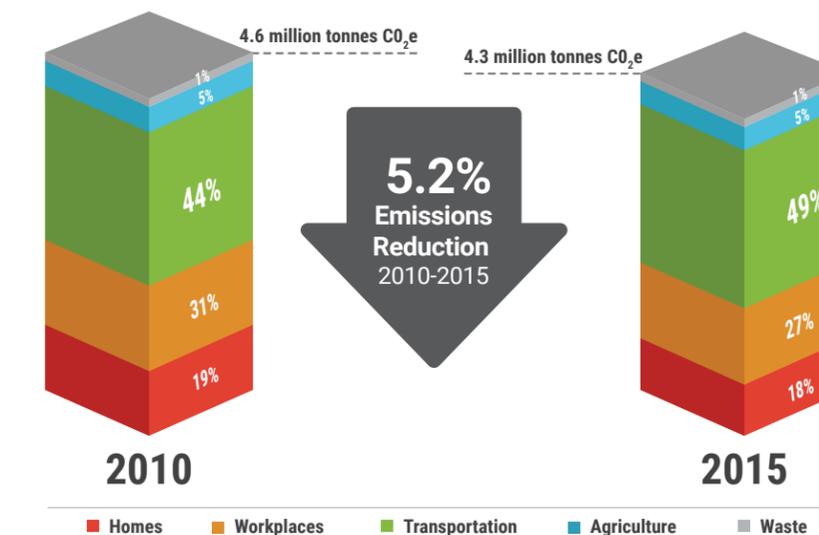
Paul Willms
City Of Cambridge



We have witnessed a reduction in GHG emissions of 5.2% between 2010 and 2015, equivalent to 235,935 tonnes of CO₂e, or 58,000 cars being taken off the road.

From 2010 to 2015: Changes in Our Community Carbon Footprint

When creating the Climate Action Plan, we completed a community-wide GHG emissions inventory and forecast for Waterloo Region for the year 2010. It identified our carbon footprint: the amount of GHGs the community of Waterloo Region emits. We have completed another inventory, this time for the year 2015, to compare with our 2010 footprint and to measure our progress towards our 6% reduction target. Over the last six years, our community has experienced upward pressure on our carbon footprint from growth in population and employment, and more vehicles on our roads. Despite this pressure, our carbon footprint has decreased, demonstrating that achieving economic growth and reducing emissions can go hand in hand. When our local efforts are combined with the impact of the provincial phase-out of coal-fired electricity generation, we see that our community has made significant progress towards our 6% reduction target.



What is CO₂e?

Carbon dioxide equivalent (CO₂e) is a term used to describe different greenhouse gasses in a common unit. Greenhouse gasses, like methane (CH₄) and nitrous oxide (N₂O), each have different impacts on climate change. For example, 1 tonne of CH₄ has the same impact on climate change as 25 tonnes of CO₂, so it is expressed as 25 tonnes of CO₂e.

WHO ARE WE?

ClimateActionWR is a collaboration focused on supporting actions and developing new opportunities that will lead to a reduction in local GHG emissions. Together, with community members and local organizations, our vision is to achieve a community-wide GHG reduction target of 6% below 2010 levels by 2020, while supporting local economic development and a higher quality of life throughout the region.

Why Take Climate Action?

We asked local community members and organizations what motivates them to take action on climate change, and what actions they have taken to support our community target.



"Taking action on climate change to me means making choices that reduce energy and material waste. That means constantly asking, 'Do I need to make this car trip?' and 'Is there a way to do this without driving?' It means making life and lifestyle choices that increase the opportunities to walk and cycle to work, to school, and to shop."

Gordon Hatt, *Executive Director*
Contemporary Art Forum Kitchener and Area



"Tackling climate change is important to me because I really care about future inhabitants of earth. Even though the impact of climate change is small now, it doesn't mean it won't grow. At school my class is doing some things to help reduce energy use, such as turning down the heat, not using the smart board as much, and opening up the window blinds. My long term goal is to increase the production of renewable energy."

Kari Richards, *Grade 3 Student*
Mary Johnston Public School



"A cleaner, brighter, and sustainable future is what drives Energy+ to collaborate with its customers and community partners on a daily basis. The Energy+ team has helped hundreds of local businesses embrace the latest energy conservation technologies, and it will continue to offer ideas, solutions and value-added services that will benefit the community for the foreseeable future."

Ian Miles, *President & CEO*
Energy+ Inc.



"The City of Kitchener has a proud history of being responsible stewards of environmental management and our citizens have told us that this matters to them. This has led to a significant portion of our strategic plan being dedicated to deliver on actions that create a sustainable environment and sustainable infrastructure. As citizens migrate to cities there is an opportunity to invest in a sustainable legacy and reduce climate risks for future generations."

Justin Readman, *Interim Executive Director*
Infrastructure Services, City of Kitchener



"It's imperative we participate in climate action on a local level in order to make the younger generations' voices heard. By giving youth in the region the tools and support to take climate action locally through Sustain-a-City, we empower a future generation of change-makers to make our communities more resilient against climate change."

Katarina Milicic, *Founder*
Sustain-A-City

Climate Action: Waterloo Region & Beyond

Momentum is building as the call for climate action transcends political ideologies, and provincial and national jurisdictions. Many jurisdictions have set forward plans and targets and although each may be different, they are all mutually supportive to achieving a common goal of reducing GHG emissions globally.



Paris Agreement

Ratified by more than 143 nations to date, the Agreement unites nations in a common cause to curb emissions and limit global temperatures from rising more than 2°C above pre-industrial levels.



Pan-Canadian Agreement on Clean Growth and Climate Change

This agreement recognizes that action on climate change requires cooperation and collaboration across jurisdictions. It outlines nationwide actions, including pricing carbon, net-zero building codes, supporting zero-emission vehicles, and supporting Canadian cleantech innovation and entrepreneurship.



Ontario's Climate Change Action Plan

This is a five-year plan to reduce GHG emissions and transition toward a low-carbon economy. The plan lists diverse actions including funding for active and public transit, supporting the adoption of low-carbon technologies in businesses, and home energy audits at time of sale.



Partners for Climate Protection (PCP)

Waterloo Region is among 300 Canadian municipalities that have made commitments to reduce GHG emissions. These collective efforts show leadership and contribute to our provincial, national, and international targets because up to half of Canada's GHG emissions are under the control or influence of municipalities.



Climate Town Hall WR

More than 300 community members participated in roundtable discussions, sharing their strong desire for individuals, governments and organizations to take action collectively on climate change.

How We Help You Take Action

ClimateActionWR offers support to organizations whose actions are reducing GHGs in Waterloo Region and operates three committees that support community action in the areas of transportation, workplaces, and homes. These committees are comprised of experts and dedicated community members who act as connectors and catalysts to accelerate progress towards our community's GHG reduction target. They represent a vast resource of local knowledge that can be leveraged to support your efforts.

Types of Support

- cross-promotion
- public endorsements
- delegations of support
- linking your efforts to our community's target
- letters of support
- a collaborative network of those working on interrelated projects
- customized approaches to fit your needs

INDIVIDUAL EFFORTS, COLLECTIVE IMPACT: A TIMELINE

The Importance of a Network

Many organizations, programs and activities are helping to mitigate Waterloo Region's climate change impacts. This forms a network of people who believe that Waterloo Region can achieve the vision of a smaller carbon footprint while supporting a strong and competitive local economy and a higher quality of life. This growing local network learns from, supports and inspires each other. The ways to get involved and make a difference are endless. Where do you see yourself in this network right now and in the future?



Energy+, Kitchener-Wilmot Hydro and Waterloo North Hydro conservation programs saved businesses and residents 290 GWh of electricity between 2010-2014

Reep House for Sustainable Living opens to showcase energy and water innovations that any homeowner can adopt

Conestoga Mall installs first public electric vehicle charging outlet in the region



2011

Community-scale GHG inventory gives us our emissions baseline

Regional Carbon Initiative welcomes its 50th member, with 45,000 tonnes of CO₂e committed across its membership

Official collaboration between partners forms ClimateActionWR

Region of Waterloo and Sustainable Waterloo Region pilot TravelWise



2013

TravelWise becomes a permanent program and launches new online carpool matching and trip planning tool (gotravelwise.ca)

Community CarShare pilots a Quantum Delivery Program to extend access to their service with vehicle delivery by request

Construction begins on the region's first Light Rail Transit (LRT) system



2015



Regional Carbon Initiative expands to become the Regional Sustainability Initiative

TravelWise sets a 5% drive-alone reduction target for 2020

279 electric vehicles in community

Community CarShare expands to Cambridge

Community CarShare reaches 3,000 lifetime members

Energy+, Kitchener-Wilmot Hydro, Waterloo North Hydro and Union Gas launch a Smart Thermostat Pilot for small business

Home Reno Rebate returns and offers both Union Gas and Kitchener Utilities customers rebates of up to \$5,000

City of Waterloo measures over 1.3 million active transit trips along their High Priority Active Transportation Network

2017

University of Waterloo Environment & Business students research climate action plans in cities across Canada

2010



City of Kitchener Operations Facility built to LEED Silver Standard includes Canada's largest solar roof

The Working Centre launches Community Access Bikeshare as a pilot with 32 bikes and 7 stations

2012



City of Waterloo sets 6% GHG reduction target for their corporate operations

Region of Waterloo sets 10% GHG reduction target for their corporate operations

City of Cambridge sets 6% GHG reduction target for their corporate operations

Under the Save on Energy Home Assistance Program, Reep Green Solutions provided 5,173 households and social housing units with audits between 2012-2015

Unanimous approval of our community Climate Action Plan and target by our local City and Regional Councils

70 electric vehicles in community

2014



Veriform becomes first Regional Carbon Initiative member to become carbon neutral

Community Access Bikeshare grows to 9 stations and over 150 members

Energy+, Kitchener-Wilmot Hydro and Waterloo North Hydro were assigned energy conservation targets to achieve 273 GWh of electricity savings in the community by 2020

Reep Green Solutions launches Home Energy Coach service

Sustainable Waterloo Region, the Cora Group, EY Canada, and the David Johnston Research + Technology Park start working together toward the common vision for a leading-edge sustainable building in Waterloo

30th public electric vehicle charging outlet is installed in the region

2016



Community CarShare's Quantum Delivery Program continues with a partnership with local bike courier Eco Couriers

Over 42,000 streetlights will be converted to LED throughout the region

Through EnerGuide Rating System evaluations, Reep Green Solutions participants reduced an estimated 12,652 tonnes of GHGs through their more than 5,000 home retrofits since 2010

The Cora Group begins construction of Canada's largest net-positive multi-tenant commercial building, evolV1

Community Access Bikeshare launches season with 14 stations and new "on demand" stations at the University of Waterloo and two other locations in Uptown Waterloo

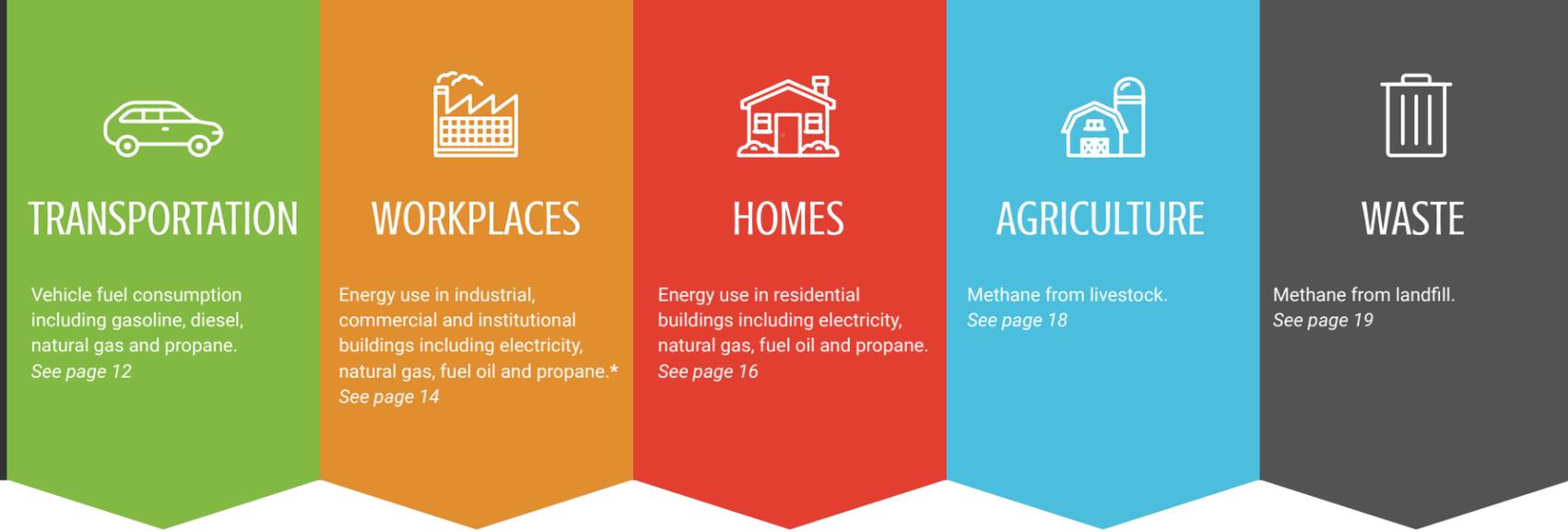
City of Kitchener sets 8% GHG reduction target for their corporate operations

ANALYSIS OF OUR RESULTS

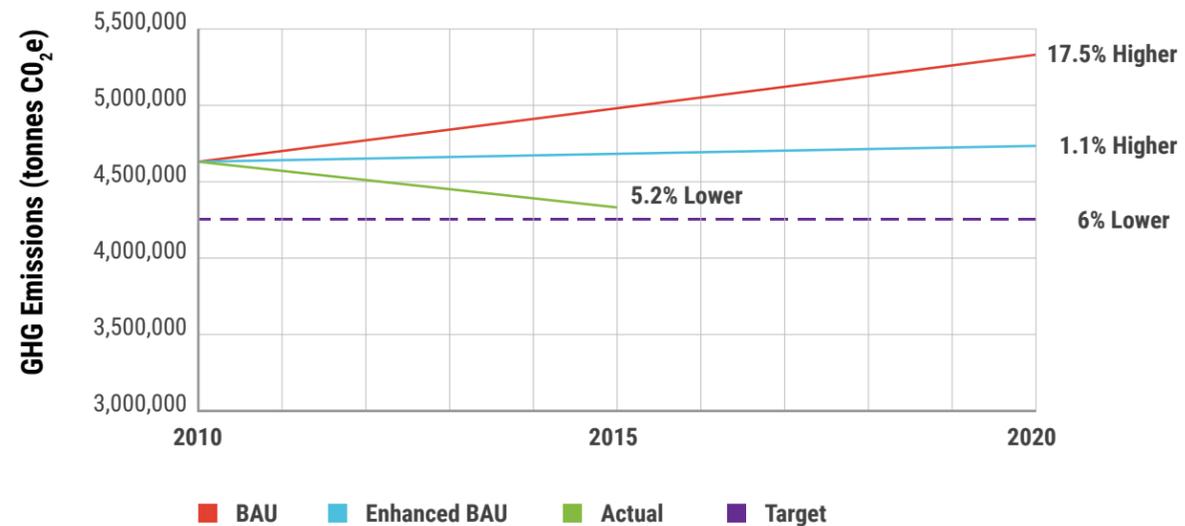
Our Climate Action Plan described two trajectories our emissions could take if we did not commit to local action. The first, Business-As-Usual (BAU), would result in emissions being 17.5% higher by 2020. The BAU projection assumed that no local, provincial or other macro-economic actions would be implemented, and that population

would grow as projected between 2010 and 2020. The second, Enhanced BAU, recognized that coal would be phased out of the electricity grid and that vehicle fuel-efficiency standards would improve, while still assuming that no local action would take place. Taking those external factors into consideration we expected emissions to increase 1.1% by 2020.

Our current results are below Enhanced BAU. Community conservation efforts, improved energy efficiency and moving to lower emission vehicles have had a measurable impact on our community's carbon footprint. These efforts, along with a cleaner electrical grid, have offset a portion of the expected increase in emissions from population growth.



GHG Projections, Target and Actual Results



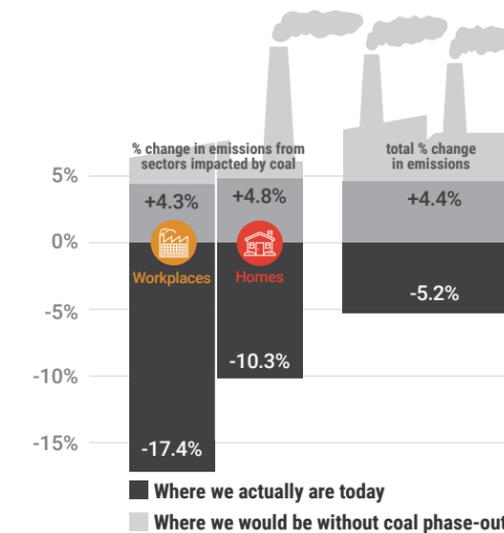
Although we are approaching our 6% reduction target, **there is still work to be done.** In 2015, emissions were 5.2% lower than 2010 levels and this reduction occurred during a period of growth in population, households, and employees in the region. Reducing emissions during a period of growth is commendable. In order to maintain our current progress and reach our 6% reduction target, our consumption of fossil fuel must decrease, regardless of the population and economic growth to come. As a community, we have many tools, resources, and strengths to achieve such reductions and some of them are reflected in this report. We encourage you to take a look to see what you can do to contribute to our collective impact.

Five Focus Areas

Throughout this report, and in the Climate Action Plan, emissions are divided into five focus areas (listed above).

The Impact of Coal Phase-Out

Ontario phased out coal-fired electricity generation between 2010 and 2015, decreasing GHG emissions from electricity by more than 60%. Without this change in the electricity supply, total GHG emissions in our community would have been 4.4% higher in 2015 than in 2010. It is important to note that, although the coal phase-out is a major contributor to the GHG reductions we have seen in workplaces and homes, local conservation efforts also contributed to the GHG reductions in electricity. Local efforts to conserve electricity through smarter usage and improved equipment efficiency have made a positive impact, allowing us to curb the growth of our carbon footprint while increasing our local population and employment.



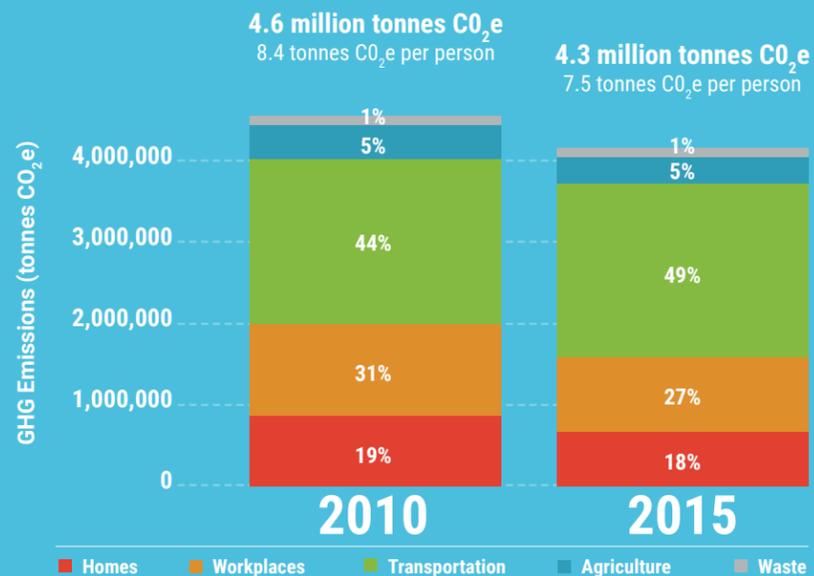
Changes to the Carbon Footprint Methodology

As part of the inventory process, the original baseline carbon footprint has been updated because of several improvements to the inventory methodology. When these improvements were applied to the 2010 baseline, the total emissions in our community changed from 3.6 to 4.5 million tonnes of CO₂e and from 6.7 to 8.4 tonnes per capita. The updated methodology also resulted in a slight variation in the split between our five focus areas. Complete details of the methodology and associated changes are outlined in an Inventory Data Management Manual available at www.climateactionwr.ca.

OUR COMMUNITY'S PROGRESS

Between 2010 and 2015, our community experienced a **5.2% decrease** in our carbon footprint, equating to a **reduction of 235,935 tonnes CO₂e**, or the equivalent of taking **58,000 cars** off the road.

Reductions in emissions related to workplaces and homes are responsible for most of this decrease, as local efforts to improve efficiency and reduce consumption have complemented the impact of the provincial phase-out of coal from our electricity grid. Countering these reductions, local transportation emissions grew substantially as vehicle ownership rose at twice the rate of population growth and resulted in more vehicles on the road per person than in 2010.



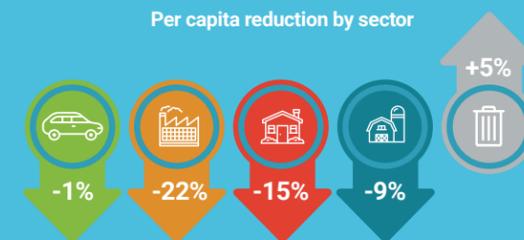
Total Results



A reduction of **-235,935 Tonnes CO₂e**



Per Capita Results



Impact of Coal on GHGs

If coal had not been phased out, our community would have experienced a **4.4% increase** in emissions between 2010 and 2015.



What produces 1 Tonne of CO₂e?

19

Round trips to Toronto in a gasoline powered car

4

Plane trips from Toronto-Montreal round trip

3

Months of natural gas consumption in the average home

Did you know...

It would take a forest 5 times the land area of Waterloo Region to capture the community's annual emissions.

What is CO₂e?

Carbon dioxide equivalent (CO₂e) is a term used to describe different greenhouse gasses in a common unit. Greenhouse gasses, like methane (CH₄) and nitrous oxide (N₂O), each have different impacts on climate change. For example, 1 tonne of CH₄ has the same impact on climate change as 25 tonnes of CO₂, so it is expressed as 25 tonnes of CO₂e.

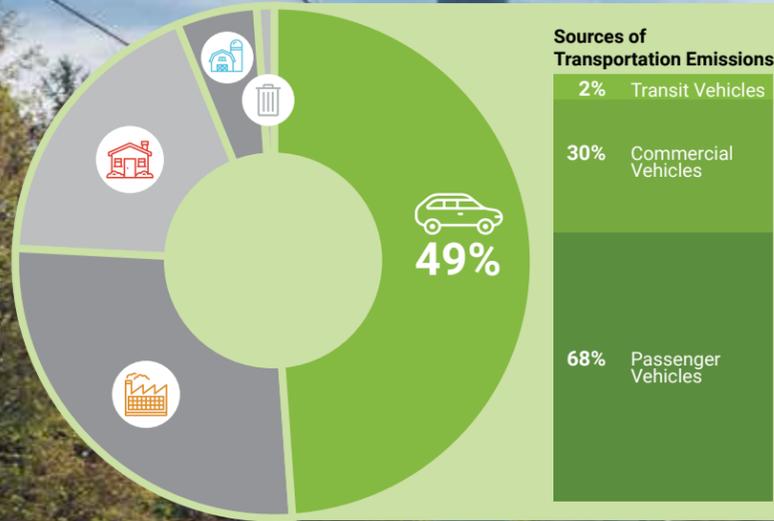




FOCUS AREA: TRANSPORTATION



Change In GHG Emissions 2010-2015



Our Progress on Transportation Emissions

Given that almost half of our community's 2015 emissions are caused by how we move people and goods, transportation represents the largest challenge – and opportunity – that we face in achieving our emissions reduction target. Transportation emissions rose by 5% between 2010 and 2015, while vehicle ownership rose at twice the rate of population growth. Personal vehicles represent a staggering 78% of that increase as a variety of factors have made personal vehicle ownership more appealing, including lower fuel prices and interest rates. Despite this growth in ownership, the fuel efficiency of vehicles improved, helping to reduce transportation emissions per capita. A number of actions and investments in alternative transportation emissions have been made in our community. The completion of the ION Light Rail Transit system is expected to make it easier to use active and public transportation, and higher fuel prices are expected to encourage buying of fuel-efficient or even electric vehicles. In order for these actions to succeed, a surge of uptake and support by community members is necessary.

What You Can Do

Start here:

- ✓ **Green your commute:** commit to walking, cycling, carpooling, taking public transit or telecommuting at least one day per week
- ✓ **10-second rule:** turn off your car if you are going to be parked for more than 10 seconds
- ✓ **Show support:** encourage your local municipal government to prioritize active transportation investments

Keep going...

- ✓ **Buy a comfortable bike:** If you like riding it, you'll use it more often
- ✓ **Join TravelWise:** encourage your employer to join TravelWise so you can receive supports to green your commute

Challenge yourself:

- ✓ **Right-size your vehicle:** buy the smallest, most fuel-efficient vehicle to meet your needs, and save on fuel costs
- ✓ **Go electric:** test-drive an electric vehicle and learn about incentives and charging infrastructure from ChargeWR
- ✓ **Become a 1 or 0 car household:** reduce your household costs by giving up a personal vehicle and try out Community CarShare to help you transition

Local Action



ION Light Rail Transit

A significant part of the Regional Transportation Master Plan includes the development of the ION rapid transit line, which will be in operation by 2018. ION ridership is expected to increase from 27,000 passengers per day to 56,000 passengers by 2031 as the population grows.



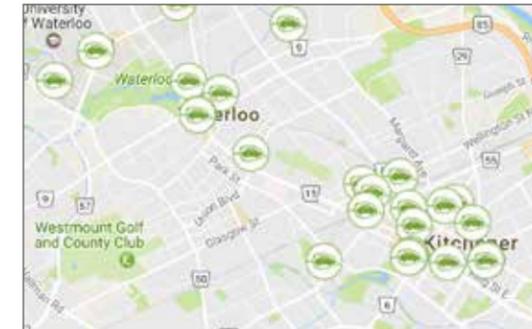
TravelWise

TravelWise provides organizations with tools and services to reduce the number of employees driving alone to work. The program includes discounted Grand River Transit passes, an online carpool matching tool, and annual reporting and recognition. TravelWise is currently offering workplaces located in Cambridge free memberships until the end of 2018!

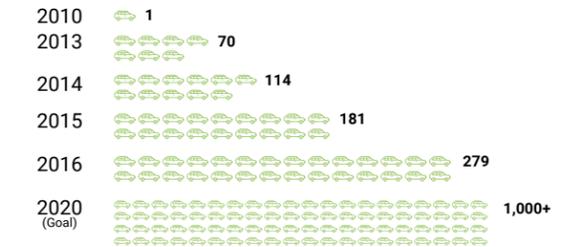


Carsharing

The growing network of vehicles available from Community CarShare (below) provides an affordable and hassle-free alternative to owning a car. Carsharing is a lower cost alternative to satisfy your driving needs, and studies have shown that carshare members drive less.



Number of Electric Vehicles in the Community



Electric Vehicles (EVs)

EVs are emerging as a popular vehicle in Waterloo Region with up to \$14,000 available in incentives to buy an EV. ChargeWR reports that we are on track to surpass 1,000 EVs in the region by 2020. Organizations have also installed 42 Public Charging Station Ports in the region. By using electricity rather than gasoline, EVs contribute to the reduction of GHGs while saving you \$1,500-\$2,000 annually on gas and maintenance. EVs also have zero tailpipe emissions, which improves air quality.



Bicycle and Vehicle Parking

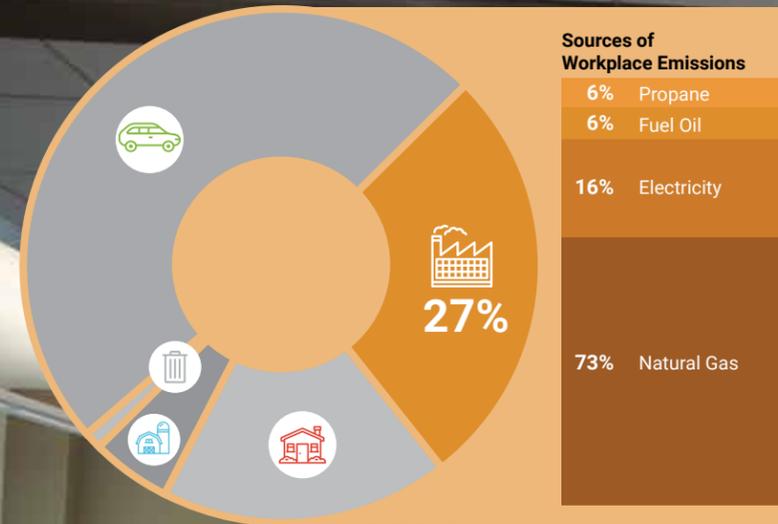
Through review of zoning by-laws and LRT station area planning currently underway, both the City of Kitchener and City of Waterloo have proposed minimum bicycle parking and maximum vehicle parking requirements in some areas. These requirements would help to prioritize active and public transit in densely populated areas that are well served by transit.



FOCUS AREA: WORKPLACES

-17%

Change In GHG Emissions 2010-2015



Our Progress on Workplace Emissions

During a period of economic growth in our community, the GHG emissions produced by our workplaces have fallen substantially. Comparing 2010 to 2015, there has been a slight increase in electricity consumption in this area (0.3%), but a large decrease in GHGs from electricity due to the removal of coal-fired power plants from Ontario's electricity generation mix. Additionally, we saw a modest rise in natural gas consumption (4.9%), which is lower than the rate of job creation (7.5%). With a deeper focus on setting carbon reduction targets, conservation, energy efficiency and fuel switching, local organizations are leading the way toward a low-carbon economy. Continuing the downward emissions trend in our workplace sector requires the leadership of local organizations who realize that taking action to reduce emissions makes good business sense.

What You Can Do

Start here:

- Inspire a stair culture:** encourage people in your building to exercise and save energy by taking the stairs instead of the elevator when they are able
- Take advantage of utility incentives:** contact your natural gas and electricity providers to find out where to start and how to save money

Keep going...

- Turn off the lights:** add motion sensors to your lights so they turn off when no one is around, and consider upgrading to LEDs at the same time
- Become a sustainability leader:** encourage your employer to join the Regional Sustainability Initiative and gain recognition for your organization's sustainability work

Challenge yourself:

- Start a green team:** gather fellow employees to brainstorm and champion sustainability measures that make sense for your organization
- Regulate your heat:** draft-proof your building, add insulation and optimize your building heating controls

Local Action



Conservation and Demand-side Management Programs
Our local electricity distributors – Energy+, Kitchener-Wilmot Hydro and Waterloo North Hydro, along with Union Gas and Kitchener Utilities – have up to \$50 million in incentives to help local businesses conserve energy and use energy efficiently. Programs include: reimbursement of up to 50% of your project costs for installing energy-efficiency measures such as lighting, ventilation and process improvements; lighting and refrigeration upgrades for small businesses and free smart thermostats for small businesses as part of a Smart Thermostat Pilot program.



\$50 MILLION

in incentives available in Waterloo Region between 2015 and 2020



290 GWh

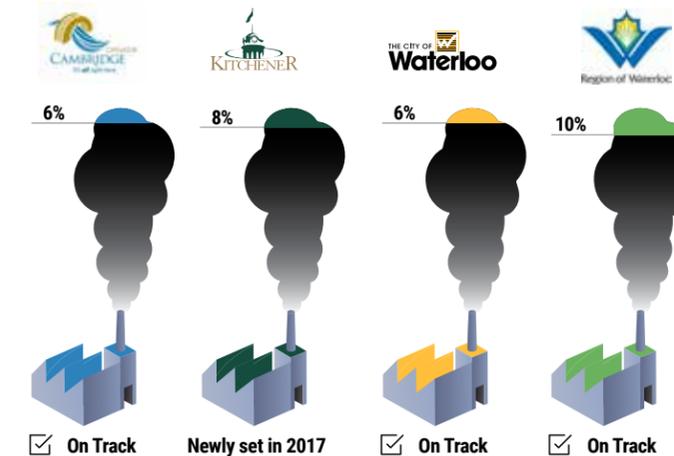
of electricity savings achieved between 2010 and 2014



Municipal Corporate GHG Reduction Plans

Our area municipalities have shown leadership by setting corporate reduction targets. To date, the Cities of Cambridge, Kitchener, and Waterloo, as well as the Region of Waterloo have all achieved promising emissions reductions by implementing projects that reduce energy use while maintaining or growing services.

Area Municipalities' 10-Year Corporate Reduction Targets



Regional Sustainability Initiative

The Regional Sustainability Initiative helps organizations transform their sustainability interests and ambitions into actions and results. The program offers tools to set targets, track and report an organization's environmental impact, develop policies, and engage employees. It also hosts events to help employees learn from experts and peers on sustainability initiatives.

Category	Value
Achieved	75 members 42,394 tonnes GHG reduction to date
Committed	52,599 tonnes GHG reduction



Clean Economy Innovation Hub

This innovation hub will be located within The Cora Group's evolv1, Canada's largest net-positive multi-tenant commercial building. Set to open in 2018, the innovation hub will serve as a meeting place for Waterloo Region's innovators to grow their ideas into globally transformational products, companies, and research focused on growing Canada's clean economy.

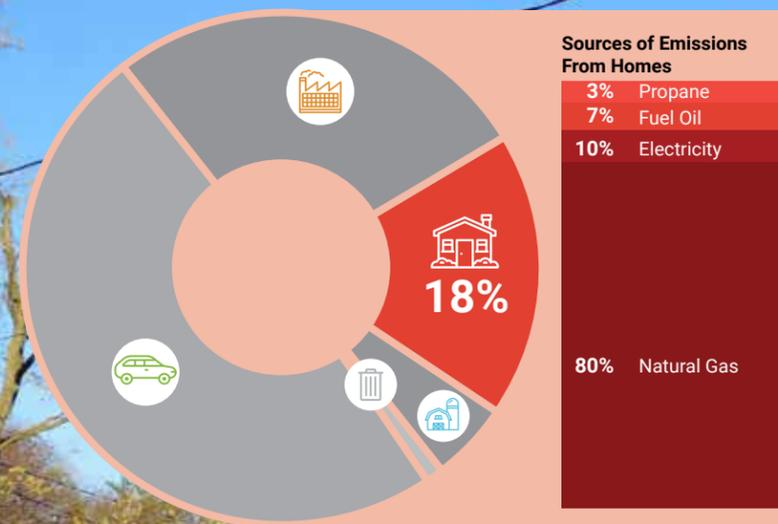




FOCUS AREA: HOMES

-10%

Change In GHG Emissions 2010-2015



Our Progress on Emissions From Homes

Our community is growing. We have seen a 5.7% increase in population and the addition of 12,800 new households between 2010 and 2015. Over the next 15 years we also expect to see 20-30% population growth. Comparing 2010 and 2015, we see a small increase in electricity consumption (1.2%) and a larger increase in natural gas consumption (10.1%) in homes. Despite these increases, emissions have decreased by 10%, largely due to the phase-out of coal-fired electricity generation and conservation efforts. The increase in natural gas use may be explained by a higher number of cold weather days in 2015 than 2010, which means that lower outdoor temperatures increased the need for indoor heating in 2015. As the Provincial Cap and Trade program will influence increases in the price of natural gas and other fuel oils, we expect to see a continued interest in improving the energy efficiency of existing homes, while changes in the Ontario Building Code in 2017 will encourage the building of new homes to an even higher standard. Residents of Waterloo Region can take action right now. Together, our renovation and building decisions as well as our everyday individual choices can contribute to achieving our community target.

What You Can Do

Start here:

- ✓ **Grab a coupon:** get Save on Energy coupons from your electricity provider for LED lights, fans, weather stripping, programmable thermostats, and more
- ✓ **Talk to your neighbour:** share what you are doing and why, and ask them about how they are reducing their energy costs
- ✓ **Feel the seasons:** keep your AC no cooler than 24°C in the summer and your thermostat no higher than 21°C in the winter to reduce energy use and save money

Keep going...

- ✓ **Get an energy evaluation:** look for an energy evaluation provider, like Reep Green Solutions, to show you where you can improve your home's energy efficiency
- ✓ **Find savings:** reach out to your local utility provider or evaluation provider to determine what incentives are available to help you improve the efficiency of your home

Challenge yourself:

- ✓ **Put a hat on your house:** add attic insulation to your house to keep warm or cool air inside the house
- ✓ **Right-size your home:** when searching for a home or apartment, consider if living in a smaller space could still meet your needs
- ✓ **Install new technology:** consider how a heat pump or solar panels might meet your energy needs

Local Action



Water Efficient Technology

Saving water saves energy too! The Regional Municipality of Waterloo is offering local homeowners water audits for free. Delivered by Reep Green Solutions, residents can have simple water-saving technologies, like high efficiency shower heads and toilet flappers, installed at the same time. The program aims to reduce household water consumption across the community from an average of 205L to 160L per person, per day as a part of the Region's Water Efficiency Master Plan.



EnerGuide Home Evaluations

EnerGuide is a home evaluation service designed to increase energy efficiency and comfort for homeowners. Results from an evaluation can help you make informed decisions when living in, renovating, or purchasing a home. Reep Green Solutions also has a home energy coach who can help you understand the options for saving energy at home.

Home Renovation Rebate

This program, delivered by Union Gas in partnership with the Government of Ontario, provides rebates to homeowners who pursue energy-efficient renovations. The rebate is available to homeowners in Waterloo Region who heat with natural gas, wood or another fuel oil. Energy-conscious retrofits will not only save homeowners money in the long run, but they will help increase the resale value of a home. The incentive, up to \$5,000 per home, helps reduce the cost of renovations while supporting the installation of energy-saving technologies like high-efficiency furnaces.



When replacing or upgrading



or



or





FOCUS AREA: AGRICULTURE



Change In GHG Emissions 2010-2015



FOCUS AREA: WASTE



Change In GHG Emissions 2010-2015



Our Progress on Agriculture Emissions

Agriculture emissions made up roughly 5% of community GHG emissions in both 2010 and 2015 and have decreased slightly since 2010; however, this reduction in agriculture emissions is not necessarily good news. The decrease in emissions is likely connected to an observed reduction in farms in Waterloo Region, which means there is less local food production for a larger population. A healthy agricultural sector is important as it is the largest economic sector within our region by use of land. Proper livestock manure management or even using it as a bioenergy resource are methods of reducing GHGs from the agricultural sector that would contribute to our overall goal.

What You Can Do

- ☑ **Meatless Mondays:** ditch the meat one day a week
- ☑ **Eat local:** shop at local farmers markets for unpackaged produce and meat to limit your waste
- ☑ **Manure management:** apply practices that reduce GHG emissions when using and storing manure
- ☑ **Poop to Power:** consider how bioenergy might support the energy needs of our rural communities

Local Action

We Need Your Ideas

Although agriculture makes up a small part of our community's carbon footprint, it has a large global impact. Our community has not yet identified actions to support the reduction of GHG emissions in this sector. If you know of programs or have ideas on how to reduce GHG emissions from the agriculture sector, we encourage you to reach out.



Our Progress on Waste Emissions

Emissions from waste are in the form of methane, which is a potent GHG that has over 25 times the global warming potential as carbon dioxide (CO₂). Methane is produced from waste when organic materials decompose in an environment without oxygen, like a landfill. When the same organic materials decompose in an oxygenated environment, such as a backyard composter or the municipal organics digester, methane gas is not produced. The increase in GHG emissions from community waste between 2010 and 2015 is largely due to population growth, but has been offset by an increase in waste diversion rates due to uptake in the green bin program.

What You Can Do

- ☑ **Use the blue and green bins:** put organic waste and recyclables to the curb every week and encourage your neighbours to do the same
- ☑ **Expand your Rs:** you know reduce, reuse and recycle, but have you considered "refuse" and "rot"? Refuse or avoid products that produce waste at the point of purchase and rot or compost all organic material
- ☑ **Set up a backyard composter:** make use of your organic waste to nourish your garden

Local Action

Green Bin Organics Diversion

At least 50% of municipal waste is organic matter that could be composted. The Green Bin program is a waste diversion program that decreases the amount of organics being dumped at the landfill. The organic matter collected with Green Bins is composted into a reusable soil resource for farmers.



The Challenge Ahead

The results in this report are a cause for celebration. Our community's carbon footprint has decreased by 5.2% from 2010. We are on the path to a lower carbon future.

The work that has contributed to reducing our community carbon footprint has been done at both the local and provincial levels, specifically in the areas of transportation, workplaces and homes. We have also been supported by the move to cleaner energy generation in Ontario, with the phase-out of coal-fired energy generation.

We cannot rest on our laurels. Our community has made progress on the path towards a lower carbon footprint, but there is room for improvement. With anticipated growth in our community and the upward trend in vehicle ownership, the carbon footprint in our region is at risk of growing, undoing the 5.2% reduction we have achieved in the past five years. Moreover, our 2020 target is a short-term milestone. We will need to reach beyond this target to create an even better Waterloo Region for current and future generations.

ClimateActionWR is issuing a call to action to you. We call on our community members to show leadership with actions big and small, and on our innovators to find and scale creative solutions to curb local emissions. Real change, investments in infrastructure, and community-wide action are required to create the future we envision. Join us on this journey as a forward-looking and innovative community that can sustain a high quality of life.

Our vision for Waterloo Region is an innovative and forward-thinking community, where we work together to achieve environmental sustainability.

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