

# APPENDIX A: CLIMATEACTIONWR IMPLEMENTATION OVERVIEW

## CLIMATEACTIONWR IMPLEMENTATION OVERVIEW

ClimateActionWR is a collective partnership jointly led by two local non-profits, Reep Green Solutions and Sustainable Waterloo Region, and directly supported and managed by the Cities of Cambridge, Kitchener and Waterloo, as well as the Regional Municipality of Waterloo. Together with community members and local organizations, these partners aim to achieve a community-wide greenhouse gas reduction target of 6% by 2020 while supporting local economic development and a higher quality-of-life throughout the region. ClimateActionWR supports the implementation and further development of *A Climate Action Plan (CAP) for Waterloo Region: Living Smarter in 2020*, hereafter referred to as *the CAP*, by accelerating climate action through collaboration, innovation, and community engagement.

This appendix provides an overview of key elements of the implementation process including governance and funding structure, iterative assessment model, support services, ongoing challenges and a status update on key initiatives.

### GOVERNANCE AND FINANCING STRUCTURE

As a collective partnership, ClimateActionWR receives support from a variety of organizations and individuals through participation in various levels of its governance structure. The following outlines various elements of the ClimateActionWR’s governance and financial structure. The graphic below outlines the current stakeholders of ClimateActionWR.

<b>ClimateActionWR STAKEHOLDERS:</b>	<b>PROGRAM LEAD</b>	<b>MANAGEMENT COMMITTEE</b>	<b>PROGRAM FUNDER</b>	<b>ACTION OWNER</b>
Reep Green Solutions	●	●		●
Sustainable Waterloo Region	●	●		●
Region of Waterloo		●	●	●
City of Cambridge		●	●	●
City of Kitchener		●	●	●
City of Waterloo		●	●	●
Energy+				●
Kitchener-Wilmot Hydro				●
Waterloo North Hydro				●
Kitchener Utilities				●
Union Gas				●
Community Access BikeShare				●
Community CarShare				●

# APPENDIX A: CLIMATEACTIONWR IMPLEMENTATION OVERVIEW

## *Funding & Program Funders*

ClimateActionWR benefits from the direct support of four funders, and two in-kind partners. The Cities of Cambridge, Kitchener, and Waterloo as well as, the Regional Municipality of Waterloo provide equal contributions (approx. \$25,000 each) to ClimateActionWR's annual budget of approx. \$100,000. This funding and support has been secured until July 2021 through collaborative agreements between the municipalities and ClimateActionWR to provide stability in the implementation of the CAP. Reep Green Solutions and Sustainable Waterloo Region provide in-kind support including meeting space, volunteer teams, administrative support and regular support from co-op students and staff members. During the first year of implementation, ClimateActionWR also received funding from the three local electric distributors (LDCs): Energy+, Kitchener-Wilmot Hydro and Waterloo North Hydro in the amount of approx. \$10,000 each.

The implementation of actions within the CAP is supported by various sources of financing which will be outlined in the chart below.

## *Plan Manager & Volunteer Team*

The Plan Manager is ClimateActionWR's single full-time staff member and acts as the coordinating hub for all activity of ClimateActionWR. The Plan Manager works directly with a team of volunteers who support ClimateActionWR with a commitment of 5hrs/week.

## *Executive Directors & Staff Team*

The Executive Directors of both Sustainable Waterloo Region and Reep Green Solutions provide ongoing support and guidance to keep the program implementation advancing. Several staff members from each organization also provide administrative support to ClimateActionWR.

## *Sector Committees*

ClimateActionWR facilitates three committees that meet monthly to support community action within the emissions focus areas of: transportation, workplaces, and homes. Each Sector Committee takes a birds-eye view of their sector, being aware of all initiatives related to climate change mitigation within the boundaries of Waterloo Region, in order to identify and accelerate progress toward achieving our community's GHG reduction target. These committees are comprised of local experts and dedicated community members who support the achievement of the 6% community GHG reduction target by acting as connectors and catalysts. As connectors, they endeavour to introduce those who are working on similar projects, or who have similar goals. As catalysts, they encourage those taking action to reach deeper reductions and identify those who have not yet taken action and prompt them to do so by engaging with enabling partners and supporting them in accessing implementation resources. Each Sector Committee has an appointed Chairperson and Vice-Chairperson who lead the monthly Sector Committee meetings and attend regular Management Committee meetings.

# APPENDIX A: CLIMATEACTIONWR IMPLEMENTATION OVERVIEW

## Management Committee

The Management Committee is comprised of a representative from each municipality (Cities of Cambridge, Kitchener and Waterloo and the Regional Municipality of Waterloo) as well as the Executive Directors of both Reep Green Solutions and Sustainable Waterloo Region. The Management Committee monitors and evaluates the ClimateActionWR program structure, and progress towards its strategic goal while providing strategic direction and support for ClimateActionWR and the Sector Committees. This Committee meets bi-monthly, for a total of 6 meetings per year and the Sector Committee Chairs join Management Committee Members for every second meeting.

## Action Owners

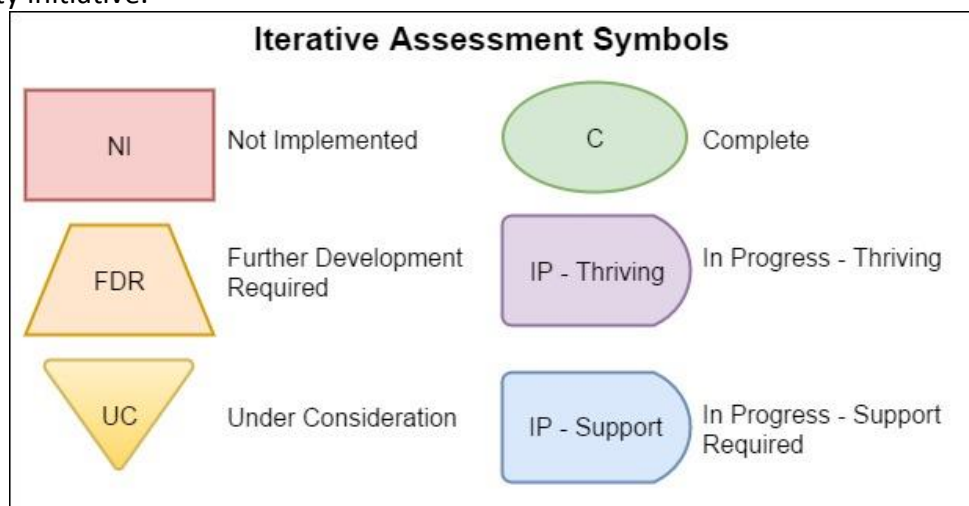
Action Owners are organizations that are implementing or investigating actions that reduce community greenhouse gas emissions. ClimateActionWR monitors and supports the progress of actions through regular communication and meetings with action owners.

## ITERATIVE ASSESSMENT MODEL

ClimateActionWR monitors local initiatives and uses an iterative assessment model to determine where support is required. Initiatives are identified as either:

- not implemented;
- further development required;
- under consideration;
- in progress; or
- complete

Initiatives that fall within the “in progress” category are further classified based on the level of support they require from ClimateActionWR. Actions that are self-sustaining, and require no to minimal support are considered to be “in progress – thriving”. Actions that require additional support to reach their estimated GHG reduction potential are considered to be “in progress – support required”. ClimateActionWR completes this monitoring semi-annually through informational interviews or written updates from the organizations implementing each local community initiative.



# APPENDIX A: CLIMATEACTIONWR IMPLEMENTATION OVERVIEW

## SUPPORT SERVICES

Based on an initiative's iterative assessment status, ClimateActionWR offers support to organizations (known as action owners) whose actions are measurably contributing to GHG emission reductions in Waterloo Region. Support can be provided through our Sector Committees or directly from the program staff and volunteers depending on scope. We have developed a [support services package](#) that outlines a few of our ongoing supports including:

- cross-promotion of events and activities;
- public endorsements;
- delegations of support;
- connecting your efforts with our community's target and within tie-in to provincial, national, and international contexts;
- letters of support for funding applications; and
- connections with a network of individuals working on similar or inter-connected projects

In our ongoing meetings with action owners, we also strive to identify customized approaches to help them overcome their challenges.

## ONGOING CHALLENGES

Informed by a four-day event series that brought together ClimateActionWR action owners and sector committee members, as well as our ongoing implementation of the CAP, we have identified several reoccurring challenges faced by organizations that are implementing GHG reduction initiatives in Waterloo Region.

**Transportation** initiatives face ongoing challenges including:

- the interconnectedness of different types of transportation services and supports;
- difficulty in sustaining behaviour change; and
- low political will when seeking to implement new actions or expand existing actions

Initiatives that seek to address GHG emissions from **Workplaces** face the following challenges:

- competing priorities for resources;
- communications gaps across initiatives;
- resistance from customer groups; and
- transitioning from product to process-based efficiency measures

Reducing GHG emissions from our **Homes** faces similar challenges including:

- financial motivations and overcoming cost constraints;
- 'over-the-fence' homeowner communication;
- advertising and promotion;
- commercial vs. residential cost effectiveness; and
- capitalizing on government budget opportunities

Overall, we have identified three common themes across these areas where a coordinated approach to addressing the challenges may support increased impact for various initiatives. These areas for collaboration included:

## APPENDIX A: CLIMATEACTIONWR IMPLEMENTATION OVERVIEW

- coordinated communication between diverse initiatives;
- active mobilizing of public support for new initiatives; and
- the creation of a common vision for the future



### STATUS OF ACTIONS

The following table (Appendix B) provides an update on the progress and status of several key actions, opportunities and further considerations identified in our 2013 community CAP.

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
IP - Thriving	<p><b>Regional Electric Vehicle Charging Network Planning:</b> Support consumer adoption of 1,000 electric vehicles across the region (e.g. through the installation of public charging stations, education &amp; awareness, etc.).</p>	<p><i>Various public, private and not-for-profit organizations as well as informal community groups</i></p>	<p><b>EVs:</b> support for purchases through Ontario's EV Incentive programs up to \$14,000</p> <p><b>Charging infrastructure:</b> Public and private sector organizations, EVCO program</p> <p><b>Region of Waterloo:</b> Provided approx. \$70k in funding between 2010 and 2015 for EV charging infrastructure through its Sustainability and Energy budgets</p>	<p><b>Status:</b> We have witnessed exponential growth in EVs and EV infrastructure in the community since the development of the CAP. In December 2010, we had 1 EV and 1 Public charging station. By December 2016, the community had 279 EVs and 42 public charging ports.</p> <p>EV adoption has been supported through Sustainable Waterloo Region's project ChargeWR and the Region of Waterloo. ChargeWR collaborates with organizations in Waterloo Region to plan and implement activities that increase the number of electric vehicles (EVs) and charging stations in the Region. These collaborations include EV test drive events and charging infrastructure support.</p> <p>Growth in EV public charging ports has been driven by both private and public sector organizations. Under Ontario's EVCO program, Waterloo Region received funding for 17 public charging ports, including funding for its first level 3 (not yet installed as of Dec 2016).</p> <p><b>Timing:</b> ongoing</p>	823 <i>as of December 2016</i>	2,950
IP - Thriving	<p><b>Regional Transportation Master Plan (RTMP):</b> Projected shifts in transportation modes (i.e. decrease in SOV trips) as a result of the</p>	<p><i>Region of Waterloo - Grand River Transit</i></p>	<p><b>Region of Waterloo:</b> Approx. \$300 M including LRT construction, increasing transit use in Cambridge and Active Transportation Master</p>	<p><b>Status:</b> The RTMP is currently undergoing an update. Items in progress include: Grant River Transit (GRT) expansion, coordination of Transportation Demand Management (TDM) efforts with local Cities, continued support for carsharing, and LRT construction. The LRT, one of the major projects of the RTMP has been delayed,</p>	50,000 compared to BAU forecast in 2015	75,000 compared to BAU forecast

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
	Regional Transportation Master Plan and associated policy, programming, and infrastructure (e.g. education outreach, expanded bus service, rapid transit, more bike lanes and connected communities designed for alternative transportation modes, etc.)		Planning (improving trails bike lanes, pedestrian charter etc.) funded through property tax revenues, development charges, and other mechanisms	and is expected to be operational by 2018.  <b>Timing:</b> Ongoing		
	<b>Region-wide Anti-Idling Campaign/Bylaw:</b> Projected impacts from a region-wide anti-idling campaign or by-law.  <b>Goal:</b> to reduce average idling time from 7 minutes to 3 minutes per day.	<i>Region of Waterloo, area municipalities</i>	N/A	<b>Status:</b> a region-wide campaign has not occurred since 2009 and municipalities have different bylaws and related street signs.  <b>Timing:</b> Unknown	N/A	3,000
	<b>Community Bike Share System:</b> Community Access Bikeshare is building on a	<i>The Working Centre, Community Access</i>	Membership fees and corporate sponsorship fees. In-kind donations of storage space.	<b>Status:</b> In 2016, the system maintained 8 stations, with 80 members. In the previous two years, the program had averaged 148 members. In 2017, the program is expected	Unknown	15

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN


Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
	successful pilot program in 2011, The Working Centre aims to further expand and test a bike share program with 100 bikes and 10 distribution stations. It's estimated that the program will engage 200 members in the first year.	<i>Bikeshare (CAB)</i>	Region of Waterloo provided CAB with \$15k for expansion through the Community Sustainability Fund.	to expand to 14 stations with more flexible hours, buddy program, and on-demand stations at one local University and in Uptown Waterloo.  In 2016, the area municipalities began pursuing the expansion of bike sharing to support the ION.  <b>Timing:</b> Ongoing  <i>(Since our 2013 plan, Community Access Bikeshare has become the only bikeshare program in Waterloo Region. Grand River Bike Share was not able to gain the financial support to expand in the community.)</i>		
IP - Thriving	<b>LED Streetlight Retrofit:</b> Conversion of streetlights to energy-efficient LED fixtures.	<i>Region of Waterloo, City of Cambridge, City of Kitchener, City of Waterloo</i>	Capital funding capital funding through Municipal debentures, with the support of LDC incentives to lower total cost	<b>Status:</b> Through a joint RFP (Request for Proposal), most street lights (approx. 42,500) in the community will be converted to LEDs in 2018.  <b>Timing:</b> Expected completion in 2018	N/A	920
IP - Thriving	<b>Local Car Share System:</b> Expand privately-operated shared vehicle systems, such as Community CarShare, in order to provide alternatives/supplements to personal vehicle	<i>Community CarShare, various private MUSH sector stakeholders  GM's Maven</i>	Co-operative membership structure with membership fees  Region of Waterloo provided \$15k through the former Community Sustainability Fund towards purchase of an	Community Carshare has 87 parking locations in Waterloo Region and 30 stationary cars. Their membership has expanded to over 900 members, including 20 corporate memberships. Carshare completed a successful "Quantum Delivery Program" pilot which delivered cars to their 57 quantum on demand stations including stations in the area townships. This program is continuing in 2017 with the support of	360	1,700



## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
	ownership. Expansion could be facilitated by integrating car share-specific parking into the development review process, developing "Car share anywhere agreements", and providing car share parking in public facilities and on-street.		EV for their fleet	Eco-Courier, a bike courier, who supports the delivery of the vehicles.  Maven, GM's carsharing system expanded to Waterloo Region in early 2017. They currently have five vehicles available in Kitchener.  <b>Timing:</b> ongoing		
IP - Thriving	<b>Employer Commuting Outreach:</b> Recognizing the significant influence that employers play in shaping employee travel patterns, TravelWise was established as a long-term program with measurable impact across member organizations to reduce SOV commuting.	<i>Region of Waterloo &amp; Sustainable Waterloo Region's TravelWise Program</i>	Membership fees, grant funding and operating funding from the Region of Waterloo	The TravelWise project has been successfully expanded from a pilot to a full and ongoing program jointly run by the Region of Waterloo and Sustainable Waterloo Region. At the end of 2016, the program had 28 member organizations, representing approximately 20,000 employees. In 2015, the program measured a mode split of 72% drive alone and has set a target to reduce that by 5% by 2020.  <b>Timing:</b> Ongoing	52	1,054

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
 UC	<p><b>Maximum Vehicle Parking &amp; Minimum Bicycle Parking Requirements in Zoning By-laws:</b> Revise zoning standards to include maximum parking requirements in areas that are well serviced by transit, to prevent over-supply of parking in transit oriented areas. Amend zoning by-laws to address minimum bicycle parking requirements, including short-term visitor, and longer-term, secure resident and employee bicycle parking infrastructure.</p>	<p><i>City of Cambridge, City of Kitchener, City of Waterloo</i></p>	N/A	<p><b>Status:</b> <i>City of Cambridge</i> – Zoning by-laws are currently undergoing comprehensive review.</p> <p><i>City of Waterloo</i> – zoning bylaws are currently undergoing a comprehensive review and are expected to go to Council by the end of 2017. The draft zoning by-law currently proposes minimum bicycle parking rates and reductions to minimum vehicle parking rates. The City of Waterloo is also undertaking Light Rail Transit Station Planning for the areas around future rapid transit stations. The draft station area plans propose further changes to the zoning by-law including introducing maximum parking rates around rapid transit stations. Detailed planning around Ion Light Rail transit stops will incorporate maximum vehicle parking requirements and limiting surface parking lots in certain areas.</p> <p><i>City of Kitchener</i> – zoning by-laws are currently undergoing a comprehensive review, expected to go to Council for approval in 2018. The proposed by-laws include minimum bicycle parking provisions as well as maximum vehicle parking in some areas as well as other measures that support Transportation and Demand Management including electric vehicle parking spaces and provisions for sharing vehicle parking between</p>	Not quantifiable	Not quantifiable

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
				properties.  <b>Timing: 2017-2018</b>		
IP - Thriving	<b>Union Gas Commercial and Industrial Conservation &amp; Demand Management (CDM) Initiatives 2011 – 2015:</b> Reductions in energy consumption through initiatives targeting the commercial and industrial sectors.	<i>Union Gas</i>	No update available	No update available	No update available	49,115
IP - Thriving	<b>Union Gas Residential Conservation &amp; Demand Management (CDM) Initiatives 2011 – 2015:</b> Reductions in energy consumption through CDM initiatives targeting the residential sector.	<i>Union Gas</i>	No update available	No update available	No update available	3,815
IP - Thriving	<b>Kitchener Utilities Residential CDM Initiatives 2011 – 2015:</b> Reductions in natural gas consumption through Kitchener Utilities Residential Conservation & Demand Management Initiatives.	<i>Kitchener Utilities</i>	No update available	<b>Status:</b> Kitchener Utilities offered the following residential programs to help reduce greenhouse gas emissions including: furnace rebates; tankless water heater rebates; home assistance program; retailer events promoting energy saving kits and shower head rebates. Overall the programs have informed the residents about energy conservation, and customers have become more conscious in making decisions that	593	To be determined

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
				will reduce their energy consumption.		
IP - Thriving	<b>Kitchener Utilities Commercial and Industrial CDM Initiatives 2011 – 2015:</b> Reductions in natural gas consumption through Kitchener Utilities Commercial Conservation & Demand Management Initiatives.	<i>Kitchener Utilities</i>	No update available	<b>Status:</b> Kitchener Utilities has been working with commercial and industrial customers to identify solutions and equipment upgrades that will help reduce energy use and improve the operation of their facilities.	No update available	To be determined
IP - Thriving	<b>Local Electricity Distributor Energy Conservation &amp; Demand Management (CDM) Initiatives 2011 – 2014:</b> Reductions in electricity consumption and demand through the 'Save on Energy' energy conservation programs targeting the residential, commercial, institutional and industrial sectors, delivered by local electricity distribution companies (LDCs).	<i>Energy+, Kitchener-Wilmot Hydro, Waterloo North Hydro</i>	LDC's provided \$10.5M in between 2011-2014 which attracted another \$36M in private investment from proponents implementing energy-efficiency or conservation projects	<b>Status:</b> Energy+, Kitchener-Wilmot Hydro, and Waterloo North Hydro achieved 290 GWh of electricity savings between 2010 and 2014, representing 126% of their combined conservation targets. They also achieved 35.79 MW of peak demand savings during the same period, 65% of their combined targets.  In 2015, the three utilities each released new CDM plans for the period between 2015 and 2020 under the IESO's Conversation First Framework. Their combined targets for this program are 273 GWh of electricity savings, there is no peak demand savings target. As of the end of 2015, they had achieved 50 GWh of savings, 18% of their combined targets.  <b>Timing:</b> Ongoing	3,705	6,200

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
IP - Thriving	<p><b>Corporate (commercial/business) Sector Reduction Commitments:</b></p> <p>The Regional Sustainability Initiative enables organizations to make ambitious yet realistic GHG emission reduction targets.</p>	<i>Sustainable Waterloo Region – Regional Sustainability Initiative</i>	Membership fees, corporate sponsorship for events, OTF funding between 2016-2017 of approx. \$200k	<p><b>Status:</b> The Regional Carbon Initiative transformed into the Regional Sustainability Initiative in September 2016. The new initiative helps local organizations advance the sustainability of their operations through setting reductions targets in greenhouse gas emissions, waste diversion, and / or water footprint reductions. The program also measures, benchmarks, and reports on embedded sustainability through its new "Environment-Score" that we developed in partnership with B-Labs. The new program has 75 members who have committed over 52,599 tonnes of reductions and have achieved 42,394 tonnes to date.</p> <p><b>Timing:</b> Ongoing</p>	42,394 compared to BAU forecast in 2016	52,599 compared to BAU forecast
IP - Thriving	<p><b>Installation of CHP/cogeneration units at three Waste Waterloo Treatment Plants (WWTPs):</b> Installation of new biogas combined heat and power units at three of the Region's WWTPs.</p>	<i>Region of Waterloo</i>		<p><b>Status:</b> This project is in progress, Renewable Energy Approval applications have been prepared (Dec 2016) for the Galt, Kitchener, and Waterloo WWTP facilities and public consultations are ongoing.</p> <p><b>Timing:</b> REA approval is expected in October 2017, design is expected March 2017 – February 2018, tender, contract and construction are expected to occur between July 2018 and July 2020. Emission reductions will improve over time as more biogas is available from the WWTPs and processes are optimized. Emission reductions will improve over time as more biogas is available from the</p>	N/A	560

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
				WWTPs and processes are optimized.		
IP - Thriving	<b>Water Efficiency Target:</b> The 2006 Water Efficiency Master Plan Update has set out to achieve a cumulative water savings target of 8,146 m <sup>3</sup> per day (1.8 million gallons per day) by 2015.	<i>Region of Waterloo, Reep Green Solutions</i>	Related actions funded through user rates	An updated Master Plan was completed in 2015. By 2020, the plan would expect an annual GHG impact of 625 tonnes of CO <sub>2</sub> . On the residential side, this action is supported by a water audit, provided by Reep Green Solutions, that includes the provision of installing water efficiency measures to high use homes.	Unknown	625
IP - Thriving	<b>City of Cambridge Corporate (municipal) GHG Reduction Initiatives:</b> Corporate GHG reductions undertaken by the City of Cambridge.	<i>City of Cambridge</i>		<b>Status:</b> In 2013, the City set of a corporate GHG reduction target of 6% by 2020. The City of Cambridge continues to implement their corporate GHG reduction and Energy Management Plan. To date they have achieved 4.8% reduction in GHG emissions.	800	1,000
FDR	<b>City of Kitchener Corporate (municipal) GHG Reduction Initiatives:</b> Corporate GHG reductions undertaken by the City of Kitchener.	<i>City of Kitchener</i>		<b>Status:</b> The City of Kitchener set a corporate GHG reduction target in February 2017. Their corporate target is an 8% reduction below 2016 levels by 2026. Prior to setting this target, they had achieved GHG reduction of approximately 4% between 2014 and 2015.	250	1,042

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
IP - Thriving	<b>City of Waterloo Corporate (municipal) GHG Reduction</b> <b>Initiatives:</b> Corporate GHG reductions undertaken by the City of Waterloo.	<i>City of Waterloo</i>		<b>Status:</b> In 2013 the City of Waterloo set an absolute corporate GHG reduction target of 6% by 2021 (from its 2011 baseline). The City of Waterloo continues to implement its Corporate Energy and GHG Action Plan. In 2016 the City of Waterloo reported a 14% absolute reduction in corporate GHG emissions based on preliminary Ontario electricity coefficients.	1,308	1,000
IP - Thriving	<b>Region of Waterloo Corporate (municipal) GHG Reduction</b> <b>Initiatives:</b> Corporate GHG reductions undertaken by the Region of Waterloo. Key projects include: LEED buildings, organics diversion, and waste water treatment plant.	<i>Region of Waterloo</i>	funded through departmental capital (debentures) and operating budgets (tax revenues)	<b>Status:</b> In 2013, the Region of Waterloo set a 10% reduction below 2009 levels by 2019. The Region of Waterloo has achieved a 15% reduction in emissions as of year-end 2015 compared to 2009 levels.	23,000	15,032
C	<b>Reep/ecoEnergy Residential Energy Retrofits 2011-2012:</b> Energy savings from home energy retrofits undertaken in 2011 and 2012 through the ecoEnergy program.	<i>Reep Green Solutions</i>	N/A	Project Complete.	2,855	2,855

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
IP - Thriving	<p><b>Green Bin Organics Diversion:</b></p> <p>GHG reductions achieved as a result of expanding Green Bin/organics diversion 2010-2020 which helps reduce methane production within the Region's landfill.</p>	<i>Region of Waterloo</i>	funded through Property tax revenues	<p><b>Status:</b> The Region of Waterloo has been diverting household organic waste from the landfill at a community-wide scale since 2010. In 2017, the Region implemented bi-weekly garbage collection and weekly green bin and recycling collection, a change that is expected to increase the uptake of the green bin program. Most large multi-unit residential properties currently do not have organic waste diversion and therefore this material is likely ending up in the landfill. However, annual GHG emissions achieved from the Region's Green Bin program is expected to significantly improve by the year 2020 from the enhanced curbside collection schedule.</p> <p><b>Timing:</b> Ongoing</p>	2,490	6,890
N/A	<p><b>Landfill Gas Flaring:</b></p> <p>Portable flaring of methane at landfill before it reaches concentrations suitable for energy generation.</p>	<i>Region of Waterloo</i>	N/A	<p><b>Status:</b> The Region of Waterloo has operated portable and solar flares at the Waterloo Landfill from 2010 to 2014. The impact has not been consistent, with the height of the annual impact in 2012 of 7,112 tonnes and a low in 2013 and 2015 when no flaring occurred. Due to practical landfill operational management, gas has been prioritized for the existing LFG power plant that produces electricity instead of flaring the methane. However, these emission reductions from energy generation cannot be counted in this progress report as the practice started long before the baseline GHG inventory.</p>	ranged from 0 – 7,122 annually	7,105




## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
				<b>Timing:</b> no longer being implemented, repurposed for energy generation		
IP - Thriving	<b>Net-Positive Demonstration Building:</b> A net-positive demonstration building that showcases sustainable building technologies.	<i>The Cora Group, EY, David Johnston Research + Technology Park, Sustainable Waterloo Region, City of Waterloo</i>	Feasibility study completed with \$175k in funding from FCM GMF through the City of Waterloo  Private investment of \$35M from the Cora Group	<b>Status:</b> evol1, which will be built, owned, and managed by The Cora Group, will be Canada's first LEED platinum, net-positive energy multi-tenant building. With the support of a publically available feasibility study, the model is designed to be replicable and financially viable for developers and tenants.  <b>Timing:</b> evol1 is expected to be under construction in 2017 and open by the end of 2018.	N/A	200
UC	<b>Clean Economy Innovation Hub</b> Similar in concept to the Accelerator Centre and Communitech Hub/Tannery model, this space would become a sustainable business catalyst that would provide an opportunity for networking and collaboration to spur economic development across Waterloo Region's	<i>Accelerator Centre, Laurier, University of Waterloo, Sustainable Waterloo Region, City of Waterloo, Waterloo EDC</i>	Unknown – seeking local commitments, provincial and federal funds	<b>Status:</b> The partners are developing a partnership strategy with the provincial and federal government to enable: <ul style="list-style-type: none"> <li>• Innovation hub development, programming and execution</li> <li>• Building monitoring and assessment infrastructure</li> <li>• Model refinement, learnings and articulation and sharing of lessons learned</li> </ul> <b>Timing:</b> Dependent on external funding	N/A	N/A


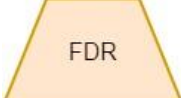
## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
	emerging sustainability cluster and in the area of clean tech.					
IP - Thriving	<b>Home Energy Evaluations</b> Delivery of EnerGuide Energy Evaluations to support energy efficiency retrofits in the existing home stock.	Reep Green Solutions, various other private service providers	Fee for service, rebate available under Union Gas' Home Reno Rebate program as of Summer 2016	<b>Status:</b> Since 2010, Reep Green Solutions has completed 2,453 initial evaluations and 3,914 follow-up evaluations and experienced an average savings of 3.26 tonnes of CO <sub>2</sub> e per household. Between 2013 and 2015 only 76 follow-up evaluations were performed, as no incentives for homeowners were available during this period. In 2016, incentives up to \$5,000 were reintroduced and demand for evaluations has risen again.  <b>Timing:</b> Ongoing, highly dependent on incentive funding for renovations. Union Gas' Home Reno Rebate could expire as early as 2018.	12,652	13,796
N/A	<b>Low Emission or Hybrid Taxis &amp; Limousines</b> Develop a program to shift all taxis and limousines operating in the region to low emission or hybrid electric models.	Several private companies	Private financing, support by provincial incentive program	<b>Status:</b> No program has been implemented to support the shift to low emissions or hybrid electric taxi vehicles. However, this shift has been occurring as part of the natural business cycle within the community for several existing taxi companies as they turnover their fleets to more fuel-efficient hybrids.  <b>Timing:</b> Unknown	Unknown	2,300
IP - Thriving	<b>Renewable Energy Generation:</b> Support and monitor the	LIFE Co-Op, Vigor Clean Tech, CED Co-Op, Cities of	Private financing, FIT Contracts and co-operative model financing	<b>Status:</b> Several small and medium size solar installs have occurred in the community. Notably, the City of Kitchener has installed 500kW of solar panels for its Operations	750+	Unknown

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
	development of local renewable energy generation.	Cambridge, Kitchener, Waterloo, Region of Waterloo		<p>Facility; Life Co-Op jointly owns a 960kW of solar generation capacity across the roofs of several industrial buildings in the City of Cambridge; and CED Co-Cop has developed 1,660kW of capacity with almost a dozen projects ranging from 100 – 250kW in size. The Region of Waterloo also has 1.5 MW of installed rooftop solar PV including two systems totaling approx. 600kw utilizing the electricity on site within their buildings. There are also countless other small and medium size projects developed by private and public sector organizations.</p> <p><b>Timing:</b> Ongoing, Ontario's FIT program is expected to shift to net-metering which will change the incentive structure and value proposition for renewables for many organizations and individuals</p>		
 FDR	<p><b>Community Energy Investment Strategy:</b> Develop a plan that identifies opportunities to cost-effectively and reliably meet local energy needs, enhance economic prosperity, and promote sustainable development</p>	Region of Waterloo, Cities of Cambridge, Kitchener and Waterloo, Energy+, Kitchener Utilities, Kitchener-Wilmot Hydro, Waterloo	funded by 9 local partners leveraged with 50% funding through Provincial Ministry of Energy	<p><b>Status:</b> The project has undergone baseline energy study and mapping in the community which determined the community's annual expenditures on energy. The project has also undertaken stakeholder engagement to help understand and set local priorities. The project is now working to develop and a strategic framework on how to evaluate investment opportunities and which types of energy projects to prioritize based on financial, technical, social and environmental factors.</p>	N/A	N/A


## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
		North Hydro, Union Gas		<b>Timing:</b> Draft strategy expected in Fall of 2017.		
	<b>Local Innovative Financing for Energy Retrofits:</b> Develop local financing tools that support homeowners with the upfront costs of deep retrofits and renewable energy installations.	Reep Green Solutions, Waterloo North Hydro	Unknown	<b>Status:</b> Local Improvement Charges (LIC) were explored by Reep Green Solutions and local area municipalities and determined to be not feasible at this time. In 2014, Reep Green Solutions submitted a proposal to Natural Resources Canada that focussed on deeper retrofits and using innovative financing programs, but not LIC, and was unsuccessful in securing funding. Reep Green Solutions continues to explore other means of local innovative financing for residential energy retrofits and is currently exploring a small pilot with Waterloo North Hydro and the IESO.  <b>Timing:</b> Pilot to be implemented 2017-2018.	N/A	Not calculated
	<b>Green Building Standards, Checklists, and Toolkits:</b> Develop strategies for encouraging new developments and building retrofits to achieve performances beyond the building code.	Sustainable Waterloo Region	Unknown	<b>Status:</b> Sustainable Waterloo Region completed initial research to identify best practices within jurisdictions that are leading in the implementation of green building standard policies as mechanisms for driving energy conservation in large commercial buildings.  <b>Timing:</b> No further development since 2014.	N/A	Not calculated

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
FDR	<b>Neighbourhood Carbon Footprint Campaign:</b> Develop a campaign that provides homeowners information about their carbon footprint and energy usage.	Project Neutral, Reep Green Solutions	Unknown	<b>Status:</b> Project Neutral recently received MOECC funding to expand to several new communities. ClimateActionWR's Homes Sector Committee is exploring how to optimize engagement in such a program in Waterloo Region.  <b>Timing:</b> Early 2018 implementation if successful in securing funding for engagement activities	N/A	Not calculated
FDR	<b>MURB Organic Diversion:</b> Provide green bin or composting services to multi-unit residential buildings to divert organic waste from the landfill.	Reep Green Solutions, Region of Waterloo	Unknown	<b>Status:</b> Reep Green Solutions is working on a proposal to pilot composting or a green bin solution for multi-unit residential buildings in the community.  <b>Timing:</b> Dependent on funding, funding response due Spring 2017	N/A	Not calculated
NI	<b>LEEP for New Construction:</b> Introduce more clean technologies into the homebuilding industry through workshops, forums, technology deployment, and trials, LEEP hopes to move the industry toward Net-	WRHBA, NRCan	Unknown	<b>Status:</b> Initial conversations with WRHBA leadership and NRCan revealed a lack of interest from the local Home Builders Association.  <b>Timing:</b> No further development at this time	N/A	Not calculated

## APPENDIX B: UPDATE TO KEY ACTIONS IN OUR COMMUNITY CLIMATE ACTION PLAN

Iterative Assessment Status	Action Name & Description	Partners Involved	Financing Mechanisms	Status & Timing (items in brackets major explain changes from 2013 CAP)	Impacts & Benefits <sup>1</sup> (tonnes CO <sub>2</sub> e)	
					Annual GHG Reductions achieved to date	Projected Annual GHG Reduction Potential at 2020
	Zero Energy home constructions.					
 FDR	<b>LEEP for Renovators:</b> Introduce clean technologies to renovators so they can carry out deep energy retrofits (40% reduction in energy use). Goals are to reduce time, cost, and risk in carrying out deep energy retrofits.	NRCan, Reep Green Solutions	Unknown	<b>Status:</b> NRCan has approached local leaders in our community to help develop a LEEP for Renovators program, ClimateActionWR Homes Sector Committee is currently supporting the development of a working group.  <b>Timing:</b> Potential for a local pilot in 2018	N/A	Not calculated