Environmental Services Department

Draft Strategic Plan

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Project Sponsor: Jackie Kozak-Thiel Project Manager: Lucinda Smith This page intentionally left blank.

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Introduction

City of Fort Collins Commitment to Sustainability

The City defines sustainability as:

"To systematically, creatively, and thoughtfully utilize environmental, human, and economic resources to meet our present needs and those of future generations without compromising the ecosystems on which we depend."

The City's Sustainability Services Area (SSA) consists of Environmental Services, Economic Health, and Social Sustainability. The mission of SSA is to deliver on this definition of sustainability by:
(1) encouraging the Triple Bottom Line (TBL) perspective be applied to all major City projects; and (2) engaging in activities that support the TBL in our community, as shown in the Venn diagram.

(insert diagram)

The City's commitment to sustainability is seen through:

- Continued expression of the community's resolve to act sustainably: to systematically, creatively, and thoughtfully utilize environmental, social, and economic resources to meet present needs and those of future generations without compromising the ecosystems on which we depend.
- Policies and actions that are not developed and implemented in isolation from one another; rather, the focus is on integration.
- Encouragement of systems thinking to recognize and emphasize interrelationships among all aspects of City operations.
- Recognition of the interdependent economic, social, and environmental implications of policies, decisions, and outcomes.
- Recognition of the benefits and tradeoffs across all three areas (social, economic, and environmental).

What is Environmental Sustainability?

Environmental sustainability focuses on protecting the natural environment for the benefit of both ecosystems and human health. The value of a healthy environment is recognized in many City of Fort Collins plans and policy documents. The 2011 City Plan has a strong focus on environmental health, recognizing that environmental health also bolsters economic health and is critical to a high quality of life. Recognizing this, City Plan and the City of Fort Collins Strategic Plan call for Fort Collins to promote, protect and enhance a healthy and sustainable environment.

Environmental Services Department's role in protecting Fort Collins' environmental health

Many City departments work to support the environmental health of Fort Collins. The Environmental Services Department plays one of the leading roles in that effort.

The Environmental Services Department (ESD) provides programs and services to the community and City organization that efficiently pursue Council policies on sustainability, air, climate, waste reduction,

citizen engagement and meaningful performance measurement. We work to deliver reductions in indoor and outdoor air emissions, increase waste diversion and recycling, reduce the environmental footprint of the community and municipal organization, and provide rigorous environmental data tracking/reporting.

Solid waste reduction and air quality programs have been implemented by the City of Fort Collins for years, starting in the 1980's. These programs were originally housed in the City's Natural Resources Department. The Environmental Services Department was formed in 2012, following a division of the Natural Resources Department into two separate departments; ESD and Natural Areas.

ESD is one three departments, along with Economic Health and Social Sustainability, that were combined to form the new Sustainability Services Area in 2012. This unique organizational structure was intentionally created to integrate considerations of the "triple bottom line" or People, Planet and Profit, and to develop policies and programs that heighten awareness of sustainability with the community.

Environmental Services Department Mission

We exist because our community and the world have a right to a healthy, enduring ecosystem and environment.

Objectives of the Environmental Services Department Strategic Plan

The objectives of creating a unified Environmental Services Department Strategic Plan include:

- Provide a strategic plan for departmental activities with a 10+ year planning horizon for goals
- Identify existing and potent future trends that much be considered when developing strategies to meet policy objectives for environmental health
- Better integrate existing ESD programs
- Integrate the ESD Strategic Plan with the strategic plans for Economic Health and Social Sustainability
- Consider potential gaps in City policies, program or services to protect environmental health and address, if needed

The visions, goals and strategies identified in the ESD Strategic Plan are to be considered no more or less important than the City commitment to social well-being and economic health, and must be considered in the context of Plan Fort Collins, the Economic Health Strategic Plan, the (draft) Social Sustainability Strategic Plan and other similar plans.

Plan Structure

The ESD Strategic Plan is structured in five major themes that represent key areas of the department's work. Each theme includes challenges, our vision for the future, the role of Environmental Services, and goals. Each goal is accompanied by strategies intended to help meet the goal, and metrics with which to

evaluate progress. While the goals are longer-term (10+ years), the strategies are generally shorter-term (5 year). Work to refine the metrics into a limited set of meaningful metrics will be on-going so it is expected the metrics will evolve over time.

Biennial work plans will be developed based on the ESD Strategic Plan's strategies and approved budget offers. It is important to note that the Plan includes some strategies and goals that are not currently funded within ESD's on-going budget. As we work to implement the strategies and achieve the goals identified in this plan, we will look to the Budgeting for Outcomes (BFO) process and other sources of funding and resources to guide the pace of implementation. The Plan will evolve as City Council and community priorities evolve, and the Plan will be updated accordingly to reflect that.

The five themes of the ESD Strategic Plan are:

- Climate Commitment
- Be Air Aware
- Road to Zero Waste
- Lead by Example
- Collaborate and Act Regionally

The Environmental Services Department serves four primary roles in the protection of environmental health. In this plan, the primary role of the Environmental Services Department will be noted after each strategy as one of the following:

- 1. **Lead**—ESD has the lead role in implementing the goal or strategy (this could include implementation, education, policy development, regulation, coordination, facilitation, convening, advocating, or funding).
- 2. **Consult-** ESD will provide technical services, data, analyses and input to other City departments and external stakeholders to implement the goal or strategy.
- 3. **Partner** ESD will partner with other City departments and/or local agencies to implement the goal through the provision of support including funding support.
- 4. **Collaborate**—ESD will collaborate with other City departments and/or local agencies to implement the goal or strategy. (This could include advocating.)

ESD Foundational Documents

City Council and the Fort Collins community have a long history of commitment to environmental protection efforts and consequently, ESD has developed many policy documents and strategic plans to guide its efforts. Key existing ESD policy and planning documents are listed below.

- 2015 Climate Action Plan Framework
- 2013 Road to Zero Waste Plan
- 2013 Municipal Sustainability Management Plan
- 2013 Roadmap for Green Building
- 2012 Waste Characterization

- 2011 Air Quality Plan
- 2011 AQ and Recycling Citizen Survey

Additional References

- 2014 City of Fort Collins Strategic Plan
- 2011 City Plan and Transportation Master Plan City Plan is the comprehensive plan for the City of Fort Collins, and illustrates how we envision Fort Collins over the next 25 years and beyond. It shows us how we can get there step by step. The *Transportation Master Plan* (TMP) serves to explain a bold vision for the long-term multimodal transportation system supporting the Fort Collins community well into the future. The TMP provides policy direction for decisions regarding the implementation of the transportation system to achieve the community's vision.

A. Climate Commitment

The science is clear - climate change is already occurring and is no longer a distant threat. And the cost of inaction is unacceptable. Globally, the rise in temperatures has profound implications for natural resources, economic prosperity, health and human development. Fort Collins has long committed to reduce community greenhouse gas (GHG) emissions. Fort Collins increasingly monitors local vulnerability to higher temperatures and is actively exploring ways to adapt and become more resilient. Since 1999 Fort Collins has pursued deliberate actions to reduce community GHG emission and make a difference within our community that has global benefits. 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. Fort Collins has a strong foundation from which to continue and expand efforts to reduce emission and prepare for climate change in order to protect our quality of life.

Alignment to the City of Fort Collins Strategic Plan

Working to reduce our local greenhouse gas emissions and to prepare for a changing climate serves aspects of all seven outcome areas identified in City Plan and in the city of Fort Collins Strategic Plan. One or two key strategic objectives are listed below.

- Promote health and wellness within the community. (CNL 1.6)
- Promote a healthy community and responsible access to nature.(C&R 2.7)
- Support sustainable infill and redevelopment to meet climate action strategies. (ECON 3.7)
- Reduce GHG emissions by creating a built environment focused on green building and mobile emissions reductions (ENV 4.4)
- Increase the community's resiliency and preparedness for changes in climate, weather and resource availability (ENV 4.7)
- Improve community involvement, education and regional partnerships to make our community safer and stronger. (SAFE 5.8)
- Support efforts to achieve climate action goals by reducing mobile emissions and supporting multiple modes of transportation. (TRANS 6.6)
- Proactively influence policy at other levels of government regulation. (HPG 7.11)

Challenges

- Need to strengthen and maintain internal City organizational support and alignment
- Community growth and increasing vehicle mile of travel pose challenges to reducing community carbon footprint
- Competing priorities within the City
- Business perception that this will only cost them money
- Need for new financing approaches to buy down first costs and to fund large capital investments
- Need to address the electricity supply mix together with Platter River Power Authority member jurisdictions

- Adaptation and mitigation strategies aren't always aligned
- Lack of private sector resources to buy technologies
- Standardizing data quality
- Emerging science on climate change and environmental impacts can require changing responses, strategies, and priorities
- Developing metrics for qualitative data
- Maintaining data quality becomes difficult with larger data sets and more data collection.
- Communicating uncertainty about climate change to the public
- Decision-making and planning based on incomplete data

Data Points

- 2014 Climate Action Plan Status Report http://www.fcgov.com/climateprotection/pdf/2014 CAPStatus WebFinal.pdf
- 2013 Municipal Sustainability Annual Report http://www.fcgov.com/sustainability/annualreports/2013-report.pdf
- Fort Collins Climate Change Primer
 http://www.fcgov.com/climateprotection/pdf/fortcollinsclimatechangeprimer2013.pdf
- Fort Collins Extreme Heat Report
 http://www.fcgov.com/climateprotection/pdf/heat-report-jan-2014.pdf

Our Vision

A healthy, safe, sustainable, and carbon-neutral community that innovates solutions to climate change.

Our Role

The Environmental Services Department plays the following roles relative to "Climate Commitment"

- Lead, coordinate and track interdepartmental efforts to implement the 2105 CAP Framework
- Lead, coordinate and track interdepartmental efforts to reduce greenhouse gas emissions from the municipal organization
- Implement programs that reduce community and municipal greenhouse gas emissions
- Conduct community education and engagement that supports greenhouse gas reduction
- Lead and coordinate interdepartmental efforts to develop plans to prepare for and adapt to climate disruption
- Collaborate with regional, state and national peers and partners to advance carbon reduction and preparedness initiatives
- Provide state-of-the-art standardized methods for community carbon accounting and an accurate and timely annual community GHG emission inventory.
- Ensure high quality carbon data through implementing centralized quality assurance and quality control
- Report annually on community's progress towards adopted community carbon goals.

Integration with the Triple Bottom Line

Environmental – Reducing greenhouse (GHG) emissions also reduces air pollution and its harmful impacts to ecosystems, reduces fossil fuel extraction impacts, and lessens waste sent to landfills, thereby forestalling the need for building a new landfill. Climate adaptation strategies can preserve vital ecosystem services

Social – Reduction of GHG emissions also reduces many other air pollution emissions that can harm human health. Climate mitigation actions such as expanded mobility choices and increased urban density can also increase citizen access to services and decrease cost of living. Anticipating and preparing for extreme heat and other climate disruptions can protect citizens' health and welfare. Environmental justice is a common concept in environmental science and encourages consideration of social impacts across many community groups.

Economic – Reducing carbon emissions provides significant new business opportunities in areas that include building retrofits and new building construction, expansion of electric vehicle infrastructure, and research and technology development in clean energy and innovative financing solutions. The immediacy of the need for carbon reductions to avert a 2 degree Fahrenheit increase requires large cuts in emissions, so efforts must focus on finding feasible economic strategies to make these cuts possible without negatively impacting businesses or residents.

Goal A.1: Rapidly advance green built environment

Strategy 1: Collaborate with all City service areas to promote regenerative, restorative and sustainable development principles through:

- Formalize a *City Green Built Environment Program* for shared awareness, increased collaboration, and to provide a forum for review of major planning and development proposals
- Engage in long-range planning with other City departments to ensure that existing and future green programs function well together and are easy for the public to navigate and participate in
- Identify, address and resolve misalignments of existing City policies that create obstacles to a green built environment
- Work with other departments to implement voluntary and eventually mandatory building energy performance disclosures at time of sale or lease
- Work with representatives of the local business and development community to gather input on the development review process and other phases of the building process, and share findings with other City departments with the objective of enhancing the processes to ensure the City's desired outcomes.

Strategy 2: Develop market-based initiatives to encourage efficiency and sustainable design in the built environment through:

- Research, document and promote best practices
- Identify market mechanisms and financial instruments that either wholly-fund sustainability projects or minimize City assistance and maximize the leverage of City funds
- Increase awareness among area businesses of the availability and value of green financing

Strategy 3: Support the development and implementation of advanced building codes with special emphasis on energy efficiency in existing building stock.

Strategy 4: Coordinate with other departments to develop public informational resources and engage builders, developers, designers, residents and City employees, including:

- Maintain a simple, effective online presence
- Provide basic education on green building for City staff that regularly work with the development community
- Utilize a "point-of-sale" approach to reach designers, contractors, and members of the general public regarding green practices, codes and products, incentives, etc.
- Increase direct outreach to small and mid-size businesses to capture the greatest number of commercial utilities customers;
- With other departments, develop an education programs and resources for homeowners and businesses on the financial benefits of green design and construction

Metrics

- Percent change over time in number of green-certified (E-Star, LEED, etc.) buildings in Fort Collins (STAR metric)
- Building code compliance
- Number builder trainings offered by the City
- Number of "point of sale" transactions (at time of permit, building upgrade, sale)

Goal A.2: Engage the community and persuade and empower to act

Strategy1: Provide project management for the "Lose-A-Watt" Campaign (2015-2016) (Lead)

Strategy 2: Foster relationships and strategic partnerships to deepen involvement on climate action within the community. (Partner)

- Identify, highlight, and strategize on shared carbon reduction goals or other related goals
- Increase collaboration with the academic sector for provision of information and servicelearning opportunities
- Partner with and support non-profits and faith-based community carbon reduction efforts
- Provide information and engagement opportunities to businesses' and employees

Strategy 3: Identify and address barriers and opportunities presented by 2015 CAP strategies to businesses and citizens, with emphasis on vulnerable and under-served segments of the community (Collaborate)

- Engage with affordable housing providers and Healthy Homes program to identify potential impacts of climate action strategies and develop solutions
- Participate and support the re-tooling of ClimateWise to encourage greater awareness and action by businesses.

- Provide technical assistance to support the "Climate Economy" goals outlined in the Economic Health Strategic Plan.
- Promote successful business practices and models that create or extract economic value from carbon reduction and climate adaptation activities.

Strategy4: Develop key messaging points and marketing materials in conjunction with Utilities' Segmentation Study, Six America's study, and other relevant research (Collaborate)

Strategy 5: Prioritize impactful strategies and implement best practices (Community-based social marketing, targeted messaging, social norming) for selected behavior change (Collaborate)

Metrics

- Annual number of people receiving sustainability education
- Percent of citizens responding very good/good to the City's performance in encouraging sustainability in the community
- Percent decrease in ClimateWise partners Greenhouse Gas (GHG) emissions from 2005 baseline
- Quarterly residential and government energy usage (MMBTU) from Lose-A-Watt
- Local investments in energy conservation and carbon reduction efforts

Goal A.3: Increase City organization's preparedness and resiliency to climate change impacts

Strategy 1: Support organization-wide and upper-level management's commitment to develop and implement adaptation strategies that are integrated into routine City planning initiatives (Lead and Consult)

Metrics

- Number of City strategic plans that explicitly reference future climate disruption and/or identify strategies to adapt, prepare, and/or stay abreast of evolving climate change science
- Future metrics will be developed for adaptation strategies

Goal A-4: Continue responsible climate planning and progress reporting

Strategy 1: Organize and facilitate interdepartmental teams working on key strategic initiatives to implement the 2015 Climate Action Plan Framework (Lead)

Strategy 2: Engage the public and key stakeholders in development of future climate action policies, plans, and programs (Collaborate)

Strategy3: Provide up-to-date and centralized carbon accounting for the community carbon emissions (Lead)

Strategy 4: Track and report annual progress of major community carbon reduction programs, projects, and policies (Lead)

Metrics

- Private investment in energy conservation and carbon reduction efforts
- Annual update of GHG emissions Quality Management Plans and annual Climate Status Report

Goal A.5: Support innovation to accelerate implementation of 2015 Climate Action Plan Framework

Strategy 1: Support and enhance "triple helix" partnerships (government, private sector, academia) such as FortZED and the Colorado Clean Energy Cluster (Collaborate & Partner)

- Serve as liaison for potential FortZED pilot and demonstration projects within the City organization
- Support targeted industry clusters that advance carbon reduction and support local jobs
- Support educational and showcase events to increase sustainability innovation
- Support the development of reliable, high speed internet services throughout the community to increase telecommuting and reduce emissions from driving

Strategy 2: Promote relevant national and global best practices and innovation solutions to more rapidly advance progress on CAP Framework strategies (Collaborate)

- Evaluate lessons learned from Lose-A-Watt campaign and employ successes in future engagement
- Support and collaborate on implementation of a district scale pilot project

Strategy 3: Promote low carbon-intensity vehicles (more fuel efficient, alternative and electric vehicles) in the community (Collaborate)

- Support Drive Electric Northern Colorado by engaging citizens in EV test drives
- Develop City policies for electric vehicle charging station use
- Support Northern Colorado Clean Cities Coalition

- Number of electric vehicles purchased by Fort Collins residents (from DENC)
- Job formation in "green" industries, businesses
- Patent production (or other similar measure) of relevant innovation

B. Be Air Aware

City residents have high expectations for a clean environment, and the City has demonstrated leadership by investing in air quality staff and programs for several decades. The City has had a long-standing policy to "continually improve air quality". Residents have identified the Air Quality Program as being the single most important program for protecting their future quality of life in past surveys. The overarching goal to "continually improve air quality" is paramount in our strategic planning. The air pollutants of greatest concern in Fort Collins are ozone, indoor air quality, greenhouse gasses and fine particles. The City's air quality program supports the following principles, as identified in the 2011 Air Quality Plan:

- responds to a strong citizen mandate for the City to protect and improve air quality;
- recognizes that certain air quality problems and opportunities are most effectively handled at the local level;
- complements and fills gaps left by federal, state and county efforts;
- provides a long-term planning framework for air quality protection and improvements; and
- recognizes and coordinates the efforts of City Departments assisting with this process.

The City has developed initiatives that focus on reducing both outdoor and indoor air pollution, and implements policies and programs, provides education and incentives, and enacts regulation.

Alignment to City Strategic Plan

The City's Air Quality Program works to improve community health by engaging citizens in ways that educate and change behavior toward more sustainable living practices, and to improve community involvement, education, and regional partnerships to make our community safer and stronger.

- Promote health and wellness within the community (CNL 1.6)
- Implement indoor and outdoor air quality improvement initiatives. (ENV 4.3)
- Reduce greenhouse gas emissions by creating a built environment focused on green building and mobile emission reductions. (ENV 4.4)
- Engage citizens in ways to educate and change behavior toward more sustainable living practices (ENV 4.6)
- Support efforts to achieve climate action goals by reducing mobile emissions and supporting multiple modes of transportation (TRANS 6.6)
- Proactively influence policy all all other levels of government regulation. (HPG 7.11)

Challenges

- Continued ozone non-attainment and potential new ozone standard
- Coordination of air quality programs with other departments and initiatives
- Making the air quality programs, initiatives, and plan, an essential part of all City planning, decision making and enforcement
- Increasing growth and development that results in increased air emissions
- Lack of understanding and appreciation for health impacts of indoor and outdoor air quality
- Integrating air quality initiatives into climate action implementation

- Addressing the air quality impacts of regional transportation issues
- The more frequent occurrences of climate related impacts on air quality such as extreme heat and wildfire smoke
- New social trends and fads that affect air quality such as increases in preferred cooking over wood fire, natural gas fire pits and heaters for atmosphere, and rolling coal.

Data Points

 2013 Fort Collins Annual Air Quality Report http://www.fcgov.com/airquality/pdf/2014 AirQuality Plan.pdf

Our Vision

A community that is vigilant about protecting the quality of the air we breathe and continually strives to improve it.

Our Role

The Environmental Services Department plays the following roles relative to "Be Air Aware"

- Provides community information and education about air quality issues
- Provides engagement program and incentives to promote air pollution reduction
- Develops and implements air quality policies and regulations
- Tracks and reports air pollution data
- Participates in regulatory rule-makings to advance the City's air quality objectives
- Develops and implements air monitoring systems
- Develops and implements air quality policies and regulations

Integration of the Triple Bottom Line

Environmental – The air quality program informs citizens about air quality issues, inspires behavior change in residents to improve air quality, and implements strategies that reduce air pollutant emissions. Reducing air pollution may reduce its harmful impacts to the natural environment.

Social – The air quality program provides opportunities for all residents to learn strategies to improve the air they breathe regardless of socioeconomic status. Air Quality programs and projects improve the general health of the community and individuals while promoting more sustainable living practices. Reduction in air pollution emissions can also improve visual quality.

Economic – Working to continually improve air quality and to achieve national air quality health standards will make Fort Collins attractive to current and future employers. Serious violations of national air quality standards could potentially restrict the flow of federal transportation dollars to our region.

Goal B.1: Support and leverage air quality co-benefits of climate action initiatives

Strategy 1: Identify and communicate reductions in air pollutants from 2015 Climate Action Plan Framework implementation (Lead)

Metrics

Quantified air pollutant reductions from climate action strategies

Goal B.2: Improve indoor and outdoor air quality to enhance the community's health

Strategy 1: Continue to grow and develop the Healthy Homes program (Lead)

- Recruit, train, support, and recognize Master Home Educators
- Provide free home health assessments to residents
- Conduct continuous community outreach and education
- Collaborate with local regional and national indoor air quality programs
- Communicate emerging health impacts of climate change

Strategy 2: Address fugitive dust issues (Collaborate)

- Develop new ordinance
- Provide guidance and training for developers, community, and staff
- Implement administrative policy for City operations

Strategy 3: Determine the primary issues and concerns of community members through the air quality survey (Lead)

Strategy 4: Address air quality issues from smoke (Collaborate)

- Develop wildfire smoke response plan
- Address air quality issues from outdoor burning
- Enhance woodstove education and replacement program

Strategy 5: Promote active modes of transportation (walking, bicycling) (Collaborate)

- Engage in development of Bike/Car/Ride share programs
- Engage in City planning processes to promote infill development, transit oriented development
- Support community research on exposure to commuter pollutants

- Annual cumulative Healthy Homes; # homes assessed, volunteer hours
- Decreased number of air quality complaints through Fort Collins Access system (woodsmoke, dust)
- Future methods to measure decreased asthma rates in Fort Collins

Goal B.3: Promote air quality protection within the City organization

Strategy 1: Be responsive to inquiries from City staff on air quality issues (Consult)

Strategy 2: Participate in the development review process for proposals that will have a major impact on air quality (Collaborate)

Strategy 3: Communicate the technical services and capabilities of the air program to City departments (Lead)

Strategy 4: Develop a methodology for assessing air quality impacts of major transportation and development projects and City planning.(Lead)

Metrics

• Percent of City plans that evaluated air quality implications

Goal C.4: Focus on local actions that will reduce air pollutants of concern including ozone and radon

Strategy 1: Improve Ozone Action Programs (Lead)

- Implement Clean Lawn and Garden Equipment Program
- Implement Breathe Easy no idling campaign
- Develop new ozone action and awareness initiatives
- Develop and implement the Electrify Your Summer event

Strategy 2: Enhance Air Quality Zero Interest Loan program (Lead)

Strategy 3: Improve radon outreach (Lead)

- Utilize research results to design a radon mitigation strategy
- Design a personalized response plan for residents with high radon exposure risk
- Increase program potential through additional grant opportunities with CDPHE
- Improve test kit awareness and sales

Strategy 4: Use local regulations as needed to improve air quality (Lead)

Strategy 5: Continue to address the air quality impacts from regional oil and gas development (Lead)

- Participate in development of City policy
- Conduct air monitoring and analysis
- Support and participate in regional studies

Strategy 6: Plan for action, inform citizens, and report air quality information to the public (Lead)

- Prepare an annual air quality report and update community dashboard metrics
- Conduct periodic citizen survey to understand actions, motivations, and interests
- Periodically update the City's air quality policies and Air Quality Plan

- Outdoor air quality index (PM2.5 and ozone)
- # participants lawn mower program
- # of wood smoke complaints made to City
- Percent of Annual Air Quality Loan fund awarded
- Visibility data

C. Road to Zero Waste

In 2013, Fort Collins City Council adopted goals to achieve 75 percent waste diversion by 2020, 90 percent by 2025, and zero waste by 2030. The associated Road to Zero Waste Plan aligns closely with triple-bottom-line principles of economic, environmental and social sustainability for the community. The plan contains a toolbox of strategies and ideas, including proposals to make recycling universally available and adding compostable materials to the curbside collection system. Funding tools will be developed to award economic incentives for local recycling entrepreneurs. Additionally, expanded requirements for construction and demolition recycling, landfill disposal bans (adding to Fort Collins' current prohibitions on electronics and cardboard), and other regulations will be explored.

Fort Collins' vision is to consciously invest in new ways to manage its 'discards'. Charting the course for Zero Waste will steer the community away from traditional landfill technology and toward new opportunities that create jobs, conserve resources and reduce greenhouse gases that would otherwise be emitted from manufacturers and landfills - ultimately saving taxpayers' money.

Alignment to the City of Fort Collins Strategic Plan

- Promote health and wellness within the community (CNL 1.6); with objectives to
 - Engage citizens in ways that educate and change behavior toward more sustainable living practices (ENV 4.6)
 - Improve community involvement, education, and regional partnerships to make our community safer and stronger (SAFE 5.8)
- Expand organizational and community knowledge about diversity and embrace cultural differences (CNL 1.8); with objectives to
 - Improve access to, and participation in, City programs and facilities for disadvantaged, underrepresented, minority, and culturally diverse populations.
- Align economic health goals and strategy across all levels of the organization and refine and agree upon the economic tools the City uses (ECON 3.1)
- Improve policies and programs to retain, expand, incubate and attract primary employers where consistent with City goals (ECON 3.2)
- Improve effectiveness through collaboration with economic health-oriented regional partners (ECON 3.4)
- Demonstrate progress toward achieving net zero energy within the community and the City organization using a stems approach (ENV 4.5)
- Engage citizens in ways to educate and change behavior toward more sustainable living practices (ENV 4.6)
- Demonstrate progress toward achieving zero waste within the community and the City organization (ENV 4.11)

Challenges

- Hard to get good data and comparable data
- Difficult to quantify and track source reduction
- Market volatility for recyclables, e.g., China's Green Fence

- Low landfill prices (No surcharge to support diversion programs)
- Ongoing need for education, as people move to Fort Collins or change residences, etc.
- Complexity of issues inherent in waste reduction/recycling's "narrative"
- Relationships that must be developed and retained with private sector and regional agencies..
- Need for collaboration to achieve regional-scale materials management systems
- The need to adapt to changing contents in recycling stream, e.g., packaging
- Lack of local markets for recyclables and distance (high transportation costs) to end markets...
- Lack of a state policy/goal for waste reduction and recycling (One of only 12 such states)
- Compost regulations are too restrictive; prevents expansion of the composting industry

Data Points

 2014 Fort Collins Waste Reduction and Recycling Report http://www.fcgov.com/common/pdfs/spotlight-pdf.php?id=1161

Our Vision

Resources are diverted from the waste stream as efficiently as possible and put to beneficial secondary use as locally as possible.

Our Role

The Environmental Services Department plays the following roles relative to "Road To Zero Waste"

- Supports the development of market activities by acting as a convener and catalyst
- Educates about waste diversion using campaigns such as "I Recycle"
- Provides technical expertise and incentives such as the WRAP program (Waste Reduction and Recycling Program) that facilitates businesses in reducing waste.
- Implements regulations, such as Pay-As-You-Throw, that establish operational requirements for private trash and recycling companies, and enforce those regulations.

Integration of the Triple Bottom Line

Environmental – Reducing waste conserves natural resources and energy used to produce goods and packaging; avoids construction of new landfills; prevents emissions of pollutants to groundwater, greenhouse gases from landfills (methane) and manufacturing activities; and prevents degradation of natural ecosystems caused by mineral and resource extraction.

Social – City efforts strive for parity in the provision of recycling and waste reduction programs to all citizens and work to ensure all residents have equal access to recycling/diversion options, regardless of where they live.

Economic – Procuring required resources locally supports a healthy economy. Recycling and reuse industries create jobs and revenue for the local and state economy. Waste diversion postpones or prevent having to make public investment in new, costly landfills.

Goal C-1: Reduce the flow of materials sent for landfill disposal and foster greater resilience in managing waste materials to lower greenhouse gas emissions

Strategy 1: Fill gaps in the infrastructure for processing large-volume types of waste to be diverted from landfills

- Foster pragmatic innovation that reflects local/unique waste streams, distance to markets, and viable technology (Consult)
- Partner with CDPHE, Larimer County, City of Loveland, Colorado State University, Poudre School District etc. on regional planning (Partner)
- Prioritize development of regional compost facility/transfer station (Partner)
- Prioritize development of a C&D (construction, deconstruction and demolition) facility (Consult)
- Explore opportunities for local use/applications/programs to recover hard-to-recycle materials (e.g., Styrofoam)(Lead)
- Investigate and implement new source-separated organics (SSO) composting measures and potential waste-to-clean-energy facilities (Collaborate)

Strategy 2: Apply the City's policy tools to achieve greater levels of waste diversion.

- Provide support/consulting/expertise to develop guidelines and best management practices for, and help implement recycling at, construction, demolition, and deconstruction projects (e.g., Foothills Mall) (Consult)
- Prohibit materials from landfill disposal (e.g., C&D, yard waste) (Lead)
- Continue to work closely with planning to update building codes and land use codes to allow for recycling and composting in new development (Partner& Collaborate)
- Support state and local regulatory approaches to remove obstacles for composting industry and improve compost markets(Collaborate)

- Community solid waste diversion rate
- Progressively stronger ordinances adopted in pursuit of Zero Waste goals
- Updates to land and building codes adopted in pursuit of Zero Waste goals
- Enhanced working relationship with developers / contractors

Goal C.2: Increase the focus on preventing high-value material from being sent to landfills that could instead support the recycling and materials recovery industry

Strategy 1: Leverage the City's economic development capability to create more local commercial recycling activities.

- Develop Materials Recovery Economics Cluster that will help create jobs through waste diversion activities and reinvest in the local economy (Partner)
- Support local processing and re-manufacturing opportunities that enable Fort Collins to become
 more independent (for instance by relying less on long-distance freight, dependence on foreign
 oil). (Consult)
- Seek to attract other desirable businesses to Fort Collins that make use of materials that are retained/captured and that want to be associated with a community that successfully diverts its waste (Collaborate)
- Evaluate and promote new waste-reduction businesses opportunities for underserved populations (veterans, individuals with disabilities, minorities, women)

Strategy 2: Balance the needs/desires of the community with the fiscal realities of waste/recycling businesses, such as fluctuating market values for recyclables.

Solicit participation from all stakeholders in developing local policies and ordinances (Lead)

Metrics

- Tons of community recycled or composted materials, including cardboard
- Increase number of job created in new waste reduction and recycling services and infrastructure
- Productive, open channels of communication maintained with stakeholders
- Public forums held to solicit community input

Goal C.3: Expand the culture of environmental stewardship that first and foremost seeks to reduce waste at the source

Strategy 1: Implement Road to Zero Waste Plan recommendations

- Advance responsible purchasing policies (Partner)
- Promote Product stewardship (Lead)
- Promote Extended-producer-responsibility ordinances (Lead)

Strategy 2: Apply and institute principles of Sustainable Materials Management (SMM) to realize greater efficiencies using a systems-based approach

- Implement education / information campaign on Culture Change, underscoring the importance of source reduction and Life Cycle Analysis(e.g., promote move-in/move-out waste diversion programs at student housing complexes) (Lead)
- Explore opportunities to pilot/implement SMM practices (Lead)

Metrics

- Reduction in pounds per capita of municipal solid waste
- Widespread adoption of responsible purchasing practices

Goal C.4: Provide education/information about - and enhance equal opportunities for participating in - waste management that empowers residents' personal actions to lower carbon emissions, conserve natural resources, and improve local soils.

Strategy 1: Create and enhance opportunities and programs for citizens to divert waste from landfills. (Collaborate)

Strategy 2: Foster culture of environmental stewardship.

- Serve as a model for other communities whereby Fort Collins can take rightful pride in its identity as a waste diversion success and our local "culture" of resource stewardship. (Partner)
- Provide recycling drop-off services (Lead & Partner)
- Update Pay-As-You-Throw regulations (Community Recycling Ordinance) (Lead)
- Implement Culture Change campaign (Lead)

- Cumulative number of individuals with new or improved access to recycling through WRAP
- Increased number of recycling drop-off sites
- Adopted Community Recycling Ordinance update, with community input

D. Lead by Example

The City of Fort Collins aspires to provide world-class services to the community while cultivating a world class organizational culture for its employees. In order to achieve this vision, both internal and external services are data-driven and implemented according to organizational values. The City develops resiliency and sustainability through organization-wide systems and processes that ensure consistent employee work practices and alignment across service areas.

The City has adopted eleven municipal sustainability goals, several of which focus on environmental sustainability. As a Platinum ClimateWise Partner, the City of Fort Collins is committed to reducing greenhouse gas emissions 20% below 2005 levels by 2020. The organization is equally committed to systematically addressing all aspects of sustainability through a triple bottom line lens for projects, policies and purchases by implementing numerous projects that address each of the eleven municipal sustainability goals.

Our success at taking decisive action and implementing innovative solutions in the face of a range of social and economic challenges, and the uncertainties of climate change, has contributed to the vibrant, livable city that is Fort Collins. The City's role in leading by example will empower businesses and residents to take an active role in addressing climate mitigation and adaptation strategies.

Alignment with City's Strategic Plan

- Support workforce development & community amenities initiatives that meet the needs of primary and innovative employers (ECON 3.3)
- Improve organizational capability and effectiveness professional development, leadership, change management, strategic thinking, fiscal literacy and staff engagement. (HPG 7.1)
- Improve productivity, efficiency, effectiveness, customer service and citizen satisfaction in all areas of the municipal organization. (HPG 7.9)
- Implement leading-edge and innovative practices that drive performance excellence and quality improvements across all Service Areas. (HPG 7.10)
- Reduce GHG emissions by creating a built environment focused on green building and mobile emission reductions. (ENV 4.4)
- Demonstrate progress towards achieving nets zero energy and waste. (ENV 4.5)

Challenges

- Setting specific accountability targets for individuals and departmental goals
- Planning for unquantified risks, including water; increased federal and state water regulations;
 and increased water and energy rates
- Ability and willingness to engage in sustainability events and challenges
- Limited staff capacity to implement internal sustainability projects and policies
- Adjusting buildings hours for coincident peak energy use
- Sometimes competing objectives of user needs and energy efficiency
- Continue funding to implement efficient, innovative improvements to the City's physical plant and operational procedures that are not otherwise funded

- Standardizing data quality
- Developing metrics for qualitative data
- Evaluating quality of data sources
- Communicating complex concepts

Data Points

2013 Municipal Sustainability Annual Report
 http://www.fcgov.com/sustainability/annualreports/2013-report.pdf

Our Vision

A community-wide and organizational culture of sustainability in which the City plays a leadership role.

Our Role

The Environmental Services Department plays the following roles relative to "Lead By Example"

- Coordinates the interdepartmental Municipal Sustainability Team
- Provides technical advice and support to City departmental efforts to advance the municipal sustainability goals and community climate action goals
- Tracks and reports annual progress on municipal sustainability goals
- Provides programs such as challenges, movies, community discussions intended to educate and empower the community to take action to advance sustainability
- Provides technical expertise in the areas of air quality, waste diversion, and climate mitigation and adaptation
- Facilities the organization in developing climate adaptation plans
- Educates about and advocates for sustainability best practices, internally and externally
- Support triple bottom line thinking and the City's Sustainability Assessment process

Integration of the Triple Bottom Line

Environmental –Environmental stewardship is one of the key values of the City organization. The City's own environmental policy states "The City of Fort Collins is committed to conducting its operations in a manner that is environmentally responsible and reflective of the community's strong commitment to the environment. The City will strive to be a community leader in environmental performance in balance with providing exceptional services to the community." The City strives to reduce its environmental impact through numerous environmental sustainability goals and implementing Environmental Management Systems for key operations. Good data quality for the City's municipal carbon accounting and timely reporting of annual GHG emissions from municipal operations sets a good example for institutions, businesses, and industries across the community to follow.

Social -Many of the City's services, policies, and programs affect residents and businesses across the community, so we must consider social equity as a standard practice. This is good customer service. The municipal government's local food goals improve the availability and accessibility to healthy food for staff and residents.

Economic - The City has a responsibility to manage taxpayer dollars efficiently and can reduce the cost of municipal operations to taxpayers by using resources, including energy, efficiently. The City tracks and reports its own energy use, costs, and carbon emissions, and strives to reduce use and costs. Innovative sustainability projects and financing approaches implemented by the municipal organization can pave the way for increased economic opportunities in the community. These include local distributed renewable energy projects such as the Community Solar Garden that support the workforce and expanded community amenities.

Goal D.1: Advance the City organization's progress on comprehensive sustainability principles and goals

Strategy 1: Design, initiate, and evaluate pilot projects and operations through a triple bottom line approach. (Lead & Collaborate)

- Coordinate review of proposals and awards of the City's Innovation Fund
- Highlight Innovation Fund recipients and Innovation Team Projects
- Highlight Sustainability Innovation through the Residential Environmental Program Series and BIZED Programs
- Support Municipal Energy Efficiency Fund activities

Strategy 2: Collaborate and partner with other City departments to advance progress on the municipal sustainability goals (Lead, Consult, Collaborate)

- Lead and participate in cross-functional teams to coordinate and encourage municipal sustainability
- Assist departments in identifying and addressing gaps in sustainability policies and practices
- Collaborate with departments to set departmental or personal goals in alignment with municipal sustainability goals and provide routine progress reports
- Promote and implement sustainable procurement best practices
- Implement and advance local food use for City functions
- Assist City departments in achieving zero waste events
- Publish Annual Municipal Sustainability Report in collaboration with City departments and publish Sustainability Management Plan on a five year cycle.

Strategy 3: Initiate opportunities for staff, businesses and contractors to maintain and obtain professional credentials (i.e. LEED, Green Globes etc.) and learn about climate mitigation activities. (Lead)

Strategy 4: Increase accountability for climate action and other sustainability goals at City Service Area level. (Collaborate)

- Promote integration of City sustainability goals into Service Area goals and plans
- Encourage adoption of performance goals that support progress on municipal goals

- Percent decrease in municipal Greenhouse Gas (GHG) Emissions from 2005 baseline
- Progress towards the quantified sustainability goals

- Review and update administrative policies to address climate change factors
- Amendments to Land-Use, Building codes and Administrative Policies

Goal D.2: Educate and inspire the community, City leadership, and staff about environmental sustainability

Strategy 1: Provide expert consultation to assist departments on specific areas such as data management, zero waste practices, air quality, alternative fuels and fleets, etc. (Consult)

Strategy 2: Utilize community-based social marketing and other behavioral techniques that promote positive change, reduce barriers, and focus on the benefits of making changes (Lead and Partner)

- Centralize information about City-offered programs and resources for all community members, with a special emphasis on reaching low income citizens
- Promote resource conservation

Strategy 3: Interpret complex data to make it understandable and relevant to a non-technical audience (Lead and Partner)

Metrics

Annual number of people receiving sustainability education

Goal D.3: Advance consideration of the triple bottom line in City-wide decision-making

Strategy 1: Implement and encourage others to build departmental capacity to conduct Sustainability Assessments of projects that consider environmental, economic and social implication and ways to mitigate potential negative impacts (Lead and Consult)

- Provide trainings
- Promote development of expanded on-line resources
- Elevate the principles of environmental justice and equity

Strategy 2: Evaluate and update the Sustainability Assessment process(Lead)

- Collect and report user feedback from pilot test year (2015)
- Incorporate changes and ensure continuous improvement

- Survey results on user (e.g., project manager) feedback on the Sustainability Assessment process and tools
- Feedback from City leadership (including Council members) on whether they are satisfied that the Sustainability Assessment process and tools accomplishes the goal of integrating sustainability considerations into City decision-making.

- Updated Sustainability Assessment framework document and forms
- Updated Sustainability Assessment CityNet website

Goal D.4: Ensure high-quality data is used in decision-making

Strategy 1: Standardize data quality assurance and quality control procedures (Lead and Collaborate)

Strategy 2: Centralize and standardize peer-review process for publications (Lead and Collaborate)

Develop and implement a centralized document review process for ESD

Strategy 3: Provide centralized carbon accounting for municipal operations (Lead)

- Centralized document review process for ESD
- Annually updated-data documentation to the GHG Emissions Management System (GEMS) database for estimates of carbon reduction policies, projects, and programs

E. Collaborate and Act Regionally

Many issues, including environmental issues such as climate change impacts, air pollution, and waste management, do not respect geopolitical boundaries. Therefore, in pursuit of environmental protection, it is very important to collaborate regionally and with other levels of government. This theme focuses on strategically leveraging partnerships beyond our community boundaries to advance community sustainability goals and objectives.

Challenges

- Redundancy with other agencies
- Staff capacity limits ability to participate with regional groups
- Public perception/potential concern about City taxpayer funds being used to help others
- Resolving diverse objectives; delicate politics
- Conflict of goal timelines
- Divergent regional goals regarding growth and transportation solutions
- Technology availability, accessibility, and affordability to regional citizens
- Public confusion regarding ESD role

Our Vision

A region that partners to address environmental issues that extend beyond municipal boundaries

Our Role

The Environmental Services Department plays the following roles relative to "Collaborate and Act Regionally" by:

- Networking to share best practices
- Participating in regional networks
- Facilitating regional conversations
- Evaluating and advocating for state legislation
- Participating in rule-makings
- Providing educational opportunities
- Leveraging resources with regional partners that also helps Fort Collins citizens
- Partnering on regional infrastructure projects

Integration of the Triple Bottom Line

Environment – Environmental protections are implemented at many levels of government. Local action often complements state or nation regulation. Finding alignment and promoting environmental protection with regional or other partners can leverage greater action at higher levels of government.

Social – Many social issues such as poverty and homelessness do not respect political boundaries. Actions taken in Fort Collins to promote a healthy environment must be done while guarding against potential negative social impacts such as significantly increasing the cost of living in Fort Collins and causing a higher percent of the work force to live outside the City with consequent increases in commuting costs and other impacts.

Economy—Regional solutions that improve environmental protection may also increase availability of local jobs such as creation of local processing/recycling capability for segments of the waste stream.

Goal E.1: Act with others to promote and implement deep carbon reduction measures

Strategy 1: Partner with Platte River Power Authority and its owner communities to find common ground that advances carbon reduction. (Collaborate)

Strategy 2: Participate in regional, state and national networks working to advance carbon reduction, including (Collaborate and Partner)

- Drive Electric Northern Colorado
- Colorado Climate Network
- Colorado Clean Energy Cluster
- Colorado Association for Recycling
- Urban Sustainability Directors Network
- Colorado Green Building Guild
- US Green Building Council
- Solid Waste Association of North America

Strategy 3: Evaluate and promote signing on to national and global coalitions that support deep carbon reductions (Collaborate)

Strategy 5: Seek relationships to develop and leverage financial solutions. (Collaborate)

Metrics

Attendance and participation in regional and other networks and organizations

Goal E.2: Increase awareness of and engagement in climate adaptation

Strategy 1: Work with key regional partners and others to plan for impacts of climate change and extreme weather events, including partnership with Larimer County and Western Adaptation Alliance (Collaborate)

Strategy 2: Work with Larimer County, other local governments, CSU, state and federal government, and health agencies to raise community awareness about how to prepare for and increase resiliency to climate change impacts, including partnerships with the Climate Hub.(Collaborate)

Metrics

• Metrics to evaluate progress in climate adaptation will be developed

Goal E.3: Advance community environmental objectives through participation in legislative and regulatory processes, while considering the triple bottom line

Strategy 1: Participate in national and state legislative processes and rulemakings on environmental issues such as air quality, energy, oil and gas, and solid waste management issues. (Lead and Collaborate)

- Stay aware of key proceeding and provide input
- Partner with others to find and promote common objectives

Metrics

Number positive outcomes and or positive partnerships

Goal E.4: Improve environmental quality through collaboration with regional partners and organizations

Strategy 1: Partner with CDPHE, Larimer County, City of Loveland, Colorado State University, Front Range Community College, Poudre School District, etc. on regional planning to address environmental issues (Collaborate & Partner)

 Initiate opportunities to cross train regional partners on Fort Collins' successful air quality programs

Strategy 2: Partner with national and regional housing, health, and educational organizations to promote indoor environmental health (Collaborate)

Strategy 3: Provide environmental technical expertise to support regional efforts (Lead and Consult)

- Provide project management for Brownfields Coalition Assessment grant
- Conduct groundwater and environmental sampling related to oil and gas activity

- ESD engagement in key issues that have arisen
- Influence /Successful development of programs and infrastructure on core issues
- Provided replicable models that were embraced by others
- Compliance with regional plans/ regional aspects of City plans

Acknowledgements

Mayor and City Council

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Staff

Darin Atteberry, City Manager Jeff Mihelich, Deputy City Manager Jackie Kozak Thiel, Chief Sustainability Officer Lucinda Smith, Environmental Services Director Susie Gordon, Sr. Environmental Planner, Waste Reduction and Recycling Melissa Hovey, Sr. Environmental Planner, Air Quality Rosemarie Russo, Sr. Environmental Planner, Sustainability Coordinator Caroline Mitchell, Environmental Planner, Waste Reduction and Recycling Bonnie Pierce, Environmental Planner - Data Management and Sustainability Assessment Mary Pat Aardrup, Environmental Planner, Healthy Homes Program Manager Katy Bigner, Environmental Planner, FortZED Coordinator Honore Depew, Environmental Planner, Waste Reduction and Recycling Peter Gibbons, Environmental Planner, Air Quality Tony Raeker, Environmental Planner, Green Built Environment Program Selina Lujan, Healthy Homes Program Assistant Alexis Hmielak, Administrative Assistant II

Contact Environmental Services Department

215 N. Mason Street P.O. Box 580 Fort Collins, CO 80522-0580 970-221-6600 Ismith@fcgov.com

