2014
CLIMATE ACTION STATUS REPORT

JUNE 2015

City of Fort Collins
Environmental Services

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City of Fort Collins
Environmental Services

OVERVIEW

FORT COLLINS citizens are passionate about the benefits of living here, and we haven't kept our reasons a secret. In the past 5 years the City has been honored with 51 honors and awards ranging from *America's Most Satisfied City*[1], one of the *10 Great College Towns to Retire to*[2], to *2012 Tree City USA*[3]. On March 3, 2015, the Fort Collins City Council unanimously adopted some of the most aggressive community carbon reduction goals in the nation reinforcing the City's commitment to preserving what we value. City Council Resolution 2015-030 adopts the new goals to accelerate existing actions, and the 2015 Climate Action Plan (CAP) Framework document proposes new strategies to reduce greenhouse gas (GHG) emissions that reach across all segments of the community.

1 May 2014 – Time magazine
2 Sep 2014 - Kiplinger
3 Apr 2013 –The Arbor Day Foundation

The City's 2014 Climate Change Adaptation assessment identifies the relevant risks from a changing climate at a local level that includes a range of impacts from forest stress to wildfires, extreme temperatures, and declining water availability. The 2012 High Park fire that burned over 87,250 acres and the September 2013 largest flood occurrence on the Poudre River since 1930 reinforced the need for local preparedness. With the most recent community air quality survey reporting that 84% of surveyed residents feel a personal obligation to reduce GHG emissions, the City has the opportunity to mobilize even more support for climate protection. Aggressively reducing GHG emissions now may help avert more of the extreme predicted impacts of climate changes in the future. Success will bring welcome co-benefits in new economic development, jobs, technological innovations, and cleaner air and water.

The 2015 Climate Action Plan (CAP) Framework document (*http://www.fcgov.com/climateprotection/*) will require that we develop new metrics during implementation planning to track the performance of the new strategies. The Climate Action Status report is the annual summary of estimated GHG emissions reductions for existing major programs, and future versions of this report will be designed to gauge the success of new programs described in the CAP Framework.

CLIMATE HAZARDS FACING FORT COLLINS

FOREST STRESS | INCREASE IN SEVERE STORMS | INFECTIOUS DISEASE | DECLINING WATER QUALITY | WILDFIRES | EXTREME TEMPERATURES | DECLINING WATER AVAILABILITY

HIGH — VERY HIGH

LEVEL OF SEVERITY OF POTENTIAL IMPACT

COMMUNITY PROGRESS

COMMUNITY PROGRESS

NEW COMMUNITY CLIMATE ACTION GOALS

Fort Collins is a recognized leader in climate action planning beginning with the City's early involvement with the International Council for Local Environmental Initiatives (ICLEI's) Cities for Climate Protection in 1997 through its bold 2015 adoption of one of the most aggressive climate action goals of any U.S. city:

To reduce community carbon emissions:

- 20 percent below 2005 by 2020.
- 80 percent below 2005 by 2030.
- to carbon neutrality by 2050.

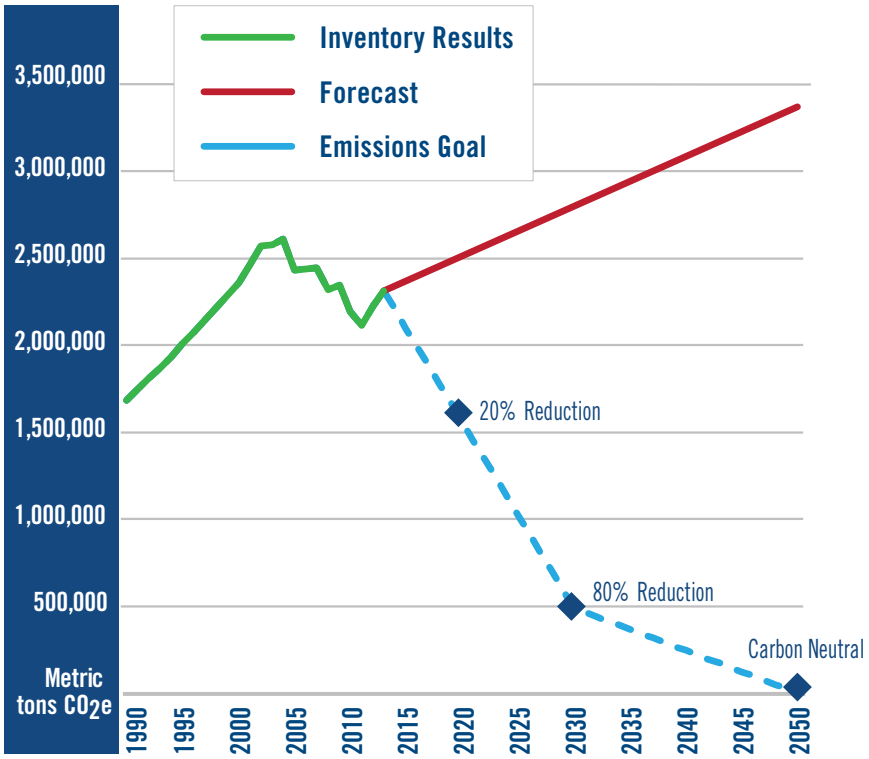
Analysis of the communities' recent annual GHG emissions indicates an unfortunate reversal since 2011 to an upward trend in total emissions. During 2014 total carbon emissions increased 2.5% over 2013 levels, the 3rd consecutive year of increasing emissions. The current GHG emissions represent an overall 2.6% decrease below the 2005 baseline. Since 2005, Fort Collins has seen a 41% increase in economic activity as measured by City sales and use tax revenue and a 32% increase in gross domestic product through 2013. At the same time the City's population has increased by 18.7%. The community has demonstrated it can reduce per capita GHG emissions. Emissions dropped to 14.7 metric tons of CO_2e, down from 18 metric tons, since 2005 – an 18 percent decrease even while the community grew. For comparison, during 2013, the U.S. average in per capita emissions was 16.6[4].

4 Olivier JGJ, Janssens-Maenhout G, Muntean M and Peters JAHW (2014), Trends in global CO_2 emissions; 2014 Report, The Hague: PBL Netherlands Environmental Assessment Agency; Ispra: European Commission, Joint Research Centre.

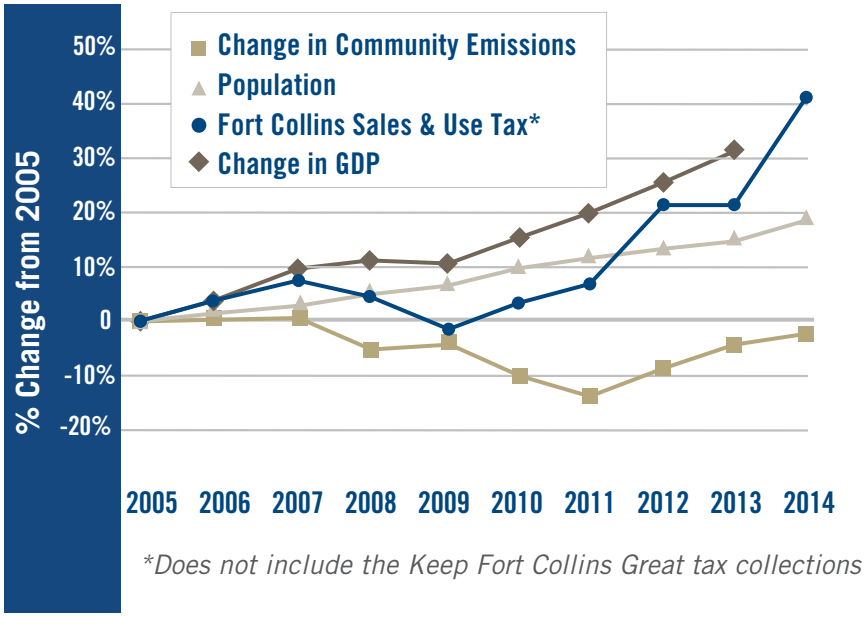
Highlights

- Total 2014 carbon emissions are 2,289,444 metric tons CO_2e which represents a 2.6% decrease from baseline.
- Total electricity emissions are down 6% since 2005 .
- Total natural gas emissions are up 11.6% since 2005.
- Ground transportation emissions are up 14.6% since baseline.
- Emissions from solid waste are down 61% since 2005.

Fort Collins GHG Emissions, Business as Usual Forecast & Goals

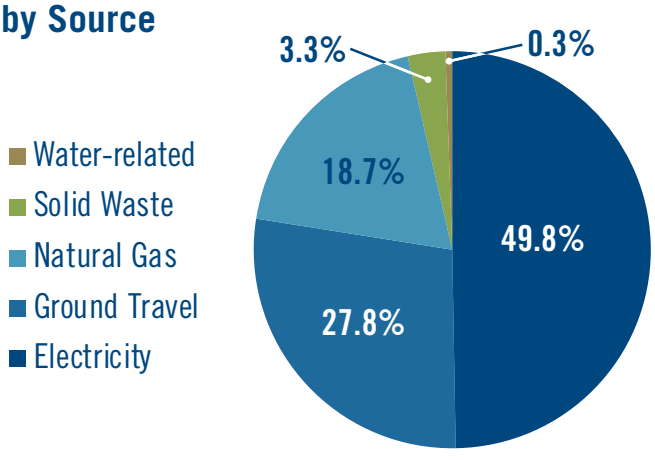


Fort Collins Greenhouse Gas Emissions, Sales & Use Tax, GDP, and Population



Does not include the Keep Fort Collins Great tax collections

2014 Community GHG Emission Inventory Percent Emissions by Source



MAJOR GREENHOUSE GAS REDUCTION PROGRAMS

The Fort Collins community collectively avoided over 683,000 metric tons of CO_2e in 2014 – a 43% increase over avoided emissions from 2013.

2014 COMMUNITY REDUCTIONS

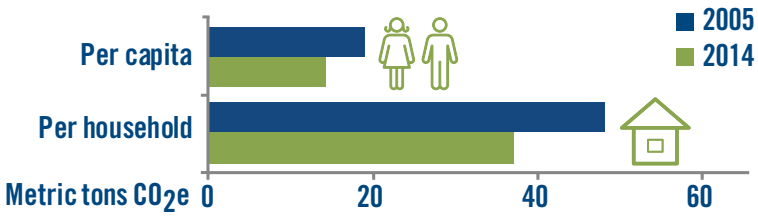
Projects	Metric Tons CO_2e/yr.
ClimateWise Programs	
Electric Energy Efficiency projects	101,723
Renewable Energy Projects**	7,126
Natural Gas Projects	21,378
Recycling/Waste Diversion	44,537
Transportation	2,138
Water	1,247
ClimateWise Total	**178,148**
Energy Programs	
Electric Efficiency Program Savings (2002-2014)	
Electricity Savings	153,231
Natural Gas Savings	2,592
RFR Program CFC-11 Destruction	12,938
Metered Renewable Energy	46,426
On-site Renewable Energy	3,014
Renewable Energy Certificates**	27,065
Energy Total	**245,267**
Waste Reduction	
Communitywide Recycling	244,396
Concrete and Asphalt Recycling	63,522
Landfill Methane Gas Collection System	11,429
WasteWater Treatment Methane Flare/Boiler	27,066
Waste Reduction Total	**346,413**
Transportation	
Bus Ridership (Transfort, MAX, Horn Shuttle)	1,612
Transfort CNG Fuel Benefit	2,041
Transportation Total	**3,653**
Total Quantified Reductions*	683,707

** Total corrected for double-counting*
*** GHG reductions calculated according to Green-E protocols for CO_2e*

INDICATORS

The following figure illustrates progress on additional indicators. Fort Collins per capita GHG emissions declined 18% since 2005 and the GHG emissions per household were reduced 22%. However, Fort Collins does not measure its progress in carbon reductions through indicators, but by absolute growth of GHG emissions. These indicators help show that the community has offset the effects of continued growth.

Fort Collins Community Greenhouse Gas Indicators



COMMUNITY LEADERSHIP

City of Fort Collins

The City of Fort Collins has a goal to reduce GHG municipal emissions 20% below 2005 levels by 2020 and plans to revise the municipal carbon goal to include an 80% reduction in GHG emissions by 2030 and to achieve carbon neutrality by 2050, consistent with the community goals. Overall total carbon emissions are down 11.5% below the 2005 baseline and down 4% from 2013 emissions. The areas showing the greatest progress in carbon reductions are building electricity emissions, a cleaner fleet fuel mix, and continuing improvements in recycling and diverting industrial wastes from landfills. The City has earned a Platinum level ClimateWise award and a Silver Level Award in the State Electronic Challenge for two lifecycle phases: purchasing and end-of-life management. The City has set ten other municipal sustainability goals. Progress is reported annually at *http://www.fcgov.com/sustainability/*.

2014 Highlights

Changes to City organizational emissions since the baseline year of 2005:

- Total GHG emissions are down 11.5%.
- Carbon emissions from electricity decreased 14.9%.
- Carbon emissions from electricity and natural gas related to water and wastewater processing are reduced 25.7%.
- Total natural gas usage is up 70% (33% facilities, 37% fleet).
- Alternative fuel usage increased 737% since 2005.
- Carbon emissions from conventional fuel usage is down 26.7%.
- Total solid waste generated by City operations is down 61%.
- GHG emissions from municipal industrial waste has decreased 48%.

Looking Ahead

The City has committed to reducing municipal energy use as part of the Lose-A-Watt campaign by focusing on reducing electricity and natural gas use in municipal operations. The City has also partnered with Drive Electric Northern Colorado with the aim to make the region a national leader in electric vehicle deployment.

ClimateWise

The ClimateWise program is celebrating 15 years of success working with the Fort Collins business community. The program has implemented more than 7,400 projects and reduced over 1.3 million metric tons of CO_2e while saving businesses more than $92 million dollars. In 2014, the ClimateWise program continued to grow bringing the number of currently active business partners to 372. Partners in the program employ over 38,000 employees ranging from small one-employee businesses to Colorado State University, the largest employer in northern Colorado. The carbon reductions reported by ClimateWise partners during 2014 totaled 178,148 $MTCO_2e$. Along with the valuable ongoing customized assistance to help partners reduce GHG emissions and meet program levels, ClimateWise also provides partner recognition, peer networking opportunities to share best practices, technical assistance, ongoing business support, and seminars, tools and resources for savings. See *http://www.fcgov.com/climatewise/* for more information.

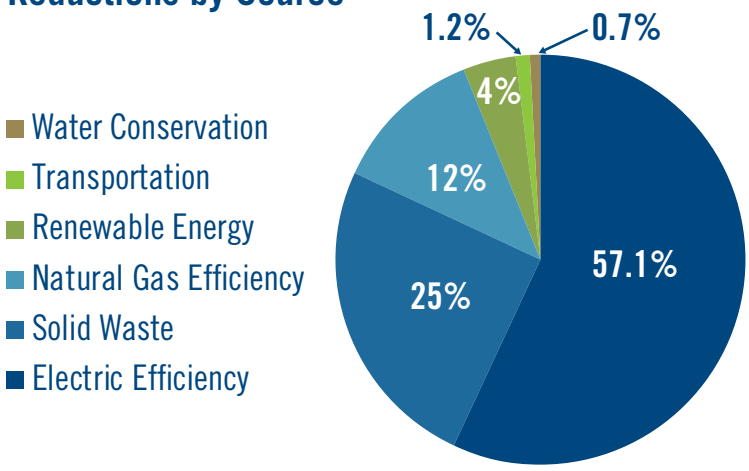
2014 Highlights

- ClimateWise Advisory Committee members contributed over 240 hours to improving the program. Support includes providing technical support, project assistance, and acting as ambassadors of the program.
- The ClimateWise Social Superstars program has logged more than 21,370 hours and provided more than $156,000 in cash and $103,000 in non-cash services, all focused on positive social impacts.
- 327 ClimateWise business partners participated in 26 education and networking events.

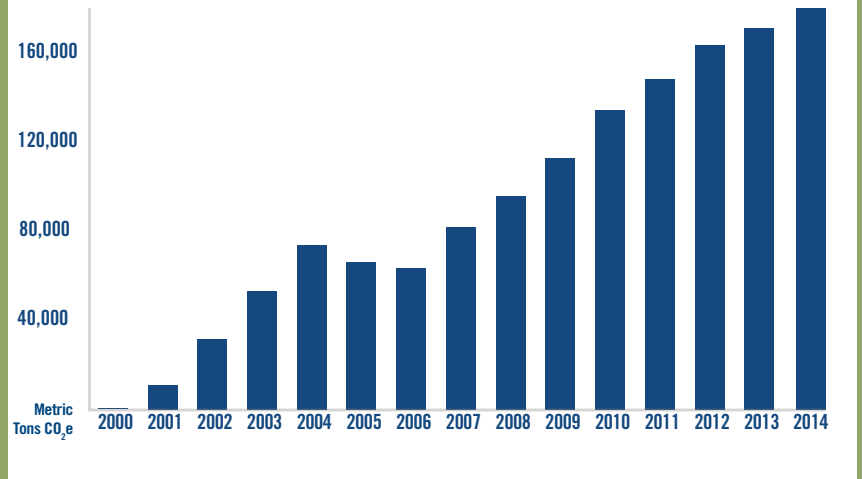
Looking Ahead

In response to the maturity of the program and the new CAP goals, ClimateWise is currently restructuring for the 2015 season. ClimateWise 2.0 will roll out at the end of 2015 and offer a more flexible system of options for businesses to participate and accelerate opportunities for GHG reductions.

2014 ClimateWise CO_2e Reductions by Source



ClimateWise Partner Reported CO_2e Reductions



Solar-Powered Webster Barn at Fossil Ridge High School

Poudre School District

As a member of the City of Fort Collins ClimateWise program, the district is committed to minimizing GHG emissions and will continue to embrace energy conservation practices, recognizing that this has the largest impact on district carbon reduction.

2014 Highlights

- Domestic water heaters at Fort Collins High School were replaced with high efficiency units, which increased efficiencies from 73 percent to 98.9 percent and resulted in a natural gas savings of 10 to 12 percent.
- Lesher Middle School was among 48 schools from 30 states to earn the Green Ribbon School award. The rigorous application and selection process recognizes schools that reduce their environmental impact, improves health and wellness, and provides environmental education.
- Eight schools received lighting retrofits for building exterior, gymnasium, and interior lighting. Over 281 lamps ranging from 100-watt to 400-watt were replaced with lower wattage lamps. These retrofits will reduce electrical use by 32,248 watts, decrease electrical costs and maintenance, and provide improved lighting.
- Plumbing fixtures and faucets at Riffenburgh and Lopez Elementary Schools were upgraded to more efficient units, resulting in a water savings of 25 percent to 28 percent.
- To achieve an overall diversion rate of 46 percent, the district recycled 27 tons of scrap metal generated by Bond construction projects, recycled 1,228 tons of single-stream materials, and had 12 district schools maintain an active hot composting program.
- The district did not purchase any R-22 refrigerant during 2014, which helps to decrease greenhouse gas emissions.

Looking Ahead

- The Plumbing Department will replace two water-cooled freezer-cooling compressors with air-cooled compressors at Rocky Mountain High School and Boltz Middle School. This change will save 1,440 gallons of water every day.
- Hollow metal openings will be replaced by Facility Services with high R-value fiberglass reinforced plastic (FRP) doors, thereby increasing energy efficiency through a tighter building envelope.

U.S. DEPARTMENT OF EDUCATION
GreenRibbonSchools

Ranked #12 in the 2015 edition of the Princeton Review
"Top 50 Green Colleges"

Ranked #11 by the Sierra Club Cool Schools –
recognizing sustainability initiatives

Colorado State University

Colorado State University has been a City of Fort Collins ClimateWise partner since 2000 and a ClimateWise Platinum partner since 2009. CSU continues to implement energy efficiency, energy conservation, waste reduction, transportation options, and renewable energy projects to reduce GHG emissions.

2014 Highlights

- First university in the nation to achieve a Platinum rating in the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System – STARS.
- Provides free annual Transfort passes to all 6,500+ CSU faculty and staff. This is in addition to the 25,000+ full- and part-time students that ride free through their RamCard student ID's provided through ASCSU student fees.
- Installed 8 new electric vehicle charging stations on campus – bringing the campus total to 10 charging stations.
- Adopted the 2014 CSU Bicycle Master Plan – to encourage bicycle travel, increase bicycle safety, and increase bicycling convenience.
- Replaced over 100 outdoor streetlights with energy efficient LED's.
- Selected for solar PV installations through the City of Fort Collins SP3 Program – installing 1,200 kW across six building rooftops. These arrays will produce 1.65 million kWh/year of clean electricity for the Fort Collins grid.
- CSU now has 14 solar PV arrays; 7 owned by CSU, 7 owned by a 3rd party. In total these arrays generate over 10 million kWh/year.

Looking Ahead

- Plans to save 2 million gallons/year on South Campus through water conservation projects.
- Upgrade the biomass boiler conveying system to allow for a broader flexibility in fuel (wood chip) sizes and shapes.
- Pursue further deployment of computer power management software for electricity saving.
- Continued data collection to determine the possibility of developing utility scale wind power on university owned property in eastern Colorado.
- Continued work on demand control ventilation, heat recovery, controls upgrades, variable-air-volume terminals, heat-exchanger upgrades, steam trap maintenance, and more!

HIGHLIGHTS

Energy policy programs will avoid more than 245,000 metric tons of CO_2e in 2015

Per capita electricity use was 13.3% less in 2014 than 2005

6.4 % of the community's electricity in 2014 came from renewable sources

ENERGY

ENERGY EFFICIENCY PROGRAMS

Fort Collins Energy Policy includes a goal to achieve annual energy efficiency savings equivalent to 1.5% of the community's electric use, while maintaining high-system reliability and contributing to the community's climate protection goals and economic health. Fort Collins Utilities implements a comprehensive set of programs to serve its residential, commercial, and industrial customers. These programs provide solutions, such as technical assistance and incentives, that relate to every facet of energy use, including retrofit and remodel, new construction, equipment replacement, consumer products, and behavior change.

2014 Highlights

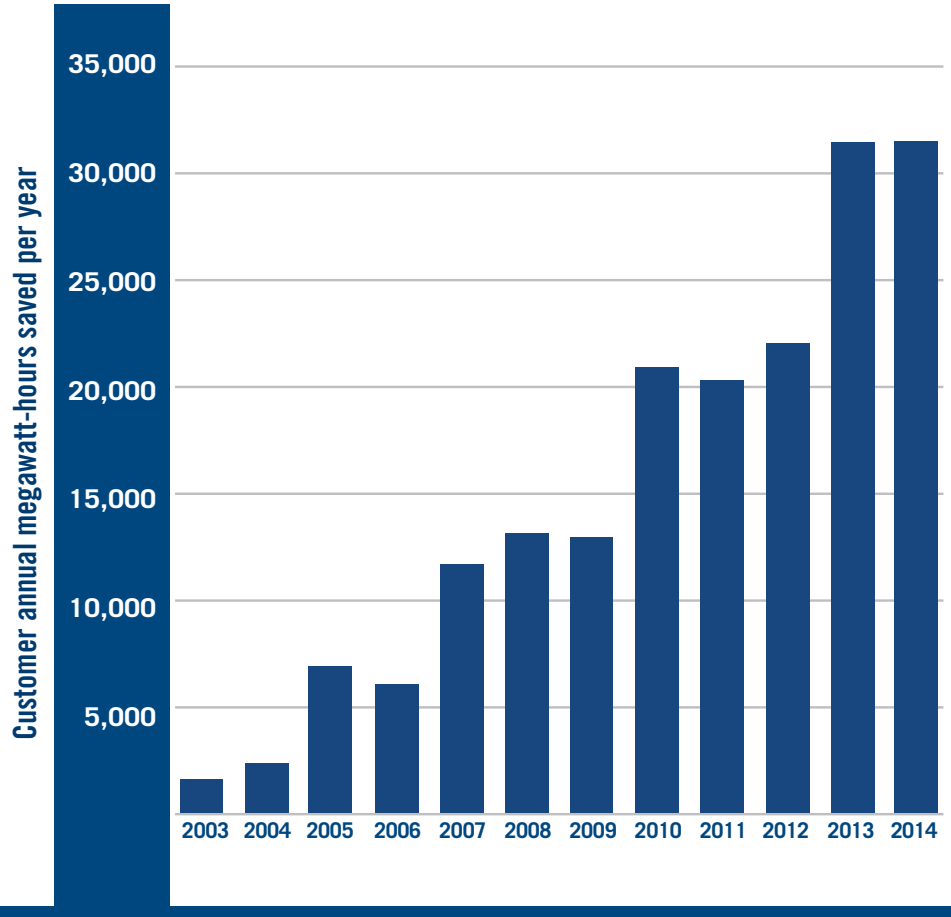
- Avoided annual estimated carbon emissions of over 245,000 metric tons from Energy Policy efficiency and renewables programs (over 10% of 2014 total emissions).
- Customer electricity savings from efficiency programs totaled over 32,900 megawatt-hours (MWh) in annual electricity use, or 2.2% of the community's electric use. This is equivalent to the annual electric use of over 3,600 typical Fort Collins homes.
- Efficiency programs saved electricity with a utility lifecycle cost of conserved energy of 2.2 cents per kilowatt-hour (kWh), compared to an average wholesale electricity cost of 5.4 cents per kWh.
- Fort Collins Utilities, Platte River Power Authority and the other member cities combined efficiency programs for both homes and businesses into a common structure called "Efficiency Works." The collaborative approach improves the effectiveness of the programs and provides a larger common marketplace.

Efficiency Works is the Fort Collins Utilities' new approach to support energy and water efficiency for local business.

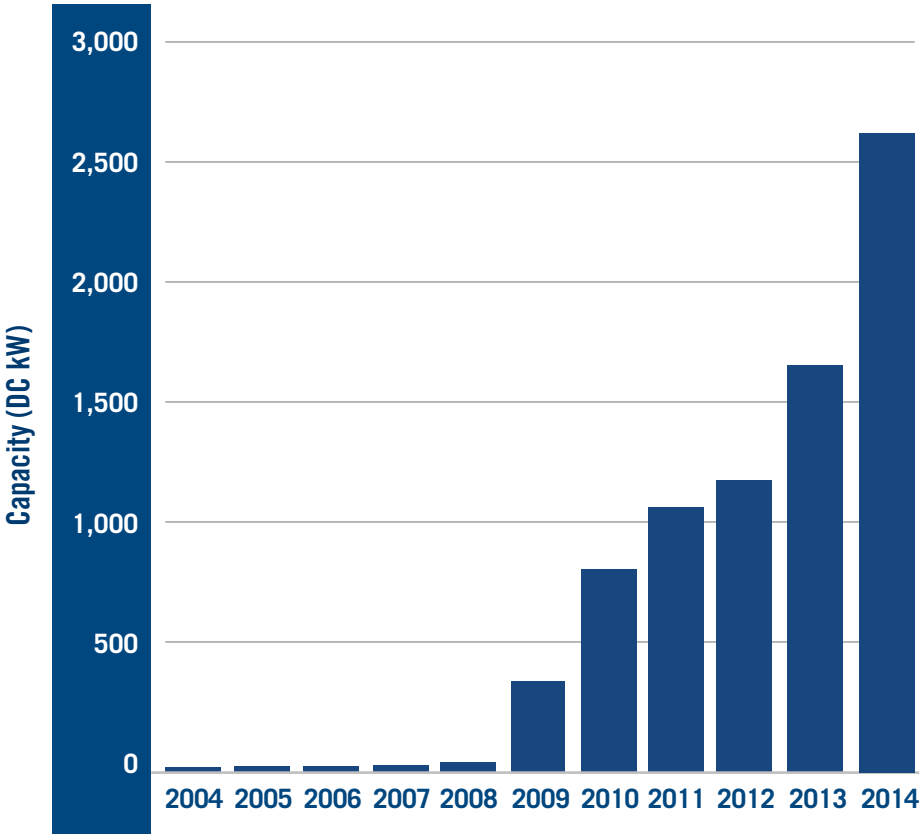
Looking Ahead

- Target deeper and broader participation in efficiency programs throughout the community.

Fort Collins Efficiency Program Savings



PV-Cumulative Installed Capacity



RENEWABLE ENERGY PROGRAMS

Fort Collins Energy Policy includes a goal to meet or exceed the community's commitments under the Colorado Renewable Energy Standard (RES), while contributing to the community's climate protection goals and economic health. A portfolio of programs supports increasing the proportion of renewable energy, customers who voluntarily subscribe for additional renewable energy and those who want to install on-site renewable energy systems.

2014 Highlights

- 6.4% total renewable energy (6.2% from wind resources and 0.2% from local solar). Hydro resources provided 18.3% for a total non-carbon emitting portfolio of 24.7%.
- Photovoltaic (PV) capacity additions totaled 958 kW (620 kW residential and 338 kW commercial). Total solar capacity at the end of 2014 was 2,625 kilowatts.
- Fort Collins Solar Power Purchase Program (SP3) projects began to come on line in 2014 and will continue into 2015.
- The Riverside Community Solar Project moved forward in 2014 with construction expected in the second quarter of 2015.

Looking Ahead

- Development of a low income solar program in 2015.

FORT COLLINS ZERO ENERGY DISTRICT

FortZED is a collaborative partnership between the City of Fort Collins, CSU, the Colorado Clean Energy Cluster, and the community that pioneers energy solutions to meet our environmental and economic goals. FortZED is a set of active projects and initiatives to promote innovative smart grid technologies, renewable energy production, energy efficiency and conservation, energy storage, and demand management.

2014 Highlights

- FortZED expanded its vision and efforts to include the entire Fort Collins community. The original zero energy district will still be used for technology demonstration projects. The FortZED.com website was overhauled to reflect this expanded focus and now provides updated information and ways for businesses and residents to participate in the FortZED vision.
- **Lose-a-Watt Energy Prize**
  On December 15, 2014 the Fort Collins community advanced to the semifinal round of the Georgetown University Energy Prize competition. This $5 million competition focuses on advancing energy efficiency and innovation among residents, municipalities and schools. This two-year competition is a project of FortZED and capitalizes on community engagement, energy efficiency and innovation-core values of the FortZED partnership. The campaign was renamed "Lose-a-Watt Energy Prize" and the goal is to double community energy savings (natural gas and electricity) by the end of 2016 and advance to the finalist round of the competition.

Looking Ahead

- The Lose-a-Watt campaign will require a strong focus on community engagement and action from the Fort Collins community. A concerted effort will focus on increasing the number of participants and actions to achieve the efficiency goal.
- With the adoption of the more aggressive Climate Action Plan (CAP) goals, FortZED partners are working with City staff to find ways FortZED can assist in accelerating progress by evaluating the proposed CAP strategies for opportunities. This may result in a more specific call for projects and partnerships in the business community in 2015.

PLATTE RIVER POWER AUTHORITY

Platte River Power Authority provides safe, reliable, environmentally responsible, and competitively priced energy and services to its 4 owner communities, including Fort Collins. Platte River is a Platinum ClimateWise member and proud to be an original member of the organization. Delivering a diversified energy portfolio with a constant eye on environmental stewardship is central to the Platte River's long-term strategy.

2014 Highlights

- The Spring Canyon Expansion Wind Energy Center began commercial operations in the 4th quarter. Platte River purchases all of the energy produced at Spring Canyon Expansion which is operated by Invenergy Wind LLC. That's equivalent to the average energy used by about 28,000 homes in Platte River's owner municipalities. The deliveries from Spring Canyon Expansion will roughly triple the amount of wind energy Platte River supplies to the owner municipalities.
- The Board of Directors unanimously authorized the acquisition of solar energy supply from a facility to be built at Rawhide. Juwi solar Inc. will build and operate a 22 to 30 MW of photovoltaic solar panels. Construction is scheduled to start in the 4th quarter of 2015 and take about nine months to complete.
- In 2014, the five Efficiency Works partners invested over $4.6 million to help about 800 commercial customers make their facilities more energy efficient, provide more than 400 commercial and 300 residential efficiency assessments, and reduce the purchase price of more than 95,000 CFL and LED light bulbs sold through local retailers. As a result, annual electricity consumption will be reduced by about 16 million kilowatt-hours—equivalent to the annual energy use of about 2,000 homes—and the combined yearly electric bills of participating customers will decrease by about $1.1 million.
- During 2014, Platte River modeled alternative scenarios and provided other support to Fort Collins as the city developed its Climate Action Plan Framework.

Looking Ahead

During 2015, about 30 percent of the power consumed annually in the municipalities Platte River serves will come from carbon-free resources. After the 30 MW solar project approved for the Rawhide Energy Station site comes on line in 2016, carbon-free sources will increase to about 32% of municipal energy supply (roughly 19% hydropower, 11% wind and 2% solar).

Design work on Platte River's Rawhide Flats Solar Project begins later this year. The facility is expected to be online in late summer 2016.

Rain Garden at the Library Park, reducing irrigation needs and filtrating and infiltrating runoff.

Pervious pavement system allowing water to infiltrate and reducing runoff.

The City's renovated Senior Center received its LEED gold certification during May 2015.

GREEN BUILT ENVIRONMENT

Green Building

The green building program continued to broaden its focus on the entire built environment in 2014 and adopted a new title as the Green Built Environment Program. Interdisciplinary teams worked on establishing criteria and priorities for integrating green building principles into planning and design of buildings, green infrastructure, sustainable neighborhoods, and multi-modal transportation. Strategies for "greening" the built environment will play a major role in achieving deep carbon emission reductions and are a critical component of the recently approved Climate Action Plan Framework.

2014 Highlights

- The program was successful in advocating for a full time program coordinator to lead an interdepartmental, multi-disciplinary initiative that recognizes that a greener built environment can significantly reduce emissions but also delivers important social and economic benefits.
- The Home Efficiency Program continued to provide strong results for improving existing homes, with 662 audits and 454 efficiency improvement projects completed in 2014.
- The Business Efficiency Program supported 698 energy efficiency projects with rebates and technical assistance.

Looking Ahead

- Developing and implementing strategies for achieving deep carbon reductions and energy efficiency in new and existing buildings in support of the Climate Action Plan Framework will be a primary objective of the program in 2015 and 2016.
- Reviewing the 2015 international building codes for local adoption.

TRANSPORTATION

TRANSPORTATION PLANNING

The City of Fort Collins City Plan and Transportation Master Plan (2011) establish goals to improve the sustainability of the transportation system while maintaining high quality access and mobility. Some of the strategies being employed are Green Streets and Enhanced Travel Corridors (ETCs). Green Streets are alternative street designs that support active modes of travel such as bicycling and walking. Enhanced Travel Corridors (ETCs) focus on connecting key activity centers with a high degree of mobility and travel options.

2014 Highlights

- FC Moves completed the Midtown in Motion: College Avenue Transportation Study. This plan proposes major improvements for bicyclists and pedestrians on College Avenue from Prospect to Harmony.
- The Lincoln Corridor Plan for Lincoln Avenue from Jefferson/Riverside to Lemay was completed and adopted by Council.
- Design for Prospect Road from Shields to College was initiated as a part of the West Central Area Plan.

Looking Ahead

- In 2015, many of the planning projects initiated in 2014 will be completed and adopted.
- The West Elizabeth Enhanced Travel Corridor Plan will be launched in early 2015.
- New programs for traffic calming and safer school-zone infrastructure will be launched in 2015.
- Updates to the Larimer County Urban Area Street Standards will incorporate recommendations from the new Bicycle Master Plan.

TRANSIT

Municipal transit services in Fort Collins include MAX Bus Rapid Transit (BRT) service, FLEX regional service, the CSU HORN on-campus shuttle, and 21 other fixed bus routes throughout the community. There were 103,232 revenue hours and 1,297,622 revenue miles during 2014.

2014 Highlights

- 2.61 million trips, an increase of 76% over 2005.
- MAX Bus Rapid Transit (BRT) service, which began in May 2014, had ridership of 568,447, an increase of 70% over the routes it replaced.
- Significant expansion of service to CSU occurred, including the introduction of 3 new routes and extension of free bus pass program to all of CSU, including students, faculty, and staff.
- Transfort purchased 6 new 60-foot BRT compressed natural gas (CNG) buses in 2013 and began operating them in 2014.

Looking Ahead

- Ten new CNG buses will be purchased in 2015 and 2 additional 60-foot BRT CNG buses. Some older diesel buses will be retired.

MULTIMODAL IMPROVEMENTS

The departments in the Planning, Development, and Transportation (PDT) Service Area make numerous improvements to the City's transportation system each year. Many of these advance CAP goals by making multimodal transportation options safer and more accessible. Examples include completion of missing sidewalk connections, new bike lane facilities, and innovative construction techniques that reduce the carbon footprint of infrastructure.

2014 Highlights

- Construction of the Max Bus Rapid Transit infrastructure was completed.
- The Streets Department used an innovative fiberglass paving liner on McClelland Drive to reduce pavement depth and lower the carbon footprint of construction.
- Traffic Operations installed 31 new video detection cameras at intersections, improving signal detection of cyclists.
- Engineering completed the bicycle and pedestrian overpass linking the Mason Trail and the Natural Resources Research Campus to the Max BRT service.
- Thousands of feet of new sidewalk were constructed across the city as a part of the Citywide Pedestrian Access Project.

BICYCLING

Approximately 7.4% of Fort Collins' workforce uses a bicycle as their primary means of travel to work, one of the highest rates in the nation according to the U.S. Census Bureau's 2013 American Community Survey. Bicycling is promoted locally through an extensive network of 166 miles of bike lanes, 49 miles of paved multi-use trails, multiple community bicycle organizations, bicycle retailers and manufacturers, and 39 Bicycle Friendly Businesses. Fort Collins now leads the country in having the highest representation of bicycle friendly businesses as designated by the League of American Bicyclists. In addition, the Fort Collins Bike Co-op collects and refurbishes bicycles locally, and the Fort Collins Bike Library makes bicycling even more accessible to residents and visitors by offering low-cost bicycle rentals.

2014 Highlights

- Developed and adopted the 2014 Bicycle Master Plan.
- Installed the City's first dedicated bike signal at Mason and Laurel streets.
- Installed 5 new buffered bike lanes along Shields St., McMurry Ave., Lochwood Dr., Oakridge Dr., and W. Stuart St.
- Launched the city's inaugural car-free streets initiative called Open Streets.
- Launched *Women on a Roll*, an initiative focused on encouraging women to bicycle through classes, rides, and other resources.

Looking Ahead

- The City will install the Laurel St. Protected Bike Lane Pilot Project, the city's first on-street protected bike lane.
- FC Moves will continue its efforts to expand the Fort Collins Bike Library program to offer an automated bike share system, available on-demand for short trips around the community.
- FC Bikes will install an Eco-Totem bicycle counter as part of the 2015 Remington Greenway project to track annual trips by bike and display data in real-time.
- FC Bikes will expand its Bicycle Ambassador Program to reach more people across the community through bicycle safety education.
- The Safe Routes to School program is implementing a new school rotation schedule allowing more comprehensive access to educational programming for children.

HIGHLIGHTS

The redevelopment of the Foothills Mall successfully diverted significant amounts of construction and demolition debris.

WASTE REDUCTION & DIVERSION

Community Diversion Rate

Fort Collins' Community Diversion Rate (which includes residential, commercial and industrially-generated materials) increased from 62.5%[5] in 2013 to 68.4% in 2014. The major factor driving this improvement was increased recycling of asphalt and dirt from large construction projects such as the Woodward Inc. headquarters and Foothills Mall redevelopment. During 2014, Fort Collins' residents generated 4.88 pounds of landfill-bound material per capita per day. The City's adopted goal is to reduce the amount of landfill-trash to 2.78 pounds per capita per day by 2025.

2014 Highlights

- The Waste Reduction and Recycling Assistance Program (WRAP) provides resources to apartment complexes and businesses in Fort Collins to start or improve their recycling programs. In 2014, WRAP reached over 2,200 individuals, of whom nearly 1,700 have new access to recycling.
- City staff conducted a 6-week door-to-door outreach and education campaign communicating with over 300 businesses about the March 2013 ordinance banning the disposal of cardboard in the community's waste stream. From 2012 to 2014, both residential (11%) and business (14%) single-stream recycling volumes increased, the amount of cardboard collected from businesses increased 28%, and the City's recycling drop-off center saw a 15% increase in cardboard volumes. Educational materials and details about the cardboard ordinance can be found at *http://fcgov.com/cardboard*.
- The Fort Collins Utilities' soils recovery project continued to decrease the amount of material the City self-hauls to the landfill. From 2012 to 2014, the amount of material from municipal operations that was taken to the landfill for disposal was cut by 50%.
- A project that received Urban Renewal Authority financing assistance from the City, redevelopment of the old Foothills Mall, was successful at diverting significant quantities of construction and demolition material from being landfilled. The City's agreement with Alberta Development Partners called for a minimum 100% diversion rate of concrete, rock, asphalt, dirt, bricks and metal, and a 70% diversion rate for all other materials. Alberta invited CSU's Institute for the Built Environment to participate; they documented an average rate of 76% diversion and reported a number of interesting case studies, such as salvaged wood flooring that was used by local craftsmen to make furniture.

This important education piece was translated into Spanish in 2014 and continues to be distributed in the community.

5 The previously reported 2013 solid waste diversion rate has been corrected from 64.9% to 62.5%.

CO-BENEFITS

AIR POLLUTION REDUCTION

Reducing GHG emissions through reduced energy use also reduces air pollution emissions. The carbon reduction efforts identified in this report are estimated to have avoided over 359,000 MWh of electricity, and these improvements helped avoid air pollutant emissions that are harmful to human health and the environment. (see chart on the right). Of particular note is the reduction of nitrogen oxides that contribute to ground level ozone formation: a pollutant that is out of compliance with the national health standards for ground level ozone along the Front Range region.

ECONOMIC BENEFITS

Actions to reduce local GHG emissions can boost the local economy.

- Since 2000, ClimateWise projects have saved local businesses over $92 million.
- City revenue from concrete and asphalt recycling at the City Crushing Facility increased by 41% over 2013 sales resulting in total sales of over $1,096,000 in 2014.
- City Energy Policy efficiency programs generated over $27 million in local economic benefits through reduced utility bills, incentives, leveraged investment, and other economic activity.

2014 AIR POLLUTION REDUCTIONS

Pollutant	Avoided in 2014 from GHG reduction actions in Fort Collins (tons)
Nitrogen Oxides*	435
Sulfur Oxides*	337
Carbon Monoxide*	98
Particulates**	13

**Calculated using regional marginal emission factors.*
***Calculated using regional average emissions factors.*

CLIMATE ADAPTATION

Since 2008, the City has been evaluating the potential adverse impacts to City operations and infrastructure due to climate change. In 2011, Fort Collins City Council added a new policy goal on climate adaptation in City Plan, recognizing that while we continue to reduce emissions it is also our responsibility to prepare for the impacts of a changing climate. Through a series of planning workshops, the City identified and prioritized key risks such as reduced water quantity and quality; increase in extreme temperatures and heat waves; impacts from wildfire; and extreme storm events. The City will continue to plan, adapt, and monitor to help minimize identified risks to improve the community's response and resilience to extreme events and other climate related challenges.

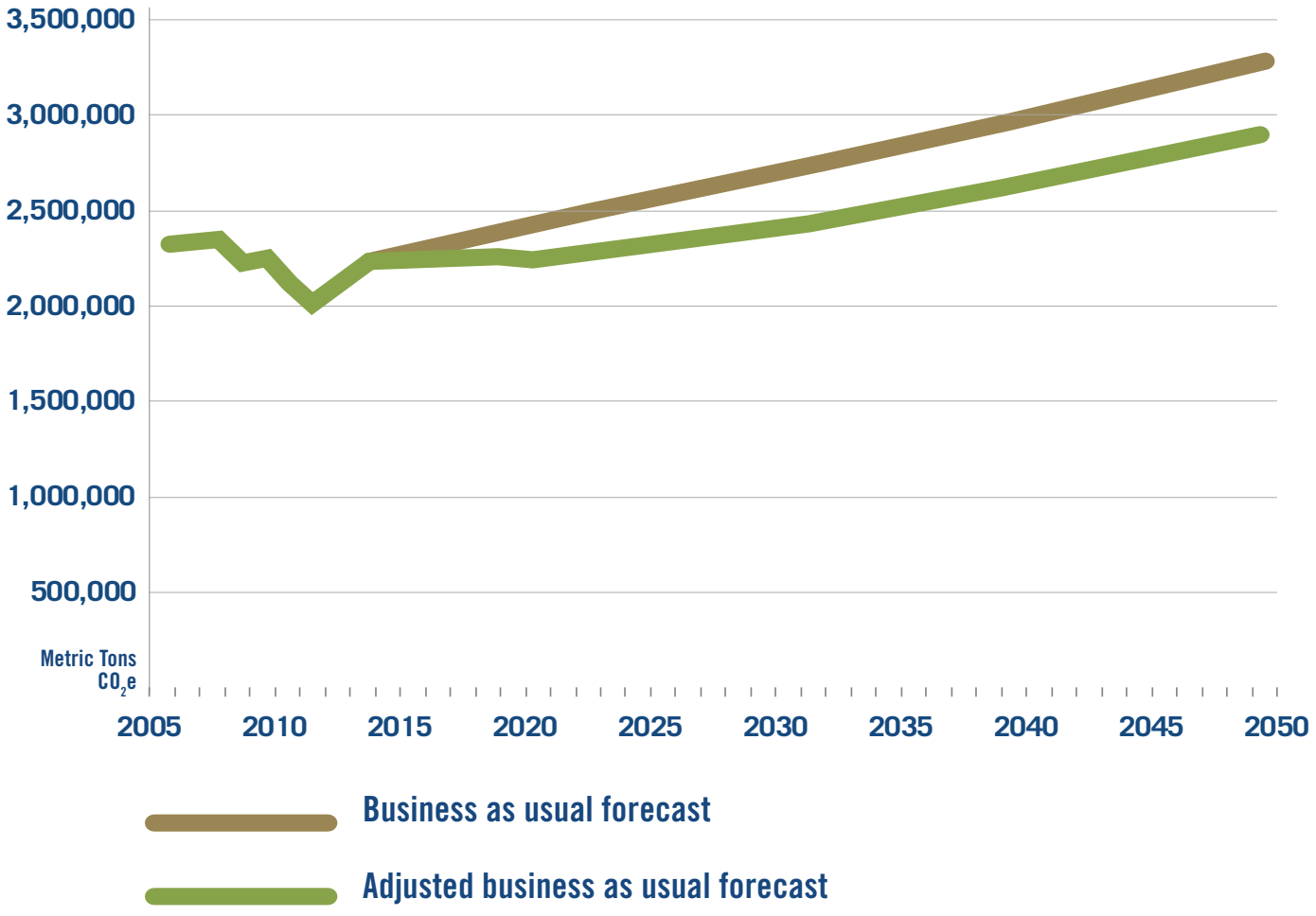
2014 Highlights

- Fort Collins Mayor Karen Weitkunat participated on the Presidential Taskforce on Climate Preparedness and Resilience. This 26-member taskforce provided recommendations to the Obama Administration advising how to best prepare communities for the impacts of climate change.
- Five City staff participated in Colorado Municipal League and Colorado Climate Network's Local Resiliency Project. The project brought together representatives of 32 local governments and other governmental entities and organizations active at the local level such as local health departments. The Project identified ways organizations can work together in preparing for and addressing climate change impacts, and what they need from the state and federal governments and other sources to do so.
- Outreach continued to multiple City departments to assist in raising awareness of potential climate impacts and identification of adaptation measures. Lessons learned from the 2012 High Park Fire and 2013 flood have resulted in operational improvements and additional planning for similar future events.

2050 FORECAST

The City of Fort Collins updates its community GHG emissions forecast biennially in preparation for the biennial budget process. Recently the forecast was updated to support development of the Climate Action Plan Framework document and new carbon reduction goals. The revised forecast incorporates a business as usual (BAU) forecast that assumes no major changes to existing programs, policies, and actions, but incorporates projections based on population growth and recent usage trends. Additionally, an adjusted BAU (ABAU) scenario was modeled to incorporate projections of community GHG emissions based on adoption of Corporate Average Fuel Economy (CAFE) standards. Both the BAU and ABAU forecasts depict total community GHG emissions including those from electricity, natural gas, ground transportation, and solid waste.

Fort Collins GHG Emissions & Projections



NEXT STEPS

Important next planning steps include identifying schedules, milestones, resources, and metrics to support implementation of the CAP Framework. Adopting new strategies and technologies to reduce GHG emissions will require tracking new metrics to demonstrate success such as increases in green building stock, carbon sequestration, and electric vehicle sales. Adaptive management will be important as new technologies emerge and lessons are learned about the effectiveness of various strategies. In moving from planning to action, it will be essential to identify ways every community member can contribute to reducing carbon pollution and embracing clean energy and its wise use. We all have a stake in the outcome, and a demonstrated willingness to work together to keep Fort Collins great.

2014 Community GHG Report

Scope 1 - Direct GHG Emission	Usage		Metric tons of CO2e
Natural Gas, Residential:	3,716,313	Dth	197,544
Natural Gas, Commercial:	1,412,778	Dth	75,097
Natural Gas, Industrial and Transportation:	2,940,530	Dth	156,307
Natural Gas Subtotal	*8,069,621*	*Dth*	*428,948*
Gas Car (assumes 22.1 mpg):	25,772,316	gal.	226,281
Gas Light Truck (assumes 17.7 mpg):	24,456,035	gal.	214,724
Gas Heavy Truck (assumes 13.9 mpg):	2,950,281	gal.	25,903
Diesel Car (assumes 19.378 mpg):	58,785	gal.	600
Diesel Light Truck (assumes 16.859 mpg):	135,137	gal.	1,380
Diesel Heavy Truck (assumes 5.634 mpg):	16,377,360	gal.	167,213
Water Reclamation Facility Emissions:	70,830	ft3/day	1,369
Scope 1 Subtotal			**1,066,418**

Scope 2 - Energy Indirect GHG Emissions	Usage		Metric tons of CO2e
Electricity, Residential:	482,953,947	kWh	366,717
Electricity, Commercial:	498,576,627	kWh	378,580
Electricity, Industrial:	452,248,740	kWh	343,402
Electricity, Street Lights:	8,542,765	kWh	6,487
Electricity, Traffic Signals:	575,346	kWh	437
Elec., Distribution and Transmission Losses:	58,636,393	kWh	44,524
Electricity Usage Subtotal:	*1,501,533,818*	*kWh*	*1,140,147*
Scope 2 Subtotal			**1,140,147**

Scope 3 - Other Indirect GHG Emissions	Usage		Metric tons of CO2e
Solid Waste	138,416	tons	76,597
Water Reclamation Disgester Gas	70,830	ft3/day	1,133
Water Treatment and Distribution	7,884,219,000	gal.	5,149
Scope 3 Subtotal			**82,878**

Total Metric Tons of CO2e:			**2,289,444**
Benefit of RECs:			-26,835
Benefit of Known Offsets:			-182
Revised Total Metric Tons of CO2e:			**2,262,427**
Recyclable Waste Embodied Emissions	44,016	tons	213,021
Community Air Travel	8,886,416	gal.	85,638

2005 Community GHG Report

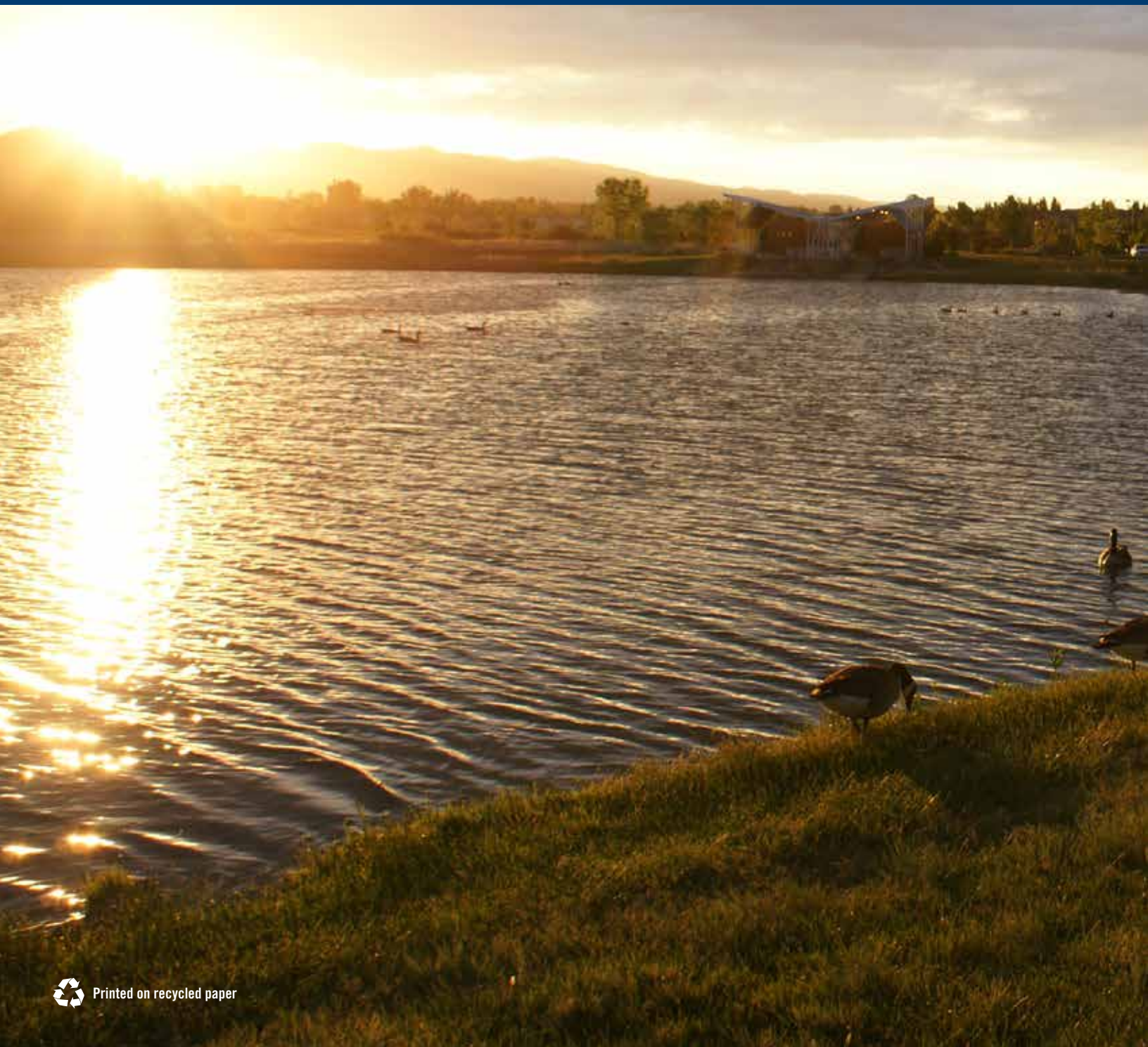
Scope 1 - Direct GHG Emission	Usage		Metric tons of CO2e
Natural Gas, Residential:	2,968,669	Dth	157,803
Natural Gas, Commercial:	1,207,770	Dth	64,200
Natural Gas, Industrial and Transportation:	3,051,712	Dth	162,217
Natural Gas Subtotal	*7,228,151*	*Dth*	*384,220*
Gas Car (assumes 22.1 mpg):	22,299,792	gal.	195,792
Gas Light Truck (assumes 17.7 mpg):	21,402,275	gal.	187,912
Gas Heavy Truck (assumes 13.9 mpg):	2,561,720	gal.	22,492
Diesel Car (assumes 19.378 mpg):	61,766	gal.	631
Diesel Light Truck (assumes 16.859 mpg):	94,660	gal.	966
Diesel Heavy Truck (assumes 5.634 mpg):	14,410,724	gal.	147,133
Water Reclamation Facility Emissions:	111,419	ft3/day	1,153
Scope 1 Subtotal			**940,299**

Scope 2 - Energy Indirect GHG Emissions	Usage		Metric tons of CO2e
Electricity, Residential:	454,070,392	kWh	376,298
Electricity, Commercial:	474,176,147	kWh	392,960
Electricity, Industrial:	464,277,920	kWh	384,757
Electricity, Street Lights:	8,123,199	kWh	6,732
Electricity, Traffic Signals:	907,818	kWh	752
Elec., Distribution and Transmission Losses:	57,766,526	kWh	47,872
Electricity Usage Subtotal:	*1,459,322,001*	*kWh*	*1,209,371*
Scope 2 Subtotal			**1,209,371**

Scope 3 - Other Indirect GHG Emissions	Usage		Metric tons of CO2e
Solid Waste	237,747	tons	194,027
Water Reclamation Disgester Gas	111,419	ft3/day	1,782
Water Treatment and Distribution	7,405,780,650	gal.	5,278
Scope 3 Subtotal			**201,088**
Total Metric Tons of CO2e:			**2,350,758**
Benefit of RECs:			-11,050
Benefit of Known Offsets:			0
Revised Total Metric Tons of CO2e:			**2,339,708**
Recyclable Waste Embodied Emissions	75,604	tons	369,208
Community Air Travel	9,083,951	gal.	87,542

City of Fort Collins
Environmental Services

JUNE 2015



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