

EXHIBIT EE

- Reduce peak energy demand and improve utilization of the electricity system
- Reduce air pollution emissions including ozone precursors and fine particles
- Improve public health
- Improve local visibility
- Reduce waste and increase landfill diversion rates
- Reduce vehicle miles of traveled and road congestion
- Reduce water consumption in the community
- Provide opportunities for regional, state and national leadership and recognition

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Estimated CO₂ Savings in 2012:
28,000 Tons CO₂e

Estimated CO₂ savings in 2020:
34,000 Tons CO₂e

Double-Counting:

Considered to overlap 90% with other short-term climate strategies. Tree-planting and unanticipated behavior changes account for the new 10% of benefit.

Lead Implementing Department:

Utilities (for 2009 Pilot program)

Estimated Cost to the City:

\$30,000/yr (pilot program) for incentives plus existing staff time

Potential Funding Source(s):

Fort Collins Utilities

Cost Savings:

Variable

MEASURE

Community Climate Challenge

Supporting City Policies:

Principle ENV-9 — The City will continue to develop and implement sustainability practices that address long-term social, environmental and economic considerations of the Fort Collins community.

Policy AQ-5 — Toolbox of Approaches. The City will seek to achieve local air quality goals through education, incentives and price mechanisms and regulation.

Policy AQ-7 — Information. The City will report available air quality information to the public on a frequent and regular basis. The City will assist citizens in finding air quality information that is of interest to them.

Measure Description: Develop a local “Community Climate Challenge” for the residential sector, focusing on an educational campaign to promote actions with a goal of reducing 1% of per capita GHG emissions. A key component would be youth-focused programs (in-school programs, scouts, youth groups, church groups, services groups, etc.).

Recommended Approach for Implementation:

- Assemble interdepartmental City team for input
- Establish carbon calculator protocol
- Develop then implement pilot challenge
- Report on progress and recommendation for next steps by end of 2010

Other Benefits:

- Support local businesses and stimulate economic development
- Assist businesses and citizens in meeting carbon reduction goals
- Reinvestment dollars can fund other local carbon-reducing projects

Relationship to Other Programs: Many other communities are implementing community climate challenges. Denver has proposed a community climate challenge that they believe will achieve 28% of their GHG goal. Burlington, VT, has the “10% Challenge,” a voluntary program to raise public awareness about global climate change and to encourage households and businesses to reduce their greenhouse gas emissions by at least 10%.

MEASURE

Colorado Carbon Fund

Supporting City Polices:

Budgeting for Outcomes Economic Health Result — Support Fort Collins having a healthy economy that reflects the values of our community in a changing world.

Budgeting for Outcomes Environmental Health — Seek reductions in greenhouse gas emissions that puts the City on track to meet the...policy objectives.

Measure Description: The Colorado Carbon Fund is a voluntary carbon offset program developed by the Governor’s Energy Office (GEO) to advance the following objectives: 1) develop a funding source for community-based efficient energy and renewable energy projects in Colorado; 2) support Colorado’s climate change mitigation objectives; and 3) provide high quality, credible offsets for individuals, businesses and government agencies interested in mitigating their carbon footprint. GEO is developing a mechanism to reinvest a portion of the revenue (10-40%) to participating communities. These dollars can then fund new local carbon reduction programs and marketing efforts.

This measure recommends that the City of Fort Collins partner with GEO on the Colorado Carbon Fund, market the program heavily and urge Fort Collins citizens and businesses to donate to the Colorado Carbon Fund to offset their emissions and support new clean energy.

Recommended Approach for Implementation:

- Apply to the GEO for \$3,000-\$5,000 in grant funding for participation in the Colorado Carbon Fund
- Consider and propose local offsets projects for Colorado Carbon Fund
- Actively promote the project to Fort Collins’ businesses and citizens
- Develop and implement local clean energy projects to be funded with reinvestment revenue

Other Benefits:

- Support local businesses and stimulate economic development
- Assist businesses and citizens in meeting carbon reduction goals
- Reinvestment dollars can fund other local carbon-reducing projects



Estimated CO₂ Savings in 2012:
5,000 Tons CO₂e

Estimated CO₂ savings in 2020:
7,000 Tons CO₂e (conservative)

Double-Counting:

Considered to overlap 62% with other short-term climate strategies

Lead Implementing Department:

Utilities and Natural Resources

Estimated Cost to the City:

Staff time to participate with Colorado Carbon Fund

Potential Funding Source(s):

Voluntary purchases in private sector at \$20/ton

If two percent of Fort Collins citizens (2,600 people) offset one roundtrip airline flight from Denver to New York City each year, it would cost them \$34/year, would collectively avoid 5,000 tons CO₂e and would lead to reinvestment revenue of \$8,000 - \$34,000 to support additional local programs.



Estimated CO₂ Savings in 2012:
73,000 – 137,000 Tons CO₂e

Estimated CO₂ savings in 2020:
253,000 Tons CO₂e

**Lead Implementing
Department:**

Natural Resources Department

Potential Funding Source(s):

General Fund, grants, public/private partnerships, fees

Cost Savings:

Avoided landfill costs (gate fees) of \$75,000 - \$285,000 (calculated at \$5/ton trash)

MEASURE

Push Towards 50% Waste Diversion Goal

Supporting City Polices:

PRINCIPLE ENV-10 — The city will apply cost-effective pollution prevention and zero-waste strategies that will help protect all environmental resources, including air, soil and water and accelerate the community's ability to meet the city's adopted goal of diverting 50% of the waste stream from disposal in landfills by 2010.

ENV 10.2 Coordination — The City will participate with private businesses, non-profit groups, CSU, Poudre School District and other government agencies to increase local infrastructure and improve market conditions for recycling, composting and reuse industries, and to educate the public about pollution prevention and recycling.

ENV 10.3 Composting — Organic waste materials should be diverted from landfill disposal and put to beneficial secondary use, such as amending soils to increase local water conservation or to generate alternative sources of energy.

ENV 10.4 Regulation — Existing municipal ordinances that promote waste reduction, efficient resource use and recycling will continue to be an important mechanism for helping people reach public policy goals. The city will support efforts that reduce materials consumption and facilitate reuse, recovery and recycling.

Budgeting for Outcome Environmental Health Indicator # 4 — Improvement in solid waste diversion rate.

Measure Description: A number of strategies have been identified from the 2006 Draft Strategic Plan for 50% Waste Diversion that are especially effective at reducing greenhouse gas emissions. These strategies include a residential yard waste drop-off site, the option to recycle yard waste through trash haulers and an ultimate ban on yard waste from curbside trash collection. The Draft Strategic Plan also recommends amending Fort Collins Pay As You Throw ordinance to include commercial customers, and implementing construction and demolition debris reduction strategies. Many of these strategies are also being considered under the 2008 Trash Services Study. These strategies include:

Residential Customers:

- Implement on-going curbside recycling program improvements, including more designated materials and standard options for larger recycling containers.
- Amend Fort Collins' Pay As You Throw residential trash ordinance so that rate design further enhances waste reduction efforts.
- Ban yard waste from Fort Collins' curbside collection. Require haulers to provide residential yard waste pick-up as a separate new service.

Commercial Customers:

- Help form recycling cooperatives for small businesses.

All Customers:

- Implement cardboard ban in all sectors. (As a long-term alternative, consider the measure to embed recycling fees in commercial trash rates for all commercial customers.)
- Enhance short-term education around new measures.
- In absence of appropriate private sector facilities, create City-sponsored construction and demolition (C&D) drop-off site.

CLIMATE PROTECTION STRATEGIES

Push Towards 50% Waste Diversion Goal

City Government:

- Establish contract preferences to encourage recycling and waste reduction for City C&D jobs.
- The City would encourage private partnerships for constructing multiple community drop-offs to collect more recyclables (paper, glass, etc.).

Strategies recommended by staff for higher priority consideration are increasing customer education and outreach, providing larger recycling containers, requiring trash haulers to provide residential yard waste collection, developing public/private partnerships for glass and paper recycling drop-off sites and banning cardboard from the waste stream. This later strategy is anticipated to more cost-effectively achieve a good portion of the benefits associated with embedding recycling fees in commercial trash rates.

Recommended Approach for Implementation:

- Develop ordinances for Council consideration including, but not limited to; Pay As You Throw and recycling enhancements; additional licensing requirements and implementation of recycling strategies; and possible city-wide contracts for trash collection services.
- Consider implementation of any new waste reduction initiatives that emerge from the Trash Services Study, such as larger recycling bins for commercial customers, cardboard ban, curbside yard waste or changes to haulers' licensing requirements.
- Consider future budget requests for any new solid waste reduction initiatives that were adopted as a result of the 2008 Trash Services Study, including a budget request for an additional staff person.

Estimated Cost to the City:

- \$106,000/year by 2010 for strategies recommended for early consideration
- \$235,000/year by 2010 for full suite of measures
- \$524,000/year by 2015 for full suite of measures

Other Benefits:

- Support local businesses and stimulate economic development
- Offer diversion strategies designed to reduce trash bill costs
- Prolong lifespan of the local landfills, thus delaying costly construction of new landfill facilities
- Promote viable re-use of waste materials
- Stimulate better markets for recycled items
- Assist businesses and citizens in meeting carbon and waste reduction goals
- Reduce upstream pollution associated with manufacture and transport of new materials
- Lower dependence on foreign oil by reducing petrochemicals needed for virgin plastics manufacture
- Promote wise use of natural resources such as minerals and forest products

Relationship to Other Programs: Pay As You Throw is an industry best practice. A principal element of the Fort Collins waste reduction program is PAYT trash systems that provide financial rewards for households that reduce the amount of waste they generate.



Did You Know:

- *The EPA estimates that 75% of what Americans throw in the trash could actually be recycled.*
- *Typical business offices generate about 1.5 pounds of waste paper per employee per day!*
- *Recycling one aluminum can saves enough energy to run a TV for three hours — or the equivalent of a half a gallon of gasoline.*

**CLIMATE PROTECTION
STRATEGIES**

**Push Towards 50%
Waste Diversion Goal**



Estimated CO₂ Savings in 2012:
30,000 – 50,000 Tons CO₂e

Estimated CO₂ savings in 2020:
650,000 Tons CO₂e

Supporting City Polices:
Council Resolution 2003-038,
Adopting the Electric Energy
Supply Policy

**Lead Implementing
Department:**
Fort Collins Utilities

**Recommended Approach
for Implementation:**
The 2008 Energy Policy is being
considered by City Council in a
separate but parallel process to
the Climate Plan.

**Recommended Timeframe for
Completion:**
2020 to reduce electricity emis-
sions 20% below 2005 levels.

Estimated Cost to the City:
To be determined. Implementa-
tion plans for elements of the
Energy Policy will be presented to
Council during budget and typical
review processes.

MEASURE

Fort Collins 2008 Energy Policy

Measure Description: The draft 2008 Fort Collins Energy Policy proposes a 2050 vision “to serve the community with highly reliable, affordable carbon neutral electric service, guided by an ethic of sustainable innovative and responsible management.” The policy has four goals:

- 1) Provide highly reliable electric service.
- 2) Support the community’s carbon emissions goal of reducing the City’s carbon footprint 20% below 2005 levels by 2020 and 80% by 2050.
- 3) Enhance local economic vitality.
- 4) Maintain Fort Collins Utilities collaborative relationship with Platte River Power Authority.

To achieve these goals, it also proposes the following actions that support carbon reduction:

- Develop a methodology for reporting carbon emissions and savings related to overall electricity consumption, reductions in energy use from efficiency programs, substitution of fossil fuel based electricity with renewable or clean resources and increases in use of electricity for transportation.
- Reduce electric utility related emissions 20% below 2005 levels by 2020.
- Reduce electricity use 1% per year through energy efficiency and conservation programs.
- Comply with the state-mandated Renewable Portfolio Standard (10% renewable energy by 2020).
- Increase the contribution of renewable energy enough to reach 20% reduction by 2020, after accounting for the contributions of energy efficiency, conservation, minimum renewable energy requirements and voluntary renewable energy programs.
- Develop a SmartGrid road map by the end of 2009.
- By 2020, manage 10% of peak load demand through load management, smart grid and distributed generation.

Other Benefits:

- Reduce utility bills
- Maintain high electric reliability
- Improve the economy
- Support smart grid development
- Reduce dependence on foreign fuel sources
- Reduce vulnerability to energy price increases and volatility
- Reduce peak energy demand and improve utilization of the electricity system
- Diversify energy supply
- Reduce air pollution emissions including ozone precursors and fine particles
- Improve public health
- Improve air quality

MEASURE

Natural Gas Energy Conservation

Supporting City Policies:

Principle ENV-5 — Energy efficiency and use of renewable energy resources will be encouraged, facilitated and regulated in both the public and private sector through information and educational services, incentive programs, requirements and enforcement of regulations such as the Energy Policy.

Measure Description: Natural gas use comprises 19% of Fort Collins greenhouse gas emissions. The City levies a Gas Company Occupation Tax to Xcel Energy of \$445,000/year that has been unchanged since 1988. (See Chapter 25, Article VI of the Code at: <http://www.colocode.com/ftcollins/municipal/chapter25.htm#articleVI>)

This measure would seek to replace Xcel's Occupation Tax with a Franchise Fee Agreement. The vast majority of local governments in Colorado including Loveland, Longmont, Louisville, (list others too) have a 3% franchise fee agreement for natural gas. Under this agreement, the City would charge Xcel 3% of annual revenue for gas sales. Xcel would pass this increase (~ 1.5% increase above the current Occupation Tax) on to customers and return the revenue to the City. The City could use this additional revenue to fund climate protection programs.

Recommended Approach for Implementation:

- Determine City Council interest in pursuing franchise fee agreement
- Develop agreements with Xcel Energy
- Obtain approval from the Colorado Public Utilities Commission

Potential Funding Source(s): Any increase that would result from the franchise fee (above the existing Occupation Tax) would be passed through to Xcel customers.

Other Benefits:

- Conservation and efficiency programs can lead to lower utility bills
- Reduce consumption of a limited natural resource
- Reduce vulnerability to natural gas price increases and volatility

Relationship to Other Programs: The vast majority of local governments in Colorado, including Loveland, Longmont, Louisville, Denver and Boulder, have a 3% franchise fee agreement for the provision of natural gas.



Estimated CO₂ Savings in 2012:
5,000 – 10,000 Tons CO₂e

Estimated CO₂ savings in 2020:
52,000 Tons CO₂e

Lead Implementing Department:
Finance

Estimated Cost to the City:
Existing staff resources



Estimated CO₂ Savings in 2012:
1,000 Tons CO₂e

Estimated CO₂ savings in 2020:
4,000 tons of CO₂

Lead Implementing Department: Neighborhood and Building Services

Estimated Cost to the City:
No anticipated additional costs

A recent poll by the National Association of Home Builders confirms that energy efficiency is a feature that appeals to home buyers. The 2/14/2008 issue of BuilderOnline reports: "Home Buyers Willing to Pay for Energy Efficiency. New NAHB study of consumers reports that 51 percent are willing to pay up to \$11,000 more if energy costs are reduced \$1,000 annually."

MEASURE

Update Residential Building Code

Supporting City Polices: "The City aspires to become a coordinated center for advancing green building in the Fort Collins community by increasing general awareness, raising the bar for what is required, helping engaged stakeholders achieve better and greener buildings, and rewarding high performers." (Excerpt from 2007 City of Fort Collins Roadmap for Coordinated and Enhanced Green Building Services.)

Policy HSG-2.7— Impacts of New Policies and Regulations. The City will assess the effects of new policies and regulations, or changes to existing policies and regulations, on housing development costs and overall housing affordability, in order to achieve an appropriate balance between housing affordability and other objectives such as urban design quality, maintaining neighborhood character and protecting public health, safety and welfare.

Measure Description: Electricity and natural gas use by residences is responsible for 24% of Fort Collins' greenhouse gas emissions. Fort Collins has historically been, and will continue to be, on the leading edge of progressive building and energy code updates with our local amendments. The residential code was significantly updated in 2005 to the 2003 IRC and the 2005 Fort Collins Residential Energy Code, which exceeds the model code energy-efficiency. The Commercial Code was updated in 2008 to the latest model energy code (ASHRAE 90.1-2007 and IECC 2006).

Starting in late 2008, the City will again consider upgrades to the residential building and energy codes. Alternatives codes to consider include the recently adopted 2009 IECC model energy code or the "30% Solution." The 2009 IECC model energy code governing new home construction will offer significant improvements over the current code. The 30% Solution" is an alternative code that boosts energy efficiency 30% over the former model code. Although the 30% Solution fell just short of adoption by the IECC in September 2008, it has been endorsed by the National Association of State Energy Officials, the American Council for an Energy-Efficient Economy, the Consumer Federation of America, the American Public Power Association, U.S. Department of Energy, and the U.S. Conference of Mayors.

Recommended Approach for Implementation:

- Convene citizen task group to provide input in residential code update process
- City Council considers adoption of code update

Cost Savings: It is more cost effective to incorporate energy efficiency measures into buildings during new construction and major renovations because the improvements can be financed as part of the entire package, and benefits are realized throughout the entire life of the building.

Other Benefits:

- Reduced energy bills
- Reduced peak electricity demand
- Improved (electrical) system reliability
- Supports the economy because dollars saved on energy bills tend to be reinvested locally

CLIMATE PROTECTION STRATEGIES

Update Residential Building Code

MEASURE

Reduce Vehicle Miles of Travel

Supporting City Policies:

City Plan Vision — Fort Collins will confront and mitigate the negative impact of cars on our life.

Policy ENV-2.1 Actions on Vehicle Miles Traveled — The City will slow the growth of vehicle-miles of travel by employing strategies that reduce vehicle trip rates, reduce vehicle trip length and increase vehicle occupancy.

PRINCIPLE T-1 — The physical organization of the City will be supported by a framework of transportation alternatives that balances access, mobility, safety and emergency response throughout the city, while working towards reducing the rate of growth of vehicle miles of travel and dependence on the private automobile.

PRINCIPLE T-2 — Mass transit will be an integral part of the City's overall transportation system.

PRINCIPLE T-3 — City transportation programs shall address themselves to reduce vehicle miles of travel through strategies that reduce trip generation, reduce trip length and increase vehicle occupancy.

PRINCIPLE T-4 — *Bicycling will serve as a practical alternative to automobile use for all trip purposes.*

PRINCIPLE T-5 — *The City will acknowledge pedestrian travel as a practical transportation mode and elevate it in importance to be in balance with all other modes. Direct pedestrian connections will be provided from places of residence to transit, schools, activity centers, work and public facilities.*

Policy T 9.1 Vehicle Miles Traveled (VMT) — The City will continually strive to reduce the growth rate in VMT by implementing a VMT reduction program that strives to meet or exceed the performance of similar programs in comparable cities.

Measure Description: Transportation demand management (also called mobility management or VMT reduction) includes a range of strategies that improve travel options and encourage people to use more efficient forms of travel. Reducing travel demand is in the public interest, provides multiple community benefits and is worthy of community support and investment.

This measure recommends four key strategies to reduce Fort Collins VMT by almost 2%. Since the City of Fort Collins is already implementing efforts in all of these areas, these measures refer to efforts beyond the current level. The relative anticipated VMT reduction from each program area is identified in Table 6.

Collectively, these approaches would avoid 12,000 tons CO₂e per year, above the business as usual scenario. Accomplishing these objectives will require the provision of adequate funding and increased partnership and collaboration with other organizations throughout the community.

Walking and Bicycling Improvements: According to some estimates, 5% to 10% of automobile trips can reasonably be shifted to non-motorized transport in a typical urban area, and non-motorized improvements can have leverage effects that increase



Estimated CO₂ Savings in 2012:
2,000 – 12,000 Tons CO₂e

Estimated CO₂ savings in 2020:
14,000 Tons CO₂e

Lead Implementing Department:

Planning, Development and Transportation

Estimated Cost to the City:

Increased capital and operations funding will be needed. (Transit improvement costs will be identified in the Transit Strategic Plan.)

Potential Funding Source(s):

General fund, state and federal grants, other grants

their importance. This analysis assumes that through a combination of pedestrian and bicycle programs, 1% of total Fort Collins VMT could be avoided by 2012, or approximately 10,000,000 VMT/year reduced. The 2008 Bicycle Plan provides specific recommendations in the areas of engineering and the bike network, education, enforcement, enhancing community benefits and multi-modal connectivity that, if implemented, will serve to significantly advance bicycling in Fort Collins.

Transportation Demand Management-Type Program with Employer Focus:

Historically, the Fort Collins SmartTrips program has worked with businesses, schools and organizations to reduce VMT. More recently, City Transportation Services has implemented several elements of TDM programs including Fort Collins Bikes, transit promotions, Test Ride Transfort, Safe Routes to School as well as the updated Passfort employer bus pass program. The North Front Range Metropolitan Planning Organization is handling VanPool and carpool activities in the region.

This recommendation calls for a special focus on increasing employee commuter outreach. Employee commute trip reduction programs have achieved noteworthy success, including the Seattle area and Utah. Denver's Greenprint plan has established a goal to increase employee transit ridership 10% over the 2005 baseline level by 2011. They assume that 20% of employees approached with a program will participate, and that those participating reduce 0.55 tons CO₂/employee/year (about 1,000 miles/year/employee). If a Fort Collins commuter outreach program achieved the same level of effectiveness, this would result in approximately 8,566,000 VMT reduced.

School Transport Management Program: School Transport Management Programs encourage parents, students and staff members to reduce automobile trips and use alternative modes for travel to and from schools. These programs generally include walking, cycling and ridesharing encouragement. In addition, these programs may have significant long-term impacts by helping children establish more multi-modal travel habits that continue later in life. (Source: Mobility Management Review at: <http://fcgov.com/airquality/pdf/mm-best-practices06.pdf>)

This analysis assumes that at least 1,000,000 miles could be avoided through car pooling, Walk a Child to School, Safe Route to School and prize-based competitions encouraging students to use and document alternative modes. The number of avoided VMT could grow through increased efforts to decrease travel by single-occupancy vehicle to school campuses.

Transit Service Innovations and Improvements: It is recognized that the Mason Corridor will serve as a key backbone to an enhanced transit system in Fort Collins. The City is optimistic about receiving federal funding to build the Bus Rapid Transit element of the corridor, with completion anticipated by 2011. The Transit Strategic Plan update (2008/2009) will foster a dialogue with the community and region on transit opportunities and challenges; review existing fixed route service and performance standards; examine the existing four-phased approach to a grid transit network; and address the financial solutions required to create and sustain a high-performing transit system for our community and region. Poudre School District and the City of Loveland are participating as strategic partners.

Recommended Approach for Implementation:

- Fund and implement the 2008 Bicycle Plan
- Complete and consider adoption and funding for the Transit Strategic Plan (2009)
- Implement the Safe Routes to School Program
- Seek funding to implement the Master Streets Plan and transportation improvements

Cost Savings: Fuel and vehicle maintenance savings to participants in VMT-reduction programs.

Other Benefits:

- Economic development benefits through the expansion of alternative modes
- Improve mobility in Fort Collins
- Reduce dependence on foreign fuel sources
- Reduce vulnerability to energy price increases and volatility
- Reduce air pollution emissions including ozone precursors and fine particles
- Improve public health
- Improve local visibility





Estimated CO₂ Savings in 2012:
1,000 Tons CO₂e

Estimated CO₂ savings in 2020:
2,000 Tons CO₂e

Lead Implementing Department:

Planning, Development and Transportation

Estimated Cost to the City:

Net savings for O&M; Capital costs can be variable but typically roundabouts are less expensive to build than traditional intersections.

Potential Funding Source(s):

Funding for roundabouts would come through capital improvement dollars or private developers.

Cost Savings:

Fuel savings to roundabout users

MEASURE

Modern Roundabouts

Supporting City Policies:

Policy T-1.2 Multi-Modal Streets — Street corridors will provide for safe, convenient and efficient use of all modes of travel, including motor vehicles, transit, bicycles and pedestrians.

Policy T-1.4 Adequate Facilities — The City will ensure the provision of adequate facilities for the movement of goods and people while maintaining the integrity of existing streets and minimizing travel-related impacts within neighborhoods.

Measure Description: Roundabouts are an alternative to the standard traffic signal that provide a safer, more efficient, economically advantageous and environmentally friendly way to move traffic along the roadway system. This strategy recommends that the City build five roundabouts at new or significantly redeveloped intersections by the end of 2013. A recent study of 10 Virginia intersections demonstrated 200,000 gallons of fuel savings annually, from the construction of roundabouts.

Recommended Approach for Implementation: A City 2001 ordinance requires that roundabouts be considered for any arterial or arterial collectors slated for improvements. Staff anticipates possible construction of four (possibly five) new roundabouts in the next few years, including the Ziegler and Horsetooth roundabout that has just been completed.

Other Benefits:

Roundabouts save lives...

- Up to a 90% reduction in fatalities
- 76% reduction in injury crashes
- 30-40% reduction in pedestrian crashes
- 75% fewer conflict points than a 4-way intersection

Slower vehicle speeds mean...

- Drivers have more time to judge and react to other cars or pedestrians
- An advantageous situation for older and novice drivers
- A reduction in the severity of crashes
- A safer situation for pedestrians

Efficient traffic flow...

- 30-50% increase in traffic capacity
- Reduction in pollution and fuel use
- Improved traffic flow for intersections that handle a high number of left turns
- Reduced need for storage lanes

Money saved...

- No signal equipment to install and repair
- Savings estimated at an average of \$5,000 per year in electricity & maintenance costs
- Service life of a roundabout is 25 years, compared to 10 years for a traditional traffic signal

New Qualitative Measures

This Plan also includes measures that have not been quantified but that can play an important role in making progress towards the 2020 goal. These measures are outlined in Table 5 and described on the following pages.

Table 5 — Summary of New Qualitative Measures

<p>Community Engagement</p> <ul style="list-style-type: none"> • City of Fort Collins Government Leadership
<p>Transportation</p> <ul style="list-style-type: none"> • Seek Adequate Funding to Implement Transportation Plans, with Funding for Transit as a Priority to Achieve Best Practices • Develop Partnerships to Reduce Vehicle Travel • Parking Management
<p>Land Use</p> <ul style="list-style-type: none"> • Implement Land Use Code Changes that Support Greenhouse Gas Emissions Reductions • Promote and Pursue Infill and Refill Development • Promote Transit-Oriented Development • Consider Requirements for New Developments to Have Less Travel Demand than Comparable Existing Developments
<p>Green Building</p> <ul style="list-style-type: none"> • Regular Updates of Building Energy Codes • Continued Support for Above Code Green building Initiatives • Time of Sale Energy Conservation Ordinance • Require Green Building as a Prerequisite for Public Financing • Explore Net Zero Ready Homes • Explore LEED for Neighborhoods
<p>Urban Forestry</p> <ul style="list-style-type: none"> • Promote Tree Planting
<p>Support State and Federal Climate Protection Actions</p>

City of Fort Collins Government Leadership

The City government is well positioned to influence a community’s carbon footprint through modeling best practices for the internal organization and establishing policies that support greenhouse gas reduction within the community.

This strategy recommends that the City of Fort Collins identify and communicate overarching organizational goals that will support greenhouse gas reduction, not only for the municipal government but for the community. It is also recommended that the City adopt a standard management framework such as ISO14001, an Environmental Management System or a Sustainability Management System to implement and track progress on these overarching goals.

Seek Funding to Implement Transportation Plan with a Focus on Transit

The 2004 Transportation Master Plan contains numerous strategies to improve transportation efficiency, yet there is inadequate funding to fully implement the plan.

In addition to the Transportation Master Plan, the City has numerous plans that support reduced single-occupancy vehicle trips, including the Bicycle Plan Update, the Pedestrian Plan and the Transit Plan. Further, Transportation Demand Management (TDM) strategies are most effective when they are implemented as an integrated package, where strategies can support each other (e.g., improved transit along with improved pedestrian access to bus stops).

It is recommended that the City dedicate resources to pursue funding to finance the key components of the 2004 Transportation Master Plan and associated TDM Plans, with a special emphasis on expanding transit infrastructure and completing enhanced travel corridors.

Develop Partnerships to Reduce Vehicle Travel

Seek to develop effective partnerships among major community and regional institutions to reduce single-occupancy trips. Optimizing mobility management in Fort Collins will require active support not only from the City Council, but also from the North Front Range MPO, major employers, Poudre School District, Colorado State University, the Chamber of Commerce, Downtown Business Association and many others.

Table 6 — Multiple Benefits of Transportation Demand Management

Economic	Social	Environmental
<ul style="list-style-type: none"> • Reduced congestion • Road and parking cost savings • Consumer cost savings • Crash cost savings • Increased local employment and business activity 	<ul style="list-style-type: none"> • Improved mobility for non-drivers • Increased community livability • Improved public health and fitness 	<ul style="list-style-type: none"> • Energy conservation • Reduced air, noise and water pollution • Reduced pavement and sprawl

As large Fort Collins institutions examine their footprint (environmental, economic and social impacts), the Fort Collins City Council could encourage each of them, including the City of Fort Collins, to include the impact of all the vehicle trips taken to and from their campuses, and to become active in finding ways to reduce them. The City Council could perhaps offer a sample resolution that each organization could adopt. Partnerships could also be extended through channels such as the Mason Corridor Project, Downtown Area planning, and the UniverCity Connections.

Parking Management

Parking Management includes a variety of strategies that encourage more efficient use of existing parking facilities, improve the quality of service provided to parking facility users and improve parking facility design. Current parking planning practices (such as generous minimum parking requirements and public provision of on- and off-street parking) tend to result in abundant and generally free parking at most destinations.

This subsidizes automobile travel and encourages lower-density land use patterns. More efficient parking management can address these problems, helping to achieve a variety of transportation, land use development, economic and environmental objectives. Examples of parking management programs include:

- Create a downtown parking district to optimize the parking resource and reduce pollution and congestion.
- Optimize the availability and use of parking garages.
- Encourage use of low emission vehicles by offering free parking spaces or low cost parking to those vehicles.
- Implement parking cash out programs that allows employees to opt-out of having a parking space and instead receive compensation.

In addition to new strategies, parking management elements can be implemented through existing projects such as the Mason Corridor, the Downtown Way Finding Project and the Transit-Oriented Development Overlay Zone.



Implement Land Use Code Changes that Support Greenhouse Gas Emissions Reductions

City Plan contains the community's 2010 greenhouse gas policy goal to reduce emissions 30% below predicted 2010 levels by 2010. Additionally, City Plan and the resulting Structure Plan were built upon the analysis of a range of density and land use configurations. The final scenario upon which these plans were built optimized transportation and land use efficiencies.

While City Plan policies and the Structure Plan support smart growth, the City could improve the speed of implementation. Many of these changes would be made within the Land Use Code that implements City Plan and the Structure Plan. Specific recommendations for Fort Collins include:

- Adhere to the existing Structure Plan.
- Implement Green Roofs.
- Marry historic preservation efforts with green building.
- Establish requirements for green building in affordable housing developments.
- Establish and require a minimum level of green building standards for any development project to receive City subsidies.
- Enhance public/private partnership to support green building and sustainable design.
- Consider incentives in the development review process for green building.
- Develop a revolving zero interest loan fund to help developers of green projects overcome initial upfront high development costs.

Promote and Pursue Infill and Refill Development

Infill and refill developments have the potential to address air quality and greenhouse gas emissions by reducing the number of vehicle miles of travel (VMT) and allowing easier access to transit and pedestrian-oriented facilities. According to the Center for Clean Air Policy's Transportation Emissions Guidebook, infill and brownfield redevelopment has the largest potential for reducing site-specific VMT. These strategies are believed to reduce VMT 15-50%. (The only other strategy showing up to a 50% VMT reduction potential in this source is "smart school siting".)

Redevelopment and infill can help revitalize aging commercial areas, contribute to the vitality of Fort Collins downtown area and add variety to our housing opportunities.



Experience has shown, however, redevelopment and infill projects frequently encounter particular challenges - obsolete structures, contamination, poor access to utilities, public opposition, etc. impeding development.

In 2006 EDAW completed a report for the City of Fort Collins that identified a number of challenges and solutions to refill development. The *Refill Fort Collins 2006* report specifically identifies the challenge that the City fee structure can be unreasonably burdensome for infill and redevelopment projects. Recommended solutions include:

- Consider the use of public/private financing mechanisms to pay for needed infrastructure improvements and infill/refill areas.
- Consider reduction of fees in specially designated redevelopment areas.

Promote Transit-Oriented Development

Transit-oriented development is one of the top strategies for reducing a community's carbon footprint from transportation. The Center for Clean Air Policy's Transportation Emissions Guidebook lists this as typically reducing VMT by 20-30%. Fort Collins already has established a TOD overlay zone along the Mason Corridor. A second potential location would be along the Harmony Corridor.

Consider Requirements for All New Developments to have Less Travel Demand than Comparable Existing Developments

The City of Aspen has included a strategy in their Climate Action Plan to establish a city policy to require a net decrease in transportation-related emissions compared to existing developments, such as affordable housing projects. For some developments, this may involve purchasing carbon offsets for new emissions.

Green Building

Promote green building in new and existing buildings as an overall strategy to improve the built environment and reduce carbon emissions. The Fort Collins Green Building Roadmap provides a summary of current programs and services related to green building and a set of recommendations for advancing green building efforts. The recommendations are specific actions that can be undertaken now and in the future to sustain green building in Fort Collins. These specific actions are categorized according to the following four general actions:

- 1) Mandate minimum performance and remove barriers
- 2) Encourage green building innovation
- 3) Reward green building success
- 4) Build internal City capacity to support green building

Potential strategies for reducing carbon emissions through green building include are discussed below.

Regular Updates on Building Energy Codes

New construction and major renovation represent cost-effective times to incorporate energy efficiency measures into buildings because the improvements can be financed as part of the entire package, and benefits are realized throughout the entire life of the building.

Continued Support for ‘Above Code’ Green Guilding Initiatives

Many “above code” initiatives already exist, including the Northern Colorado ENERGY STAR New Homes collaboration and the Integrated Design Assistance Program:

- <http://www.fcgov.com/conservation/biz-idap.php>
- <http://www.nocoenergystarhomes.org/>

Time of Sale Energy Conservation Ordinance

Many communities have established requirements that buildings (rental properties, residential and/or commercial) be upgraded at time-of-sale to meet some minimum level of energy efficiency. This measure recommends bringing inefficient buildings up to some minimum level of energy efficiency. It would require energy efficiency up-graded at the time of sale for residential and commercial structures that do not meet a certain level of energy efficiency, as determined by an energy audit. Utility demand-side management (DSM) programs could be designed in a way that help customers comply with the requirement.

Require Green Building as a Prerequisite for Public Financing

The City of Fort Collins’ Roadmap for Green Building calls for a mid-term strategy (within three years) to require green building as a prerequisite for any projects that offer public financing. The City already has a Leadership in Energy and Environmental Design (LEED) goal for new City buildings. This strategy recommends developing new policies requiring green building targets for projects that receive direct or indirect public financing from the City.

As one example, the Portland Development Commission’s Green Building Program requires developers receiving financial assistance from the commission, as well as direct commission funded projects, to integrate green building practices into construction projects and meet established LEED standards.

Promote Net Zero Ready Homes

This measure calls for the exploration of building codes and ordinances requiring that all homes over a certain size be required to achieve net zero energy use and the expansion of this requirement, over time, to all new homes.

Austin, TX, intends to pass a series of code amendments that will make new homes built by 2015 all “net zero” capable. See: http://ci.austin.tx.us/council/downloads/mw_zech_release.pdf

Boulder County has included a “Net Zero Energy Homes” strategy in their Sustainable Energy Plan approved by County Commissioners in February 2008. See: http://bouldercounty.org/sustain/pdf/SEP_final_draft.pdf

Promote LEED for Neighborhoods

The LEED for Neighborhood Development Rating System integrates the principles of smart growth, urbanism and green building into the first national system for neighborhood design. LEED certification provides independent, third-party verification that a development’s location and design meet accepted high levels of environmentally responsible, sustainable development.





Currently in its pilot period, LEED for Neighborhood Development is a collaboration among the U.S. Green Building Council, the Congress for the New Urbanism and the Natural Resources Defense Council. The City of Fort Collins should consider incorporation of LEED for Neighborhood requirements into the development review process.

Urban Tree Planting

Urban trees are a good economic and environmental investment. A study published in 2003 in collaboration with the USDA Forest Service, the Center for Urban Forest Research and the City of Fort Collins (*Benefit-Cost Analysis of Fort Collins' Municipal Forest*) concludes that the 31,000 park and street trees in Fort Collins provide substantial environmental and economic benefits for taxpayers. For every \$1 invested in tree management, residents receive \$2.18 in benefits. The net cost benefits are presented below.

Energy savings	\$112,045
Carbon dioxide reduction	\$43,686
Air quality improvement	\$18,472
Stormwater	\$403,597
<u>Property value</u>	<u>\$1,596,247</u>
TOTAL BENEFITS	\$2,147,047

Goals should be established to maximize responsible tree planting on public and private property to fill empty planting spaces. Trees should be strategically planted to optimize building energy efficiency by reducing heating and cooling needs. Trees should be selected and maintained in a way that minimizes carbon emissions associated with maintenance, fertilizers and irrigation.

Partnerships with other local organizations could be developed to increase local tree planting. For example, the City of Boulder set a long-term goal to increase industrial canopy cover from 7% to 9%. Denver set a goal to plant thousands of new trees annually in parks, natural areas and on private property, thus increasing Denver's tree canopy from 6% to a total of 18% tree cover, as identified in the Denver Parks Game Plan. Portland planted 750,000 trees and shrubs between 1996 and 2005 to help sequester carbon emissions.

Promote Climate Protection and Adaptation Strategies at State, Regional and Federal Levels

While Fort Collins' climate protection efforts should not be unduly reliant on actions at other levels of government to reach its stated goals, local progress could be greatly advanced by passage of climate protection programs at the state and federal levels. Fort Collins should support or lobby for legislation that cost-effectively reduces greenhouse gas emission. Some programs are better addressed at high levels of government. Examples include regulations to reduce the greenhouse gas intensity of transportation fuels and/or establish greenhouse gas emissions standards for new vehicles.

Monitoring and Reporting

A key to the achievement of any goal is measurement and accountability. Council Resolution 2008-051 establishes regular reporting requirements for assessing progress towards established climate goals.

Metrics

Progress towards the 2020 goal will be monitored through changes to the community-wide emissions inventory. During 2009 the City will assess its inventory methodology and update it if appropriate. As inventory methodologies evolve, the baseline (2005) and subsequent inventories will be updated to reflect those changes.

Annual Report

City Council Resolution 2008-051 calls for an annual report tracking progress toward attainment of the goals established for 2020 and 2050. This annual report should include an evaluation of community-wide greenhouse gas emissions and a list of quantified reduction activities for the prior year. This report will be prepared by the City's Energy Management Team and presented to the City Manager no later than June for the prior year. Annual reporting will commence in 2009 for the year of 2008.

Biennial Review

City Council Resolution 2008-051 also establishes a requirement that biennially, at least six months in advance of the City's budget, a report should be prepared that evaluates progress on greenhouse gas reduction relative to interim milestones and recommend actions for future implementation. The interim milestones identified in Table 8 below approximate a linear descent from 2007 to 2020. However, progress towards the 2020 goal may not follow a linear path, as some programs take longer to ramp up and as future carbon reduction opportunities emerge. The biennial review process will address progress towards the 2020 goal and recommend adjustments as necessary.

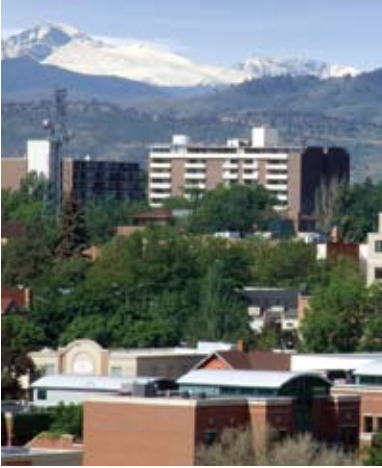
The biennial review reports will serve as informal updates to the Climate Action Plan.

Table 7 — Biennial Review Schedule

<i>Year</i>	<i>Annual Progress Report</i>	<i>Milestone (Tons CO₂)</i>	<i>Biennial Review</i>	<i>Budget Recommendations</i>
2009	X			Fall 2009 for 2010/2011
2010	X			
2011	X		Spring 2011 for 2010	Fall 2011 for 2012/2013
2012	X	2,466,000		
2013	X		Spring 2013 for 2012	Fall 2013 for 2014/2015
2014	X			
2015	X		Spring 2015 for 2014	Fall 2015 for 2016/2017
2016	X	2,263,000		
2017	X		Spring 2017 for 2016	Fall 2017 for 2018/2019
2018	X			
2019	X		Spring 2019 for 2018	Fall 2019 for 2020/2021
2020	X	2,032,000		



Conclusion



“A journey of a thousand miles begins with a single step.”

— Lao Tzu

Fort Collins has been a pioneer in climate protection among US cities and continues to lead the way. Since taking a momentous step in 1999 when City Council committed to reduce greenhouse gas emissions, Fort Collins recognized the significance of global climate change and embraced the active role its citizens play in this challenging local task with global implications.

Through innovation, leadership and local involvement, the community has benefited significantly from climate protection actions. Thanks to the success of the voluntary Climate Wise program, for example, innovative businesses avoided emitting more than 82,000 tons of CO₂e, while saving over \$12 million since 2000. Thanks to foresight in leadership, Fort Collins established the first renewable energy standard in the State of Colorado. And our participatory community tells us through recent surveys that they not only support but also expect further greening efforts.

Clearly, our community is ready to tackle the next set of climate protection action challenges that recommits our City to the shared duty of reducing our local greenhouse gas emissions. Stepping up to the plate again with vision and leadership in May 2008, the Fort Collins City Council established an aggressive goal to reduce emissions 80% by 2025, an interim reduction goal of 20% by 2020 and an insightful 2012 check-point to ensure we remain on track to the longer-term goals.

Reducing emissions 80% by 2050 sets Fort Collins on the path towards a sustainable future. The mid-term target to reduce emissions 20% by 2020 represents an ambitious undertaking that is within our grasp. Both goals will require staunch commitment and participation by all community sectors and forward-thinking leadership by City government and other large organizations in Fort Collins.

Our path to making significant progress early on is guided by the hard-working efforts of the Fort Collins Climate Task Force that developed specific, short-term strategies. They also recommended that work begin on important long-term strategies, such as setting performance standards for new buildings, establishing land use policies that will reduce greenhouse gas emissions and seeking funding to build sustainable transportation systems. Additional work will be needed to develop short-term implementation plans as well as longer-term plans to clarify the path to 2020 and 2050 goals.

The time for action is now. We have begun this journey alongside other committed municipalities, state agencies, universities, business and citizens in Colorado’s Front Range and around the nation. Working cooperatively, we can reduce our emissions, maximize technologies and co-create the evolution of carbon markets. Together we can sow the seeds to reap the benefits of a more sustainable life experience for ourselves and generations to come.

Appendix — City Council Resolution 2008-51

RESOLUTION 2008-051 OF THE COUNCIL OF THE CITY OF FORT COLLINS ESTABLISHING CITY GREENHOUSE GAS REDUCTION GOALS

WHEREAS, there is widespread consensus that human emissions of greenhouse gases are impacting the earth's climate system, causing the potential for unprecedented large-scale adverse health, social, economic and ecological effects; and

WHEREAS, climate disruption is likely to cause, and may already be causing, damage to the environmental and economic health of Colorado communities, risks associated with reduced snow pack that could affect both water supply and tourism, and secondary impacts such as changes in agriculture economics; and

WHEREAS, local governments can greatly influence their communities' greenhouse gas emissions by exercising key powers over land use, transportation, building construction, waste management, and, in many cases, energy and water supplies and management; and

WHEREAS, there is currently no comprehensive federal regulations of greenhouse gas emissions and the United States is itself the largest per capita emitter of greenhouse gas emissions; and

WHEREAS, it is appropriate for local governments to take responsibility for emissions occurring within their jurisdictions since local community actions can speed the development of technology-based solutions and more rapidly promote market transformation that will help drive reductions in global emission levels; and

WHEREAS, the Fort Collins community could realize tremendous ancillary economic, environmental, and social benefits by undertaking responsible steps to combat climate change; and

WHEREAS, by the adoption of Resolution 1999-137, the City Council established a policy that the City shall proactively identify and implement actions to reduce greenhouse gas emissions within the City by at least 30% below predicted 2010 levels by 2010 while achieving cost-effectiveness in each program; and

WHEREAS, by the adoption of Resolution 1999-137, the City Council established a policy that the City shall proactively identify and implement actions to reduce greenhouse gas emissions within the city by at least 30% below predicted 2010 levels by 201 while achieving cost-effectiveness in each program; and

WHEREAS, the City has demonstrated its leadership on the issue of climate protection through the implementation of Climate Wise, the Electric Energy Supply Policy, recycling initiatives and other programs to reduce emissions, and should continue to lead by example so as to encourage other communities across the region, state, and globe to share in the solution to the problem of greenhouse gas emissions; and

WHEREAS, despite this progress, Fort Collins is not on track to meet the greenhouse gas emissions goal established by Resolution 1999-137 to reduce carbon dioxide emissions to an inventory level of 2.466 million tons in the year 2010; and

WHEREAS, the Fort Collins community offers a unique combination of innovation and technical expertise that can be utilized to develop long-term sustainable solutions and facilitate all sectors and organizations in Fort Collins in taking action to reduce emissions; and

WHEREAS, scientists have identified a need to reduce the global emission of greenhouse gases by 80% by the year 2050, at the latest, in order to avert the worst impacts of global warming; and

WHEREAS, the 2007 recommendations of the Colorado Climate Project convened by the Rocky Mountain Climate Organization to reduce the state's contribution and vulnerability to climate change include reducing state-wide emissions in the vicinity of 20% below 2005 levels by 2020 and 80% below 2005 levels by 2050; and

WHEREAS, the 2007 Colorado Climate Action Plan establishes these same goals; and

WHEREAS, the City Council is intent upon continuing its efforts to achieve meaningful reductions in local greenhouse gas emissions; and

WHEREAS, aligning local greenhouse gas goals with state goals will minimize confusion on the part of the public and facilitate statewide collaboration in reducing the damage caused and risks created by greenhouse gas emissions, and

WHEREAS, the Fort Collins Climate Task Force has recommended that Council include in this Resolution an additional goal to the effect that the Fort Collins community reduce its current greenhouse gas emissions so that, by the end of 2012, such emissions do not exceed 2.466 million tons.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF FORT COLLINS as follows:

Section 1. That the Council hereby establishes the goals of reducing Fort Collins' community-wide greenhouse gas emissions 20% below 2005 levels by 2020 and 80% below 2005 levels by 2050.

Section 2. That, pending attainment of such goals, the Council hereby expresses its intent to reduce current community-wide greenhouse gas emissions by the end of 2012 to a level not to exceed 2.466 million tons.

Section 3. That the City government must lead by example in this area by minimizing greenhouse gas emissions in its own operations through the establishment of policies and directions that will lead the community to a sustainable future, and, most importantly, by inspiring community involvement in the effort to reduce greenhouse gas emissions.

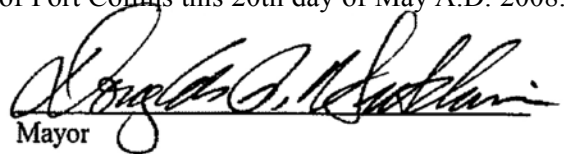
Section 4. That the City Manager is hereby directed to prepare for Council consideration an updated plan to reduce greenhouse gas emissions within the Fort Collins community that identifies interim milestones needed to put Fort Collins on a trajectory to meet the 2020 goal, including a milestone for the year 2012 referenced in Section 2 above.

Section 5. That such updated plan shall include a list of strategies demonstrating how interim milestones can be met and that these strategies should: consider relevant technical, economic, political, and social factors; promote economic vitality and prioritize investments in the Fort Collins community; address all emissions sectors; and promote involvement by all segments of the community (local businesses, governments, utilities, schools, universities, non-profit organizations, homeowners, and other individuals).

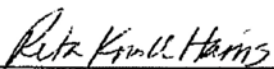
Section 6. That the City Manager is further hereby directed to: (a) prepare an annual report tracking progress toward attainment of the goals established herein, including a community-wide greenhouse gas emissions inventory and a list of quantified emission reductions actions for the preceding calendar year; and (b) biennially, at least six months in advance of the City's biennial budget preparation, prepare a report evaluating progress on greenhouse gas reduction relative to established interim milestones and recommending actions for consideration in the upcoming budget cycle.

Section 7. That the Council hereby recognizes that new data, scientific findings, mitigation technologies, and quantification methodologies may emerge over time and that future Councils may choose to update the community greenhouse gas goal to take in account evolving science, technology or other opportunities.

Passed and adopted at a regular meeting of the Council of the City of Fort Collins this 20th day of May A.D. 2008.


Mayor

ATTEST:



City Clerk / Chief Deputy

EXHIBIT EE

EXHIBIT EE



For more information,
visit <http://fcgov.com/climateprotection>
or call the City of Fort Collins Natural Resources Department
at (970) 221-6600

Exhibit B - Addendum**I. Background**

At a work session on October 28, 2008 to review the draft Climate Action Plan, City Council asked staff to prepare an alternate plan that would fully meet the 2012 and 2020 greenhouse gas reduction objectives adopted in May 2008. The greenhouse gas reduction measures contained in the original draft plan, plus the additional measures identified here, if fully implemented, would meet the 2012 and 2020 reduction objectives. If this addendum is adopted, it will be merged with the draft Climate Action Plan to create the final Fort Collins Climate Action Plan.

II. Proposed New Quantified Strategies

ADDITIONAL BENEFIT of Proposed Strategies	2012 Tons CO2e	2020 Tons CO2e
1. Purchase Carbon Offsets	77,000	81,000
2. Construction & Demolition Debris Deposit	20,000	44,000
3. Long-Term VMT Reduction		28,000
4. Increase participation targets for Community Climate Challenge	3,000	3,000
5. Increase participation targets Colorado Carbon Fund	7,000	7,000
Sub-total Additional Strategies	107,000	163,000
Existing and New Measures in draft Plan	268,000 - 378,000	1,212,000
TOTAL (After double-counting)	375,000 - 485,000	1,375,000

1. ADD: Purchase carbon offsets (avoids 77,000 tons in 2012 and 81,000 tons in 2020)

In order to meet the 2012 reduction intent, it is likely that Fort Collins will need to acquire carbon offsets or carbon-certified renewable energy certificates. This strategy should be considered only after local emissions reduction programs have been maximized. It should be considered as a last strategy to implement if a gap still exists in 2011 and City Council wishes to achieve the 2012 reduction intent.

Cost Estimates:

\$770,000 if purchase carbon offsets at \$10/ton CO₂
 \$1.5M/yr if purchase carbon offsets at \$20/tonCO₂
 - or - \$1.1M/yr if purchase RECs at \$10/MWh

2. ADD: Construction & Demolition Debris Deposit (avoids 20,000 tons in 2012 and 44,000 tons in 2020)

Add one additional strategy from the list of strategies identified in the Fort Collins report "Advancing Climate Protection Planning Through Municipal Solid Waste Programs" (June 2007). This measure proposes to create a refundable C&D deposit system, potentially based on square footage of a project, type of building, and type of work (new construction vs. remodel), or some comparable criterion; including an exclusion for roofing jobs and potentially excluding the smallest 25% of projects. The total deposit would be refunded upon certification of appropriate level recycling i.e. materials brought to a certified C&D sorting MRF, or demonstrating recycling of at least 50% of materials. Implementation of this strategy would logically follow

the C&D strategy already included in the draft Climate Action Plan to create a city-sponsored C&D drop-off site. Even if the new construction market falls off for a period of time, recycling of demolition debris will remain as a key opportunity.

2012 GHG Benefit: 20,000 tons CO₂e

2012 Cost Estimate to City: \$9,000/yr*

2012 Cost Estimate to Users: \$282,000/yr*

(* Cost estimates modeled in 2006)

2020 GHG Benefit: 44,000 tons CO₂e

3. ADD: Long-term Vehicle Miles of Travel Reduction (avoids 28,000 tons in 2020)

The City of Fort Collins has an adopted policy to “continually reduce the growth rate in vehicle miles of travel by implementing a comprehensive VMT reduction program that strives to meet or exceed VMT reduction in comparable cities.” (City Plan Policy T-9.1). City Plan and the Transportation Master Plan lay out a number of strategies for reducing VMT. In combination with these plans and the other long-term strategies identified in this Climate Action Plan (LEED for Neighborhoods, Promote Infill and Refill Development, Promote Transit -Oriented Development, Parking Management, Partnerships to Reduce VMT, and most importantly Seeking Funds to Implement Existing Plan) VMT reductions can increase by 2020.

The Colorado Climate Action Panel has recommended a strategy to reduce light-duty urban VMT 6% from the projected “business as usual” VMT growth rates in 2020, primarily through expanded transit opportunities. Using this goal as a guideline, if Fort Collins reduced VMT 6% below projected business as usual levels in 2020, that would avoid an additional 28,000 tons CO₂e in 2020 above the other measure in the Plan that is seeking to reduce VMT.

4. MODIFY: Increase Reduction Goals for the Community Climate Challenge (avoids an additional 3,000 tons after 90% double-counting is removed)

This modification recommends increasing the per capita carbon reduction goal for a Community Climate Challenge from 1% per person to 2% per person. Two percent reduction is much more closely aligned with the overall communitywide goal to achieve a 20% reduction by 2020, and could inspire citizens and businesses towards greater action if the community climate challenge goal is aligned with the communitywide goal.

5. MODIFY: Increase participation goals in Colorado Carbon Fund (avoids an additional 7,000 tons in 2012)

This addition recommends promotion of the Colorado Carbon Fund to local citizens such that 12,000 tons of offsets would be purchased by the year 2012, instead of 5,000 as proposed in the draft Climate Action plan. 12,000 tons of offsets could be accomplished if 5% of the population (~ 6,500 citizens) each offset one roundtrip airline flight from Fort Collins to New York, at a cost of \$34/RT flight). The draft Climate Action Plan is based on an effort to achieve only 5,000 tons of offset purchases from the Fort Collins community, or 2% of the population offsetting a RT flight from Denver to New York City.

III. Proposed Changes to Qualitative, Long-term Strategies

6. REPLACE: “Time of Sale Energy Conservation Ordinance” with “Explore Additional Opportunities to Increase Efficiency of Existing Buildings”

Replace:

“Time of Sale Energy Conservation Ordinance

Many communities have established requirements that buildings (rental properties, residential, and/or commercial) be upgraded at time-of-sale to meet some minimum level of energy efficiency. This measure recommends bringing inefficient buildings up to some minimum level of energy efficiency. It would require energy efficiency upgrades at the time of sale for residential and commercial structures that do not meet a certain level of energy efficiency, as determined by an energy audit. Utility demand-side management (DSM) programs could be designed in a way that helps customers comply with the requirement.”

With:

Explore Additional Opportunities to Increase Efficiency of Existing Buildings

Existing buildings (residential, commercial and industrial) represent 67% of Fort Collins’ community-wide emissions. A range of tools exists to increase efficiency of existing buildings, including incentives and regulations. This strategy calls for exploring additional cost-effective tools to increase existing building efficiency that have not already been explored through other measures in the plan such as the Energy Policy and green building measures. The toolbox of potential approaches includes:

Financing and Incentives

- Private loan funds/low interest loans
- Energy efficient mortgages
- Add the cost of upgrades into property taxes
- Publicly funded-green building revolving loan fund
- Energy efficiency local improvement districts
- Revenue bond issue
- Energy efficient tax credits

Mandates

- Mandatory disclosure of historical building energy use or building energy performance
- Mandatory upgrades at time of sale, using either prescriptive or performance requirements
- Carbon feebates (fee for buildings not meeting minimum performance standards, rebate for building exceeding performance standards)

(These tools were included in an RFP released by Seattle City Light to analyze a range of policy options to achieve and increase of 20% in the efficiency of Seattle’s existing buildings.)

7. ADD: Integrated Waste Optimization / Recovery Goal

The City should take leadership to help shape the direction of local/regional solid waste management policies. In partnership with the County, the City could manage and control the waste stream so that, 1) the maximum amount of commodities are recovered for appropriate reuse and recycling opportunities, and 2) the remainder of the waste stream (residuals), is harvested as a feedstock for generating energy using conversion technology. This approach

reduces the direct methane emissions of the landfill by diverting trash through reuse and recycling and then converting the embodied energy in the residual waste stream into useable energy through non-combustion “conversion technologies”.

The term ‘conversion technology’ is used here to describe all technologies that convert waste that are not landfills or incinerators. CT includes gasification, pyrolysis, and plasma arc systems. These processes are rapidly being developed and piloted. Over the next five years, the City should research the best options so that within 10 years, it would be positioned to invest efforts and resources into building new infrastructure using CT technology for, at minimum, all waste generated in the City. Conceivably, a local CT waste system would be designed and built to accept waste from an even broader geographic area, such as Larimer County or Northern Colorado. Ultimately, the Larimer County landfill would no longer be used as a disposal site, although it should be kept in use as a waste transfer facility.

8. MODIFY ‘City of Fort Collins Leadership’ to add promotion of Fort Collins as Green Community

Further progress on community carbon reduction activities will provide additional opportunities for Fort Collins to promote itself as a “Green” community. (The Economic Advisory Commission recommended adding this marketing opportunity.)

9. MODIFY: Promote Action at State, Regional, and Federal Levels

Append the following to the existing text: “For example, if two of the transportation strategies recommended by the Colorado Climate Action panel (adopt low carbon fuel standards and adopt California GHG emission standards) were implemented in Colorado, the estimated benefit in Fort Collins would be to reduce nearly 30,000 tons CO₂ in 2012 and 150,000 tons CO_{2e} in 2020.”

IV. Proposed Other Additions to the CAP

10. Add brief discussion of global warming.

This is in response to citizens questions at the November 12, 2008 Open House.

11. Expand the Acknowledgments Section

Expand the Acknowledgements section to include an explicit recognition of the Climate Task Force members, boards and commissions and the Fort Collins Sustainability Group for their roles in advancing this plan.

V. Explicit Edits to 2008 Climate Action Plan (draft October 2008)

The edits outlined below are the changes that would be made to the to 2008 Climate Action Plan (draft October 2008) if City Council adopts this Proposed Addendum. (The editing form calls for remove language that is struck out and adding underlined text.)

➤ **Cover page**

~~Interim Strategic Plan Towards 2020 Goal~~
~~Draft October 2008~~ Add: December 2008

➤ **ADD: “Acknowledgements” section:**

Our gratitude goes out to members of the 2007/2008 Climate Task Force for their significant contribution to the content of this Plan.

Fort Collins Climate Task Force

<u>John Bleem</u>	<u>Platte River Power Authority</u>
<u>William H. Farland, Ph.D.</u>	<u>Colorado State University</u>
<u>William S. Franzen</u>	<u>Poudre School District</u>
<u>Phil Friedman</u>	<u>Fort Collins Sustainability Group</u>
<u>Stephen Gillette</u>	<u>Larimer County</u>
<u>Blue Hovatter</u>	<u>Economic Advisory Commission</u>
<u>Jeff Lebesch</u>	<u>Electric Board</u>
<u>Eric Levine</u>	<u>Air Quality Advisory Board</u>
<u>Liz Pruessner</u>	<u>Natural Resources Advisory Board</u>
<u>Garry W. Steen</u>	<u>Transportation Board</u>
<u>Norm Weaver</u>	<u>City of Fort Collins</u>
<u>Steve Wolley</u>	<u>Climate Wise Steering Committee</u>

Climate Task Force Consultant and Analyst

Judy Dorsey, The Brendle Group

Climate Task Force Facilitator

Art Bavoso, Third Sector Enterprises

Thanks are also due to many citizens and Board and Commission members for sharing their insights and suggestions along the way, and to the City Manager and city staff who worked in many capacities to support the process. Thank you to the Fort Collins Sustainability Group who raised the need to update Fort Collins’ Climate Action Plan. And thank you especially to Fort Collins City Council for leadership on the issue of climate protection.

➤ **Table of Contents**

Modify to reflect accurate updated page numbers
 Remove: Acknowledgements Box and text

➤ **Executive Summary – page iii**

EXHIBIT EE

Replace table with the following:

<i>MEASURE NAME</i>	2012 Estimated Benefit (Tons CO2e)	2020 Estimated Benefit (Tons CO2e)
EXISTING MEASURES	104,000	104,000
New Measures - Menu of Options		
COMMUNITY LEADERSHIP		
Expand Climate Wise	73,000 - 94,000	143,000
Government Organizations Set GHG Goals	42,000	217,000
Community Climate Challenge	59,000	68,000
Colorado Carbon Fund	12,000	12,000
Community Leadership Sub-total	186,000 - 207,000	440,000
RECYCLING-Push Toward 50% Diversion Goal		
Ban cardboard from waste stream	46,000 - 58,000	68,000
Private paper/glass drop-off	5,000 - 7,000	8,000
Increase residential education	4,000 - 5,000	15,000
Larger residential recycling containers	3,000 - 4,000	5,000
Require haulers to provide residential yard waste collection for added cost	1,000	1,000
Enhance residential PAYT(2nd can costs more)	11,000 - 17,000	21,000
Commercial recycling cop-ops	1,000 - 7,000	8,000
Residential yard waste drop-off and ban yard waste	0 - 4000	5,000
Construction and Demolition (C&D) drop-off	0 - 34000	39,000
C&D contract preferences for City contracts	1,000	1,000
By 2020 - commercial recycling fee embedded in rates (Additional benefit above cardboard ban)		81,000
<u>Construction and Demolition Debris Deposit</u>	<u>20,000</u>	<u>44,000</u>
Recycling Sub-total	93,000 - 157,000	297,000
ENERGY		
2008 Energy Policy:		
Efficiency Programs	20,000 - 30,000	214,000
SmartGrid, Advanced Meter Infrastructure, Pricing, Conservation	10,00 - 20,000	246,000
Renewable Energy (Colorado Renewable Portfolio Standard and voluntary programs)	0	190,000
Natural Gas Energy Conservation	5,000 - 10,000	52,000
<u>Purchase Carbon Offsets</u>	<u>77,000</u>	<u>81,000</u>
Energy Sub-total	112,00 - 137,000	784,000
GREEN BUILDING		
Update Residential Building Code	1,000	4,000

EXHIBIT EE

Green Building Sub-total	1,000	4,000
TRANSPORTATION		
Reduce Vehicle Miles of Travel	2,000 - 12,000	14,000
Modern Roundabouts	1,000	2,000
<u>Long-Term VMT Reduction</u>	<u>0</u>	<u>28,000</u>
Transportation Sub-total	3,000 - 13,000	44,000
TOTAL (before double-counting removed)	499,00 - 620,000	1,672,000
TOTAL (after double-counting removed)	375,000 - 485,000	1,375,000

➤ **Executive Summary – page iv**

Modify as follows (remove strikeout, add underline)

If fully implemented, measures in the Plan will bring Fort Collins to ~~nearly 80%~~ of the 2012 ~~reduction objective~~ and 90% of the 2020 greenhouse gas reduction objectives goal.

Revise table as follows:

Year	Future Projection (Business As Usual) Tons CO2	Goal Tons CO2	Reduction Needed Tons CO2	Reductions from Climate Action Plan
2012	2,951,000	2,466,000	485,000 tons/yr in 2012	<u>375,000 – 485,000</u> tons/yr in 2012
2020	3,407,000	2,032,000	1,375,000 tons/yr in 2020	<u>1,375,000</u> tons/yr in 2020
2050	Not calculated	508,000	1,524,000/year below 2020 goal level	Not estimated

Revise table of new qualitative measures as follows:

Summary of new Qualitative Measures

<p>Community Engagement</p> <ul style="list-style-type: none"> • City of Fort Collins Government Leadership
<p>Transportation</p> <ul style="list-style-type: none"> • Seek adequate funding to implement transportation plans, with funding for transit as a priority to achieve best practices. • Develop partnerships to reduce vehicle travel • Parking management • Long-term VMT reduction

<p>Land Use</p> <ul style="list-style-type: none"> • Implement Land Use Code changes that support greenhouse gas emissions reductions. • Promote and pursue infill and refill development. • Promote transit-oriented development. • Consider requirements for new developments to have less travel demand than comparable existing developments.
<p>Green Building</p> <ul style="list-style-type: none"> • Regular updates of Building Energy Codes. • Continued support for above Code green building initiatives. • Time of sale Energy Conservation Ordinance • Require Green Building as a prerequisite for public financing • Explore Net Zero Ready homes. • Explore LEED for neighborhoods.
<p>Waste Reduction</p> <ul style="list-style-type: none"> • <u>Integrated Waste Optimization / Recovery</u>
<p>Urban Forestry</p> <ul style="list-style-type: none"> • Promote tree planting.
<p>Support state and federal climate protection actions.</p>

➤ **Introduction, page 1**

Insert the following text, taken directly from EPA's Web site on global warming (<http://www.epa.gov/climatechange/basicinfo.html>) at the beginning of the Introduction Chapter.

Need for Climate Protection

The Earth's climate has changed many times during the planet's history, with events ranging from ice ages to long periods of warmth. Historically, natural factors such as volcanic eruptions, changes in the Earth's orbit, and the amount of energy released from the Sun have affected the Earth's climate. Beginning late in the 18th century, human activities associated with the Industrial Revolution have also changed the composition of the atmosphere and therefore very likely are influencing the Earth's climate.

For over the past 200 years, the burning of fossil fuels, such as coal and oil, and deforestation have caused the concentrations of heat-trapping "greenhouse gases" to increase significantly in our atmosphere. These gases prevent heat from escaping to space, somewhat like the glass panels of a greenhouse.

Greenhouse gases are necessary to life as we know it, because they keep the planet's surface warmer than it otherwise would be. But, as the concentrations of these gases continue to increase in the atmosphere, the Earth's temperature is climbing above past levels. According to NOAA and NASA data, the Earth's average surface temperature has increased by about 1.2 to 1.4°F in

the last 100 years. The eight warmest years on record (since 1850) have all occurred since 1998, with the warmest year being 2005. Most of the warming in recent decades is very likely the result of human activities. Other aspects of the climate are also changing such as rainfall patterns, snow and ice cover, and sea level. (Source: EPA November 2008, see <http://www.epa.gov/climatechange/basicinfo.html>)

Widespread consensus now exists that human emissions of greenhouse gases (GHG) are impacting Earth’s climate system, causing the potential for unprecedented large-scale adverse health, social, economic and ecological effects..... (continue with existing text)

➤ **Climate Protection Strategies, New Measures, page 16**

Modify as follows (remove strikeout, add underline)

The strategies listed in Table 4 are identified to help Fort Collins achieve progress towards the 2020 reduction goal. If fully implemented, the existing and new measures combined sum up to ~~1,212,000~~ 1,375,000 tons of CO2e avoided in the year 2020, ~~or approximately 90% of the reductions needed to meet the 2020 goal. The strategies listed would lead Fort Collins to achieve between 55-80% of the 2012 stated reduction intent.~~

➤ **Climate Protection Strategies, New Measures, page 17**

Replace Table 4 – New Measures with the table below

<i>MEASURE NAME</i>	2012 Estimated Benefit (Tons CO2e)	2020 Estimated Benefit (Tons CO2e)
EXISTING MEASURES	104,000	104,000
New Measures - Menu of Options		
COMMUNITY LEADERSHIP		
Expand Climate Wise	73,000 - 94,000	143,000
Government Organizations Set GHG Goals	42,000	217,000
Community Climate Challenge	59,000	68,000
Colorado Carbon Fund	12,000	12,000
Community Leadership Sub-total	186,000 - 207,000	440,000
RECYCLING-Push Toward 50% Diversion Goal		
Ban cardboard from waste stream	46,000 - 58,000	68,000
Private paper/glass drop-off	5,000 - 7,000	8,000
Increase residential education	4,000 - 5,000	15,000
Larger residential recycling containers	3,000 - 4,000	5,000
Require haulers to provide residential yard waste collection for added cost	1,000	1,000
Enhance residential PAYT(2nd can costs more)	11,000 - 17,000	21,000
Commercial recycling cop-ops	1,000 - 7,000	8,000

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Residential yard waste drop-off and ban yard waste	0 - 4000	5,000
Construction and Demolition (C&D) drop-off	0 - 34000	39,000
C&D contract preferences for City contracts	1,000	1,000
By 2020 - commercial recycling fee embedded in rates (Additional benefit above cardboard ban)		81,000
<u>Construction and Demolition Debris Deposit</u>	<u>20,000</u>	<u>44,000</u>
Recycling Sub-total	93,000 - 157,000	297,000
ENERGY		
2008 Energy Policy:		
Efficiency Programs	20,000 - 30,000	214,000
SmartGrid, Advanced Meter Infrastructure, Pricing, Conservation	10,00 - 20,000	246,000
Renewable Energy (Colorado Renewable Portfolio Standard and voluntary programs)	0	190,000
Natural Gas Energy Conservation	5,000 - 10,000	52,000
<u>Purchase Carbon Offsets</u>	<u>77,000</u>	<u>81,000</u>
Energy Sub-total	112,00 - 137,000	784,000
GREEN BUILDING		
Update Residential Building Code	1,000	4,000
Green Building Sub-total	1,000	4,000
TRANSPORTATION		
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TOTAL (before double-counting removed)	499,00 - 620,000	1,672,000
TOTAL (after double-counting removed)	375,000 - 485,000	1,375,000

* Double-counting between measures with over-lapping benefits was addressed as follows:

Climate Wise – 50% overlap with other measures

Gov. Orgs Set GHG Goals – 75 % overlap

Community Climate Challenge – 90% overlap

Colorado Carbon Fund – 25% overlap

➤ **Climate Protection Strategies, Community Climate Challenge, page 22**

Revise as follows (remove strikeout, add underline)

Measure Description

Develop a local “Community Climate Challenge” for the residential sector, focusing on an educational campaign to promote actions with a goal of reducing ~~1%~~ 2% of per capita GHG emissions. A key component would be youth-focused programs (in-school programs, scouts, youth groups, church groups, services groups, etc.). A two percent reduction is closely aligned with the overall communitywide goal to achieve a 20% reduction by 2020 and could inspire

citizens and businesses towards greater action because it is aligned with the communitywide goal.

Estimated CO2 Savings in 2012 ~~28,000~~ 59,000 Tons CO2e
Estimated CO2 savings in 2020: ~~34,000~~ 68,000 Tons CO2e

➤ **Climate Protection Strategies, Colorado Carbon Fund, page 23**

Revise as follows (remove strikeout, add underline)

Estimated CO2 Savings in 2012 ~~5,000~~ 12,000 Tons CO2e
Estimated CO2 savings in 2020: ~~7,000~~ 12,000 Tons CO2e

Revise green call-out box text as follows:

If ~~two~~ five percent of For Collins citizens (~~2,600~~-6,500 people) offset one roundtrip airline flight from Denver to New York City each year, it would cost them \$34/year and would collectively avoid ~~5,000~~ 12,000 tons CO2e and would lead to reinvestment revenue of ~~\$8,000—\$334,000~~ \$22,000 - \$87,000 to support additional local programs.

Climate Protection Strategies, Push Towards 50% Waste Diversion Goal, pages 24-25

Revise as follows (remove strikeout, add underline)

Commercial Customers

- Help form recycling cooperatives for small businesses.
- Implement a refundable C&D deposit system where the total deposit would be refunded upon certification of appropriate recycling levels.

Estimated Cost to the City

~~\$106,000 - \$133,000 /year by 2010~~ for strategies recommended for early consideration
~~\$ 235,000/year by 2010 for full suite of measures~~
~~\$ 270,000 - \$524,000/year by 2015~~ for full suite of measures

Estimated CO2 Savings in 2012 ~~46,000—137,000~~ 93,000 – 157,000 Tons CO2e
Estimated CO2 savings in 2020: ~~253,000~~ 297,000 Tons CO2e

➤ **Climate Protection Strategies, insert after page 27**

Measure Name

Purchase Carbon Offsets

Estimated CO2 Savings in 2012 77,000 Tons CO2e
Estimated CO2 savings in 2020: 81,000 Tons CO2e

Supporting City Polices

Budgeting for Outcomes Environmental Health – Seek reductions in greenhouse gas emissions that puts the City on track to meet the...policy objectives...”

Measure Description

In order to meet the intent to reduce community-wide emission to a level not to exceed 2.466 million tons CO₂e by the end of 2012, it is likely that Fort Collins will need to acquire carbon offsets or carbon-certified renewable energy certificates. This strategy should be considered only after local emissions reduction programs have been maximized. It should be considered as a last strategy to implement if a gap still exists in 2011 and City Council wishes to achieve the 2012 reduction intent.

Lead Implementing Department

Purchasing

Recommended Approach for Implementation

Upon completion of the 2011 biennial progress report for the year 2010, if a large gap exists between the City’s projected emissions reduction by the end of 2012 from local carbon-reducing programs and the 2012 reduction intent, the concept of investing in carbon offsets could be explored with City Council. This evaluation could also be performed in 2012, upon completion of reduction activities in the year 2011.

Recommended Timeframe for Completion

by 2013

Estimated Cost to the City

\$770,000 if purchase carbon offsets at \$10/ton CO₂
-or- \$1.5M/yr if purchase carbon offsets at \$20/tonCO₂
-or- \$1.1M/yr if purchase RECs at \$10/MWh

Potential Funding Source(s)

City General Fund

Other Benefits

- Voluntary carbon offset markets can contribute to emissions mitigation and sustainable development objectives while government-mandated schemes are under development.
- Voluntary markets can also foster innovation through new technologies and project types still under evaluation by compliance emission markets.

CALL OUT BOX:

What is a carbon offset?

Actions such as driving, flying, and heating buildings directly emit carbon dioxide. Carbon offsets counteract these activities by investing in projects that reduce emission at another source to compensate for these direct emissions. Carbon offsets help to fund projects that reduce the amount of carbon dioxide in the atmosphere. Offsets should be sought after efforts to reduce emission right at their source have been implemented.

In order to be sure the offset is providing a true benefit to the environment, every offset project must be held to the highest quality standards.

High quality offset projects:

Provide new or additional benefits: A high quality offset project is one that would not have happened without the specific funding provided by the purchase of carbon offsets.

Are rigorously measured and verified: The benefits of the offset project must be measured and verified by an independent third party over the entire length of the project.

Have lasting benefits: The effects of the offset project must be long-lasting, not temporary.

In 2007, the voluntary “over the counter” market for carbon offsets grew 200% to 23.7 million metric tons of CO₂e transacted.

➤ **Climate Protection Strategies, insert after page 32**

<u>Measure Name</u>	<u>Long-Term Reduction in Vehicle Miles of Travel</u>
<u>Estimated CO₂ savings in 2020:</u>	<u>28,000 Tons CO₂e</u>

Supporting City Policies

Policy ENV-2.1 Actions on Vehicle Miles Traveled. The City will slow the growth of vehicle-miles of travel by employing strategies that reduce vehicle trip rates, reduce vehicle trip length, and increase vehicle occupancy.

PRINCIPLE T-1. The physical organization of the City will be supported by a framework of transportation alternatives that balances access, mobility, safety and emergency response throughout the city, while working towards reducing the rate of growth of vehicle miles of travel and dependence on the private automobile.

PRINCIPLE T-2. Mass transit will be an integral part of the city’s overall transportation system.

PRINCIPLE T-3. City transportation programs shall address themselves to reduce vehicle miles of travel through strategies that reduce trip generation, reduce trip length, and increase vehicle occupancy.

Policy T 9.1 Vehicle Miles Traveled (VMT): The City will continually strive to reduce the growth rate in VMT by implementing a VMT reduction program that strives to meet or exceed the performance of similar programs in comparable cities.

Measure Description

The City of Fort Collins has an adopted policy to “continually reduce the growth rate in vehicle miles of travel by implementing a comprehensive VMT reduction program that strives to meet or

exceed VMT reduction in comparable cities.” City Plan and the Transportation Master Plan lay out a number of strategies for reducing VMT. In combination with these plans and the other long-term strategies identified in the Climate Action Plan (Explore LEED for Neighborhoods, Promote Infill and Refill Development, Promote Transit-Oriented Development, Parking Management, Partnerships to Reduce VMT, and most importantly Seeking Funds to Implement Existing Plan) VMT reductions can increase by 2020.

The Colorado Climate Action Panel has recommended a strategy to reduce light-duty urban VMT 6% from the projected “business as usual’ VMT growth rates in 2020, primarily through expanded transit opportunities. Using this goal as a guideline, if Fort Collins reduced VMT 6% below projected business as usual levels in 2020, that would avoid an additional 28,000 tons CO2e in 2020 above the other measure in the Plan that is seeking to reduce VMT.

Lead Implementing Department Planning, Development and Transportation

Recommended Approach for Implementation

- Seek funding to implement the VMT-reducing strategies in transportation plans.
- Consider carbon reduction goals as transportation-related plans are updated.

Estimated Cost to the City Not estimated at this time.

Potential Funding Source(s) General fund, state and federal grants, other grants

Cost Savings Fuel and vehicle maintenance savings to participants in VMT-reduction programs.

Other Benefits

- Economic development benefits through the expansion of alternative modes
- Improve mobility in Fort Collins
- Reduce dependence on foreign fuel sources
- Reduce vulnerability to energy prices increases and volatility
- Reduce air pollution emissions including ozone precursors and fine particles
- Improve public health
- Improve local visibility

➤ **Climate Protection Strategies, Qualitative Measures, page 33**

Revise as follows (remove strikeout, add underlined text)

City of Fort Collins Government Leadership

The City government is well positioned to influence a community’s carbon footprint through modeling best practices for the internal organization and establishing policies that support greenhouse gas reduction within the community.

This strategy recommends that the City of Fort Collins identify and communicate overarching organizations goals that will support greenhouse gas reduction, not only for the municipal government but for the community. It is also recommended that the City adopt a standard management framework such as ISO14001, an Environmental Management System or a Sustainability Management System to implement and track progress on these over-arching goals.

In addition, further progress on community carbon reduction activities will provide additional opportunities for Fort Collins to promote itself as a “Green” community.

➤ **Climate Protection Strategies, Qualitative Measures, page 37**

Revise as follows (remove strikeout, add underline)

Time of Sale Energy Conservation Ordinance

~~Many communities have established requirements that buildings (rental properties, residential, and/or commercial) be upgraded at time of sale to meet some minimum level of energy efficiency. This measure recommends bringing inefficient buildings up to some minimum level of energy efficiency. It would require energy efficiency upgrades at the time of sale for residential and commercial structures that do not meet a certain level of energy efficiency, as determined by an energy audit. Utility demand side management (DSM) programs could be designed in a way that helps customers comply with the requirement.~~

Explore Additional Opportunities to Increase Efficiency of Existing Buildings

Existing buildings (residential, commercial and industrial) represent 67% of Fort Collins’ community-wide emissions. A range of tools exists to increase efficiency of existing buildings, including incentives and regulations. This strategy calls for exploring additional cost-effective tools to increase existing building efficiency that have not already been explored through other measures in the plan such as the Energy Policy and green building measures. The toolbox of potential approaches includes:

Financing and Incentives

- Private loan funds/low interest loans
- Energy efficient mortgages
- Add the cost of upgrades into property taxes
- Publicly funded-green building revolving loan fund
- Energy efficiency local improvement districts
- Revenue bond issue
- Energy efficient tax credits

Mandates

- Mandatory disclosure of historical building energy use or building energy performance
- Mandatory upgrades at time of sale, using either prescriptive or performance requirements
- Carbon feebates (fee for buildings not meeting minimum performance standards, rebate for building exceeding performance standards)

(These tools were included in an RFP released by Seattle City Light in 2008 to analyze a range of policy options to achieve and increase of 20% in the efficiency of Seattle's existing buildings.)

➤ **Climate Protection Strategies, Qualitative Measures, page 38**

Insert before Urban Tree Planting:

Integrated Waste Optimization / Recovery Goal

The City should take leadership to help shape the direction of local/regional solid waste management policies. In partnership with the County, the City could manage and control the waste stream so that, 1) the maximum amount of commodities are recovered for appropriate reuse and recycling opportunities, and 2) the remainder of the waste stream (residuals), is harvested as a feedstock for generating energy using conversion technology. This approach reduces the direct methane emissions of the landfill by diverting trash through reuse and recycling and then converting the embodied energy in the residual waste stream into useable energy through non-combustion "conversion technologies".

The term 'conversion technology' is used here to describe all technologies that convert waste that are not landfills or incinerators. CT includes gasification, pyrolysis, and plasma arc systems. These processes are rapidly being developed and piloted. Over the next five years, the City should research the best options so that within 10 years, it would be positioned to invest efforts and resources into building new infrastructure using CT technology for, at minimum, all waste generated in the City. Conceivably, a local CT waste system would be designed and built to accept waste from an even broader geographic area, such as Larimer County or Northern Colorado. Ultimately, the Larimer County landfill would no longer be used as a disposal site, although it should be kept in use as a waste transfer facility.

➤ **Climate Protection Strategies, Qualitative Measures, page 38**

Revise as follows (remove strikeout, add underlined text)

Promote Climate Protection and Adaptation Strategies at State, Regional and Federal Levels

While Fort Collins' climate protection efforts should not be unduly reliant on actions at other levels of government to reach its stated goals, local progress could be greatly advanced by passage of climate protection programs at the state and federal levels. Fort Collins should support or lobby for legislation that cost-effectively reduces greenhouse gas emission. Some programs are better addressed at high levels of government. Examples include regulations to reduce the greenhouse gas intensity of transportation fuels and/or establish greenhouse gas emissions standards for new vehicles. As a specific example, if two of the transportation strategies recommended by the Colorado Climate Action Panel (adopt low carbon fuel standards and adopt California GHG emission standards) were implemented in Colorado, the estimated benefit in Fort Collins would be to reduce nearly 30,000 tons CO₂ in 2012 and 150,000 tons CO₂e in 2020.

EXHIBIT EE

OPTION B (without Addendum)

RESOLUTION 2008-122
OF THE COUNCIL OF THE CITY OF FORT COLLINS
APPROVING AND ADOPTING
THE 2008 FORT COLLINS CLIMATE ACTION PLAN

WHEREAS, there is widespread consensus that human emissions of greenhouse gases are impacting the earth's climate system, causing the potential for unprecedented large-scale adverse health, social, economic and ecological effects; and

WHEREAS, climate disruption is likely to cause, and may already be causing, damage to the environmental and economic health of Colorado communities, risks associated with reduced snow pack that could affect both water supply and tourism, and secondary impacts such as changes in agriculture economics; and

WHEREAS, local governments can greatly influence their communities' greenhouse gas emissions by exercising key powers over land use, transportation, building construction, waste management, and, in many cases, energy and water supplies and management; and

WHEREAS, it is appropriate for local governments to take responsibility for emissions occurring within their jurisdictions since local community actions can speed the development of technology-based solutions and more rapidly promote market transformation that will help drive reductions in global emission levels; and

WHEREAS, by the adoption of Resolution 1999-137, the City Council established a policy that the City shall proactively identify and implement actions to reduce greenhouse gas emissions within the City by at least 30% below predicted 2010 levels by 2010 while achieving cost-effectiveness in each program, and

WHEREAS, despite progress in efforts to reduce greenhouse gas emissions through implementation of Climate Wise, the Electric Energy Supply Policy, recycling initiatives and other programs to reduce emissions, Fort Collins is not on track to meet the greenhouse gas emissions goal established by Resolution 1999-137 to reduce carbon dioxide emissions to an inventory level of 2.466 million tons in the year 2010; and

WHEREAS, by the adoption of Resolution 2008-051, the City Council established the goals of reducing Fort Collins' community-wide greenhouse gas emissions 20% below 2005 levels by 2020 and 80% below 2005 levels by 2050, and further expressed its intent to reduce community-wide greenhouse gas emissions by the end of 2012 to a level not to exceed 2.466 million tons pending attainment of such goals; and

WHEREAS, in accordance with Resolution 2008-051, the City Manager has prepared for Council consideration the *2008 Fort Collins Climate Action Plan* (the "Plan") to reduce greenhouse gas emissions within the Fort Collins community that identifies interim milestones needed to put Fort Collins on a trajectory to meet the 2020 goal, including a milestone for the year 2012 as

EXHIBIT EE

referenced above, a copy of which is attached hereto, marked as Exhibit “A” and incorporated herein by reference; and

WHEREAS, the Plan includes a list of strategies that consider relevant technical, economic, political, and social factors; promote economic vitality and prioritize investments in the Fort Collins community; address all emissions sectors; and promote involvement by all segments of the community (local businesses, governments, utilities, schools, universities, non-profit organizations, homeowners, and other individuals); and

WHEREAS, the Transportation Board has considered the transportation-related elements of the Plan and recommended that the City Council approve and adopt those portions of the Plan; and

WHEREAS, in addition, the Electric Board, Air Quality Advisory Board and the Natural Resources Advisory Board have all considered the Plan, together with certain additional action items presented by staff, and recommended that the City Council approve and adopt the Plan incorporating those additional action items; and

WHEREAS, upon consideration of the Plan, and the additional items prepared and presented by staff in response to discussion by the City Council at its October 28, 2008 work session, the City Council has determined that it should approve the Plan as presented at the work session.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF FORT COLLINS as follows:

Section 1. That the 2008 Fort Collins Climate Action Plan is hereby approved and adopted and shall supersede the 1999 Local Action Plan to Reduce Greenhouse Gas Emissions.

Section 2. That the City Manager is hereby directed to:

- a) prepare an annual status report tracking progress toward attainment of the goals established herein, including a community-wide greenhouse gas emissions inventory and a list of quantified emission reductions actions for the preceding calendar year,
- b) biennially, at least six months in advance of the City’s biennial budget adoption, prepare a report evaluating progress on greenhouse gas reduction relative to established interim milestones and recommending actions for consideration in the upcoming budget cycle (the “Biennial Report”), and
- (c) consider greenhouse gas reduction actions identified in the Plan and future biennial progress reports in annual staff work plan development.

Section 3. That the City Council hereby recognizes that new data, scientific findings, mitigation technologies, and quantification methodologies may emerge over time and that future Councils may choose to eliminate, modify or add specific action items contained in the 2008 Fort Collins Climate Action Plan to take into account evolving science, technology or other opportunities.

EXHIBIT EE

Section 4. That the City Manager is hereby authorized to continue to examine and evaluate emerging best practices and new cost-effective strategies to identify local emissions reductions opportunities for inclusion in future Biennial Reports.

Section 5. That it is the intent of the City Council that Fort Collins city government lead by example in this area by minimizing greenhouse gas emissions in its own operations through the establishment of policies and directions that will lead the community to a sustainable future, and by inspiring community involvement in the effort to reduce greenhouse gas emissions.

Passed and adopted at a regular meeting of the City Council held this 2nd day of December, A.D. 2008.

Mayor

ATTEST:

City Clerk

EXHIBIT EE

Exhibit A is the same as “Exhibit A” attached to Option A of Resolution 2008-122