



City of Kirkland  
***Climate Protection Action Plan - Update***  
September, 2010



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## Introduction

Kirkland has a long-standing tradition of environmental stewardship. For over 20 years, the City has implemented various policies, regulations, and programs to protect its natural environment. Recent efforts include:

- In 2000, an interdepartmental team, since named the Green Team, was formed to coordinate all of the City's actions for managing Kirkland's natural environment.
- In 2003, the City Council adopted the Kirkland Natural Resource Management Plan, which comprehensively summarizes best resource management practices and principles, Kirkland's natural resource management objectives, and recommended implementation strategies.
- In 2005, Kirkland signed the *U.S. Conference of Mayors Climate Protection Agreement*, committing to help reverse global warming by reducing greenhouse emissions.
- In 2006, Council authorized Kirkland's membership to ICLEI – Local Governments for Sustainability.
- In 2008, Council adopted the staff-recommended greenhouse gas reduction targets via resolution. For both the community as well as government operations, the reduction targets are:
  - Primary: 20% below 2005 levels by 2020
  - Interim: 10% below 2005 levels by 2012
  - Long-term: 80% below 2005 levels by 2050
- In 2009, Council adopted the Climate Protection Action Plan proposed by staff to achieve the reduction targets.

To determine Kirkland's progress in meeting its government operations and community reduction targets, staff committed to the following next steps in the Climate Protection Action Plan:

- Monitor progress on each of the efforts and measures the City has committed to in this Plan at least annually so that, as needed, program revisions and corrections are timely.
- Update the greenhouse gas inventory for government operations annually.
- Update the greenhouse gas inventory every 3 years for the community. Since King County's inventory is utilized to arrive at Kirkland's community inventory, the next community inventory will be for the year 2008 after King County has completed it.
- Compare the updated inventory with that of the base year's (2005) and determine how close the City is to the target reductions.
- *Provide a progress report (this report) to internal staff, Directors, Council, and citizens to include the following:*
  - *Avoided emissions from energy efficiency improvements in City buildings, lighting, operations, and information technology as well as report on new technologies to be applied.*
  - *Improvements in diversion rates and recycling efforts in the community and the government operations.*
  - *Sustainable development in the community and government operations.*
  - *Efforts to make commuting and transportation more efficient in the community and government operations.*

- *Actions taken to support the recommendations of the State's Climate Action Team to foster the success of this action plan in the community.*
- *Highlight the City's outreach efforts with internal staff and in the community.*

## The Greenhouse Gas Emissions Inventory – Government Operations

In 2001, ICLEI joined forces with the National Association of Clean Air Agencies (NACAA) and the U.S. Environmental Protection Agency (EPA) to build a software product that helps local governments create greenhouse gas inventories, quantify the benefits of reduction measures, and formulate local climate action plans. This original Clean Air and Climate Protection (CACP) Software was utilized by staff to perform the base year inventory (2005) for government operations.

In 2008, ICLEI partnered with the California Air resources Board and the California Climate Action Registry to develop Local Government Operations Protocol (LGOP). This emerging standard describes methods and data requirements that, in some cases, differed from those in the original CACP. CACP 2009 was created to support emissions inventorying and climate action planning based on the principles and methods of LGOP. In 2010, staff utilized CACP 2009 to collect and analyze greenhouse gas data for government operations for 2009. In addition, the base year data for 2005 was reentered into the new software version allowing for comparisons. Governmental Operations emissions are described in the figures below and raw data is available in Exhibit 1.

Figure 1 shows that the greenhouse gas emissions inventory remained stable declining by a mere 1% from 2005 to 2009. The main sources of greenhouse gases in Kirkland’s governmental operations inventory for 2009 are energy utilized by City facilities (40%) and fleet fuel consumption (26%) as shown in Figure 2 virtually unchanged from the 2005 inventory.

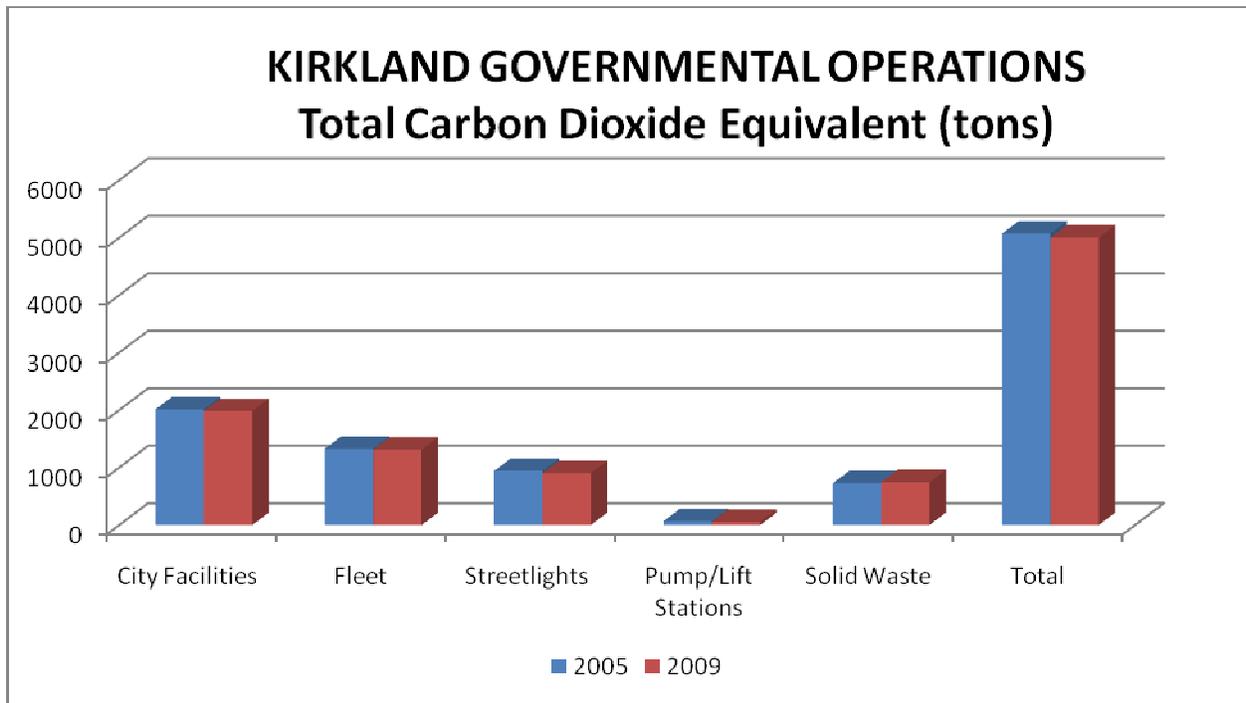


Figure 1

**KIRKLAND GOVERNMENT OPERATIONS  
Total Carbon Dioxide Equivalent Emitted (%) -  
2009**

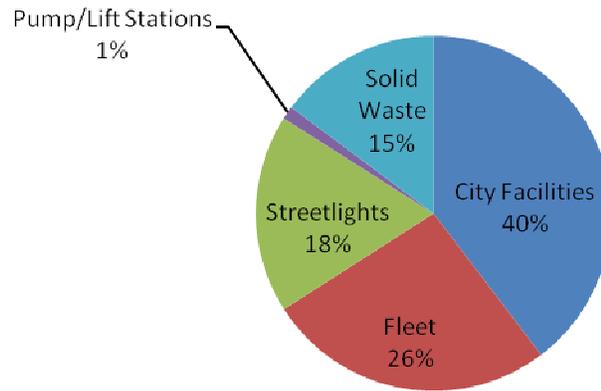


Figure 2

Section 1 describes the results of the efforts in government operations during 2009. The role of state and federal government is discussed in Section 2. The Communications Plan (Appendix I) is a component of the City’s Climate Protection Action Plan and is intended to guide the City’s efforts in educating the public, schools, other jurisdictions, professional associations, businesses and industry about greenhouse gas reduction.

## **SECTION 1: KIRKLAND'S RESPONSIBILITY TO THE ENVIRONMENT – EFFORTS BY CITY GOVERNMENT**

***Target Reduction: By Year 2012 – 507 tons By Year 2020 – 1,014 tons***

***Reduction as of 2009 from inventory and other efforts\*: 1,188 tons***

Kirkland's efforts in reducing emissions in government operations were focused in the areas of:

- A. ACTION: REDUCE ENERGY CONSUMPTION
- B. ACTION: REDUCE WASTE & INCREASE RECYCLING
- C. ACTION: ENCOURAGE ALTERNATIVE COMMUTE OPTIONS
- D. ACTION: ENHANCE FUEL EFFICIENCY & INCREASE AVAILABILITY OF ALTERNATIVE FUELS

### **A. ACTION: REDUCE ENERGY CONSUMPTION**

According to the 2009 City government inventory, electricity and natural gas consumption from operating City buildings, traffic signals, street lights, and lift stations contributed approximately 40% of the total tons of CO<sub>2</sub>e generated by governmental operations. Efforts to improve energy efficiency in Kirkland's operations entail building improvements, lighting retrofits, operational changes, and changing behavior. Government actions will be implemented by a combination of hardware retrofits and outreach to staff.

In addition to building improvements, energy efficient information technology includes full implementation of computers, flat screen monitors, and software that will perform a safe shut-down after a period of inactivity.

*Energy Efficiency Through Building Improvements, Purchasing Decisions, and Behaviors -- (reduction potential unknown)*

The Facilities Services Team continues to seek efficiency in resource management through building improvements, purchasing decisions, and behaviors. In 2009, Facilities staff completed climate control and monitoring the Maintenance Center (MC) Buildings A and C, replaced building components with higher efficiency systems through the life cycle process (replaced HVAC with air-source heat pumps at Peter Kirk Community Center (PKCC) and added the building to the climate control and monitoring system; upgraded two of the three HVAC units at Fire Station 22; and replaced the water heater at MC Building B with a tankless version), and continued work on changes in occupancy behavior, and sustainable purchasing such as the purchase of ENERGY STAR rated/compliant appliances. Energy efficient behaviors include discouraging staff use of personal appliances (i.e. heaters, refrigerators), encouraging turning off or unplugging electronic equipment, turning off computers and lights when leaving a room.

Public Grounds staff eliminated the need to irrigate 7,500 square feet of turf by installing Dream Turf (synthetic) in seven medians. In addition, drought-tolerant and native plants are used for new plantings.

*Dell Desktop Personal Computers (PCs) -- (103 tons of CO<sub>2</sub>e per year)*

The City has a desktop computer replacement schedule of every three years. Therefore, since 2006, a complete citywide transition to ENERGY STAR computers or equivalent has taken place. According to the ENERGY STAR website, PCs that have earned the ENERGY STAR rating use about 15% of the energy of their counterparts do (85 vs. 542 kWh annually). This amounts to a savings of 461 kWh per computer annually. Multiplied by the 453 PCs in the city, this results in a savings of 208,833 kWh and a reduction of 103 tons of CO<sub>2</sub>e per ICLEI's Clean Air and Climate Protection (CACP) software.

*Dell Flat Screen LCD Monitors -- (7 tons of CO<sub>2</sub>e per year)*

In 2008, the City completed citywide implementation from cathode-ray tube (CRT) to flat panel liquid crystal display (LCD) monitors. Dell estimates that flat panel LCDs use about 30% less power than CRTs and have a lower cooling cost. According to Dell, a 19" LCD flat panel monitor utilized 8 hours daily 250 days/year consumes 73 kWh annually. Assuming that a CRT consumes 104 kWh (30% more than LCDs) annually, this is a savings of 31 kWh a year. Multiplying this savings by the 453 PCs citywide equates to an energy savings of 14,043 kWh and a reduction of 7 tons of CO<sub>2</sub>e per the CACP software.

*Surveyor® PC Power Management Software -- (42 tons of CO<sub>2</sub>e per year)*

Computers are central to the operations of the City. The computer central processing units (CPU) and monitors are responsible for an increasingly greater percentage of overall building energy usage. In 2009, the City completed citywide implementation of Verdiem PC Power Management software which puts the computer into standby mode after a period of inactivity (estimated to be about 2/3 of the time). Verdiem surveyed our actual PC usage in October and compared it to that of usage before we implemented the power management software. The results showed that we realized about a 36% reduction in energy and in cost and a savings of 42 tons of CO<sub>2</sub>e which is about 6 tons more than what was anticipated.

*ENERGY STAR Partnership -- (83 tons of CO<sub>2</sub>e)*

In January 2009, Council made a fundamental commitment to protect the environment by signing a letter to become an ENERGY STAR partner. As a partner, Kirkland committed to the ENERGY STAR Challenge, a national call-to-action to help improve the energy efficiency of America's commercial and industrial buildings by 10% or more. For the year 2009, we realized a reduction in electricity of 7% and an increase in natural gas of 4% from 2008. This resulted in a net CO<sub>2</sub>e reduction of 83 tons. As we launch our internal outreach to support the Climate Protection Action Plan, we are optimistic that we will reach our 10% goal in 2010. On a positive note, despite utility rate increases and continued purchase of Green Power in 2009, we were able to keep overall utility expenditure unchanged from 2008.

*Purchase Green Power -- (932 tons of CO<sub>2</sub>e per year)*

The City of Kirkland has set an example by purchasing Green Power from Puget Sound Energy for a substantial percentage of its operations. As part of the outreach to the community, the City will also encourage residential and commercial customers to sign up for green power. Since 2008, as approved by Kirkland's City Council, 50% of the electricity consumption for Kirkland's government buildings was Green Power. This measure reduces the pollution generated by electricity use by 50%. EPA's Green Power Equivalency Calculator estimates that the City's Green Power purchase avoids 932 tons of CO<sub>2</sub>e per year.

*Energy Efficient Lighting Retrofit -- (33 tons of CO<sub>2</sub>e per year)*

The City of Kirkland undertook a major project in 2007 to achieve energy savings while upgrading fixtures that were deteriorated and inefficient. The lighting retrofit was sponsored by Puget Sound Energy and included replacement of magnetic ballasts with electronic and upgrading fluorescent bulbs along with the replacement of incandescent fixtures and the installation of incandescent exit signage with ENERGY STAR rated Light Emitting Diode (LED) bulbs at City buildings with plans for more. In addition, timers/light sensors on exterior lighting and occupancy sensors in conference rooms were installed. Facilities staff estimates that this project resulted in 60,541 kWh of energy reduction and for a savings of 30 tons of CO<sub>2</sub>e per year. In 2009, a lighting upgrade performed at the Parks Maintenance Annex resulted in 6,000 kWh of savings and about 3 ton of CO<sub>2</sub>e per year.

*Energy Efficient Traffic Signals and Pedestrian Indicators -- (115 tons of CO<sub>2</sub>e per year)*

Taking advantage of rebates available through Puget Sound Energy, the City retrofitted 147 incandescent traffic signals and pedestrian indicators with more efficient LEDs. LEDs require 10% of the energy needed by incandescent signals. At an average savings of 13 watts per signal or indicator at 24 hours a day 365 days a year, the 90% energy savings for the 147 signals and indicators results in a total annual reduction of 150,584 kWh for a savings of 74 tons of CO<sub>2</sub>e per year a year. In 2009, 2 intersections were completed. The 88 signals resulted in an energy savings of 90,145 kWh and 41 tons of CO<sub>2</sub>e annually.

The American Recovery and Reinvestment Act of 2009 provided multiple funding opportunities intended for local governments. One such opportunity is the Energy Efficiency and Conservation Block Grant (EECBG). The overall intent of the EECBG Program is to assist eligible entities in creating and implementing strategies to:

- Reduce fossil fuel emissions in a manner that is environmentally sustainable and, to the maximum extent practicable, maximizes benefits for local and regional communities;
- Reduce the total energy use of the eligible entities; and
- Improve energy efficiency in the building sector, the transportation sector, and other appropriate sectors.

The City committed to using about \$95,000 of EECBG grant funding to pursue a system-wide LED conversion to include 3M signal types, pedestrian indicators and yellow signals. The conversion is slated to begin in 2010. The City will continue to investigate where solar or other alternate power may be an option (i.e. neighborhood signs), and investigate the potential of reduced work schedules.

## **B. ACTION: REDUCE WASTE & INCREASE RECYCLING**

The City of Kirkland strives to lead by example through its long-standing tradition of environmental stewardship in the community and the robust solid waste and recycling programs it offers. Recycling and waste management are critical in reducing greenhouse gases because they save energy. Also, goods manufactured from recycled materials typically require less energy and create less greenhouse gases than producing goods from virgin materials and help to create a market for the recycled commodity closing the loop. Diverting more waste from landfills also extends the life of these facilities and reduces the amount of greenhouse gas emitted from the disposal of waste.

The greenhouse gas inventory for City government showed that solid waste sent to the landfill contributed about 14% to total CO<sub>2</sub>e and that remained virtually unchanged from 2005 to 2009.

*Recycled Content -- (25 tons of CO<sub>2</sub>e per year)*

The City has had a long-standing practice of ordering recycled-content copy paper and janitorial paper products. Recycled-content paper is also typically specified when ordering printed letterhead, envelopes, forms and other printed materials. Many of the office supply items (folders, envelopes, notepads, etc.) that are ordered have at least some recycled content. The 2005 inventory showed that the City uses 69 tons of minimum 30% recycled-content copy paper of various sizes and colors annually. The Environmental Defense Fund Paper Calculator estimated that 69 tons of 30% recycled-content paper results in 174 tons CO<sub>2</sub>e and requires 1,159 trees to produce vs. virgin paper which results in 196 tons CO<sub>2</sub>e and requires 1,656 trees to produce – a savings of 22 tons of CO<sub>2</sub>e with the use of 30% recycled-content paper. In 2009, we negotiated better pricing for 40% recycled-content paper. The 2009 inventory showed that we used 45.6 tons of 40% recycled-content paper and 16.4 tons of 30% recycled-content paper. The Calculator estimates that this results in the use of 1,016 trees and emits 156 tons of CO<sub>2</sub>e vs. virgin paper which would use 1,596 trees and 181 tons of CO<sub>2</sub>e.

*Zero Waste Events -- (reduction potential unknown)*

The City of Kirkland continues to provide leadership and set an example for the community by holding Zero Waste staff events. Staff has developed event planning guidelines to assist staff and citizens weigh options that balance cost and waste.

*Food Waste Recycling -- (162 tons of CO<sub>2</sub>e per year)*

Food waste recycling is currently available to staff at City Hall, the Maintenance Center, the Municipal Court, Peter Kirk Community Center, and Fire Station 21. In 2009, the program diverted about 54 tons of food waste from the landfill, up from 40 tons in 2008. According to PSCAA, every pound of waste that goes into the landfill creates 3 lbs of CO<sub>2</sub>e pollution. Food waste recycling service saves 120 tons of CO<sub>2</sub>e per year and should be extended to all City facilities, where practical.



Food Waste Collection Pail

**C. ACTION: ENCOURAGE ALTERNATIVE COMMUTE OPTIONS**

*Commute Trip Reduction (CTR) Program -- (reduction potential not yet known)*

The goals of the Commute Trip Reduction Program are to reduce traffic congestion, air pollution, and petroleum consumption through employer-based programs that decrease the number of commute trips made by people driving alone.

- Provide annual bus passes to full-time benefited employees to encourage the use of transit (ongoing program despite not being funded for 2009-10)
- Provide employees that carpool, walk, bike or use transit more than 30% of the time up to \$30 per month
- Participate in Metro Promotions: Commuter Challenge, Wheel Options, Ride Share Online which included several financial incentives to get more employees to use alternative commutes such as carpool, bus, vanpool, bicycling and telecommuting
- Encourage alternate start times/flex schedules/telecommuting
- Offer guaranteed Ride Home Incentive
- Participate in national Bike to Work Month
- Encourage employees to use the bus, carpool, or teleconference to meetings

In 2009, 84 City employees participated in the CTR Program.

*Bike to Work Month -- (0.75 tons of CO<sub>2</sub>e per year)*

The Puget Sound Bike to Work event started in 1973. Later Cascade Bicycle Club took over the promotion and called it Bike to Work Day and promoted it as a commute challenge event. In 2009, 15 City employees participated in the Bike to Work Month Commute Challenge in May and more than 1,500 miles of driving was reduced. About 1 lb of CO<sub>2</sub>e is eliminated for every mile biked according to the Cascade Bicycle Club.

*Green Bike Project*

The City of Kirkland did not participate in King County's "Green Bike Project" in 2009.

**D. ACTION: ENHANCE FUEL EFFICIENCY & INCREASE AVAILABILITY OF ALTERNATIVE FUEL**

According to the 2009 inventory, City automobiles and trucks contributed 26% of the total tons of CO<sub>2</sub>e generated by governmental operations. This was virtually unchanged from 2005. Emissions from vehicles are the second most polluting source in City government after energy consumption from City facilities. Actions that will increase fuel efficiency or expand alternative fuel research will also reduce pollution caused by commuting and transportation making this area of the action plan of special significance.

*Alternative Fuel Vehicles -- (20 tons of CO<sub>2</sub>e per year)*

The City is continuing its on-going efforts to increase the average fuel economy of the fleet, including transitioning to "alternative fuel" vehicles (e.g. electric, hybrid, biodiesel, etc.) when feasible. The City's fleet includes 17 hybrid vehicles which reduce carbon emissions by approximately one ton each year per vehicle, an all electric truck Neighborhood Electric Vehicle (NEV) which is expected to emit 2.5 tons less CO<sub>2</sub>e per year due to the use of hydropower and wind power within Puget Sound Energy's portfolio, and a biodiesel (B99) vehicle which reduces 19 lbs of CO<sub>2</sub>e per gallon of fuel than its gasoline counterpart, according to the Puget Sound Green Fleets Guide. In 2009, the City purchased two hybrid vehicles and a scooter.

The City is a charter member of the Puget Sound Clean Cities Coalition, which works to develop alternative fuel sources in the Puget Sound Region, to promote biodiesel availability, and to help

develop the market so that ultra-low sulfur and biodiesel fuels will become available and affordable, since their use would cut toxic emissions from diesel vehicles.

The EPA has required all oil companies to produce ultra low sulfur diesel (ULSD) in 2006 which contains 15 parts per million, a dramatic reduction over low sulfur diesel (LSD) with 500 parts per million. ULSD is being required for all diesel engines beginning with 2007 models. In October, 2006, the City began using ULSD to run all our pre-2007 diesel engines, in addition to the required post-2007 model diesel engines.

Waste Management, the City's hauler, uses ULSD in all of its operations within the City or other low-emissions fuels as approved by City staff. The fleet of collection vehicles was retrofitted with particulate traps thereby further reducing emissions up to 90% from previous levels.

*Keeping Proper Tire Pressure on All City Vehicles -- (40 tons of CO<sub>2</sub>e per year)*

Visual tire inspection is often insufficient to detect low pressure, and scheduled maintenance may occur after the tire pressure has dropped below the manufacturer's suggested limits. Improper tire pressure is estimated by the U.S. Department of Energy to reduce vehicle fuel economy by 3.3% annually. A reduction of total vehicle fleet fuel usage by 3.3%, as per the U.S. Department of Energy's estimates, can result in a savings of 3,960 gallons of fuel and a reduction of carbon dioxide emissions by 40 tons. In 2009, staff in the Fleet Division ensured that all vehicles had tire pressure gauges available.

*Save Money and Reduce Pollution: Launch an anti-idling message -- (10 tons of CO<sub>2</sub>e per year)*

According to [www.fueleconomy.gov](http://www.fueleconomy.gov), every gallon of gas you save not only helps your budget, it also keeps 20 pounds of carbon dioxide out of the atmosphere. If 100 of the City's fleet vehicles (excluding police patrol, fire emergency, and maintenance equipment vehicles) reduced unnecessary vehicle idling by 5 minutes a day for 240 days a year, the City could potentially see a reduction of carbon emissions of 10 tons of CO<sub>2</sub>e per year. (Calculation based on factors provided by U.S. Department of Energy's Fuel Economy Guide.) Unnecessary vehicle idling pollutes the air, wastes fuel, and causes excess engine wear:

- Air Pollution from idling vehicles can pollute the air in and around the vehicles. Exhaust from cars can also enter adjacent buildings through air intakes, doors, and open windows.
- Idling vehicles waste fuel and money. On average, a car will burn more than half a gallon of fuel for every hour spent idling. In general, 10 seconds of idling uses more fuel than restarting the car.
- Engine Wear-and-Tear. Vehicle engines do not need to idle more than a few minutes to warm up. In fact, extended idling causes engine damage.

The City's Fleet Supervisor conveyed the anti-idling message at Public Works and Parks staff meetings and Directors' meetings. Other staff includes this message at preconstruction meetings with private developers and contractors doing business within the City.

*Green Fleets Initiative -- (reduction potential not yet known)*

The Puget Sound Green Fleets Guide is a joint project of the Puget Sound Clean Air Agency and the Puget Sound Clean Cities Coalition. The Green Fleets Guide is intended to help fleet managers and decision makers understand the emissions produced by fleet operations and identify effective ways to reduce these emissions.

In 2007, the City Managers of Kirkland and Mercer Island initiated the Green Fleets Initiative. The initiative was intended to bring the “CEO’s” and fleet managers of the Eastside Cities to work together to development a Leadership in Energy & Environmental Design (LEED®) style standard to measure and recognize efforts from local government agencies to meet these standards, and to explore serving as a purchasing cooperative. By the end of 2008, a draft of Standards was completed. A new name was adopted, “Evergreen Fleets Standard,” to reflect that the coalition had grown to include over 20 cities, 4 counties, a Native American tribe, 3 Washington State agencies, the Puget Sound Clean Cities Coalition, and the Puget Sound Clean Air Agency. A pilot program was completed in 2009, and final changes were adopted. The Evergreen Fleets program is now “owned” and administered by the Puget Sound Clean Air Agency. Membership was opened to any interested fleet, public or private. Membership currently stands at 73, with some participating fleets as far away as Alabama.

An integral part of the Evergreen Fleets Standard provides for voluntary reporting of greenhouse gases to the Puget Sound Clean Air Agency. The Standard’s goal was to develop a reporting template that would be in concert with the mandatory reporting required by Washington State GHG policy and legislation effective in 2010. The State’s template will be designed to be compatible with the Western Climate Initiative (WCI) and the Climate Registry (TCR). It should be noted that all coalition members will continue to voluntarily report their GHG emissions to the Puget Sound Clean Air Agency even if the member is below the Washington State annual emissions reporting threshold of 2,500 tons. Despite that Kirkland is below this annual threshold, we still voluntarily report our emission data to Evergreen Fleets.

**SECTION 2: THE ROLE OF STATE AND FEDERAL GOVERNMENT**

In 2009, Kirkland’s climate goals were supported with funding from the Energy Efficiency and Conservation Block Grant (EECBG) program that was funded through the American Recovery and Reinvestment Act (ARRA) of 2009. The City received \$211,500 in formula grant funding from this program, which is being used to fund the following programs per the Green Team recommendation and City Council direction:

<b>OPTION #</b>	<b>PROPOSED PROJECT</b>	<b>ESTIMATED COST</b>
1	<i>Convert Juanita Village Parking Lot Lights to LED Technology</i>	<i>\$60,000</i>
2	<i>Replace Single-Pane Windows at Fire Station 27</i>	<i>\$24,000</i>
3	<i>Positive Energy (now O-Power) Program Pilot</i> <ul style="list-style-type: none"> <li>• <i>Assumes 12,000 customers at \$10 per customer</i></li> <li>• <i>Partnership and 50/50 cost share with PSE</i></li> </ul>	<i>\$60,000</i>
4	<i>Convert Traffic Signals to LED Technology with Remaining Funds</i>	<i>\$67,500</i>
<b>TOTAL</b>	<b>ALL OPTIONS</b>	<b>\$211,500</b>

**CONCLUSION AND NEXT STEPS**

The 2009 inventory of governmental operations revealed that Kirkland is well exceeding the 2012 interim greenhouse gas reduction target (10% below 2005 levels) as well as the 2020 primary reduction target (20% below 2005 levels). In 2009, Kirkland accomplished a 23% reduction from 2005 greenhouse gas inventory levels. Highlights include:

- Reductions in energy consumption were realized from efficiencies in City facilities, streetlights, traffic signals, and information technology purchase and management decisions.
- In 2005, we primarily used 30% recycled-content copy paper. By negotiating better pricing for 40% recycled-content copy paper and primarily using that, we avoided 25 tons of CO<sub>2</sub>e.
- In 2009, food waste recycling in several City facilities diverted 54 tons from the landfill, up from 40 tons in 2005 and resulted in a savings of 42 tons of CO<sub>2</sub>e.
- Impressive achievements have been accomplished in internal communications and education:
  - **Green Scene:** An informational portal on the City's Intranet and a central source of information for City employees about green initiatives that impact City operations.
  - **Zero Waste Events:** Staff has developed event planning guidelines to assist with weighing options that balance cost and waste with the goal of producing the least amount of waste.
  - **Waste Reduction and Recycling Education at Employee Orientation:** An introduction to the City's in-house waste and recycling program.
  - **"Green Ambassador" Subcommittee:** Representatives from all City departments that work to educate co-workers on waste reduction and conservation topics.
  - **Educational Signage:** Materials regarding recycling and waste reduction posted around City facilities and on/near waste containers.
  - **"Waste-free Workplace":** Informational page on the City's Intranet that includes information, resources, and short videos on waste reduction topics.

In fall of 2011, staff will provide a greenhouse gas inventory update for the year 2010 for governmental operations. If the King County inventory is available by then, the community inventory for Kirkland will also be updated.

## EXHIBIT 1

### KIRKLAND GOVERNMENT OPERATIONS CARBON DIOXIDE EQUIVALENT YEARS 2005 & 2009

<b>Total Carbon Dioxide Equivalent Emitted (tons)</b>	<b>2005</b>	<b>2009</b>	<b>Change</b>
City Facilities - PSE bills for parks, fire stations, buildings	2013	1984	-29
Fleet - fuel efficiency for City vehicles and equipment	1325	1311	-14
Streetlights	940	904	-36
Water/Sewage Lift Stations	67	58	-9
Solid Waste Sent to Landfill	725	745	20
<b>TOTAL</b>	<b>5070</b>	<b>5002</b>	<b>-68</b>
<b>Total Carbon Dioxide Equivalent Emitted (%)</b>	<b>2005</b>	<b>2009</b>	<b>Change</b>
City Facilities - PSE bills for parks, fire stations, buildings	39.7	39.7	0
Fleet - fuel efficiency for City vehicles and equipment	26.3	26.3	0
Streetlights	18.5	18.1	-0.4
Water/Sewage Lift Stations	1.3	1.2	-0.1
Solid Waste Sent to Landfill	14.2	14.8	0.6
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>0.1</b>

**APPENDIX 1**

**City of Kirkland**

***Climate Protection Action Plan***

# **Communications and Outreach Plan**



## Communications and Outreach Plan

This Communications Plan is a component of the City's **Climate Protection Action Plan** and is intended to guide the City's efforts in educating the public, schools, other jurisdictions, professional associations, businesses and industry about greenhouse gas reduction. Much of the City's education efforts will be implemented using existing communications tools and coordinated with current federal, state and local campaigns.

The City of Kirkland recognizes that a key strategy in reducing greenhouse gas emissions will be public education and citizen engagement. The City's challenge is to engage the community in understanding how personal choices make a difference in climate change – for the better and for the worse. Homeowners, business owners, employees, individuals and others will need to be able to see where the challenge of climate change presents opportunities for new technologies, new jobs, and economic prosperity for all, including society's more disadvantaged populations (Washington State Dept. of Ecology, Framework for Citizen Engagement (12/21/07)).

The City is committed to providing information and data that will enable the public and businesses to make carbon-efficient choices. The City acknowledges that "carbon neutral" living is a deliberate lifestyle choice for some residents and not so for many others – and that messaging will need to take this into account. Also, because the City has taken its own initiatives to reduce greenhouse gas emissions, its messages to the public will have credibility.

## Communications Goals

- Achieve a dual role of raising awareness of the urgent need to reduce greenhouse gas emissions and of providing information on greenhouse gas emissions associated with daily choices
- Encourage residents, businesses and institutions to reduce greenhouse gas emissions and provide tools to help them attain reductions in their daily lives
- Involve and inform City of Kirkland elected and appointed officials and employees about policies & procedures related to the City's climate protection efforts
- Integrate and implement communications strategies with relevant local and national education campaigns, programs and activities
- Publicize and recognize the accomplishments of the City's and community's greenhouse gas emissions reduction efforts
- Implement communications strategies (see below) that will be sustained over an extended period of time

## Communications Strategies

- Engage Kirkland community stakeholders in policy-making where appropriate
- Develop key messages that explain the effects of greenhouse gas emissions and that encourage daily life choices that will reduce individual carbon footprints
- Conduct surveys to gauge awareness and create outreach and education campaigns to enhance awareness
- Use existing City communications methods and education programs to promote greenhouse gas emission reductions
- Seek advertising funding and partnership opportunities

## **Target Audiences**

### Internal:

- Kirkland City Council
- Department Directors & Managers
- Employees
- Boards and Commissions
- Green Teams

### External:

- Individual residents and employees
- Neighborhood associations
- Business community
- Health care and education institutions
- Vendors/Suppliers
- Faith community
- Environmental organizations
- Builders and developers
- Professional associations
- Government agencies
- Non-government organizations
- Media
- Youth organizations

### Partners:

- International Council on Local Environmental Initiatives (ICLEI) (<http://www.iclei.org/>)
- Puget Sound Clean Air Agency (<http://www.pscleanair.org/>)
- Puget Sound Clean Cities Coalition (<http://pugetsoundcleancities.org/>)
- King County (<http://www.kingcounty.gov/exec/globalwarming/>)
- Washington Dept. of Ecology (<http://www.ecy.wa.gov/climatechange/index.htm>)
- Washington Dept. of Community Trade & Economic Development (<http://www.cted.wa.gov/>)
- Kirkland Business Associations (Chamber of Commerce, Kirkland Downtown Association, Kirkland Business Association, Kirkland Business Roundtable)
- Kirkland Major Employers (Evergreen Hospital, Google, Costco)
- Sustainable Kirkland/Sustainable Communities ALL Over Puget Sound (SCALLOPS) (<http://www.sustainablekirkland.org/>)
- Energy providers (Puget Sound Energy)
- ENERGY STAR Partnership (<https://www.energystar.gov/>)
- Educational institutions (Lake Washington Technical College, Lake Washington School District, Northwest University)
- City of Kirkland Green Team

## **Public Education Messages**

The City's public education messages will address:

- *What are climate change and the greenhouse effect?*
- *What can be done in Kirkland to protect the climate?*
  - ▶ Energy Efficiency
  - ▶ Commuting & Transportation
  - ▶ Waste Reduction & Conservation
  - ▶ Sustainable Development
- *How is the City of Kirkland reducing its greenhouse gas emissions?*
- *How is the Kirkland community reducing its greenhouse gas emissions?*

## Outreach Programs

Existing education and outreach programs will be leveraged and could be enhanced to promote the key public education messages:

- **Kirkland Green Program:** The citywide initiative for the City of Kirkland organization that encourages sustainable practices within the workplace and in the community. A primary outreach tool for the program is the **Kirkland Green website**, an informational webpage ([www.ci.kirkland.wa.us/kirklandgreen](http://www.ci.kirkland.wa.us/kirklandgreen)) created as a central source for the City's sustainability initiatives. In a partnership with the City, the Earth Lab Foundation customized a carbon calculator for Kirkland which is posted on the City's website at [www.ci.kirkland.wa.us](http://www.ci.kirkland.wa.us) and enter Kirkland Green in the search box.
- **Reuse/Recycle/Conserve Newsletter:** The biannual citizen newsletter focuses on recycling and solid waste reduction, water conservation, energy efficiency, and surface water stewardship providing useful resources, tips and ideas to residents and the business community.
- **Green Tips:** A presentation typically held at the first City Council meeting of each month that offers information on "living green" in Kirkland. The City Council meetings are broadcast live on Comcast Ch. 21 and available as archives on the City's website ([www.ci.kirkland.wa.us/depart/council/Watch\\_Council\\_Meetings.htm](http://www.ci.kirkland.wa.us/depart/council/Watch_Council_Meetings.htm)). Video links are available on the Kirkland Green website.
- **Kirkland Green E-Updates:** A monthly email newsletter distributed to subscribers. Information on "green" happenings in and around Kirkland, tips on sustainable living, and information regarding volunteer opportunities for habitat restoration are included in the newsletter.
  - **For consideration:** Create a blog website as a place for individuals to post comments about a particular "green" topic.
    - **Resources:** Dedicated staff time will be required to maintain this. Until the City adopts a formal policy on blogs, this idea will not be instituted.
- **KGOV & KLIFE:** The City's government access channels often broadcast information associated with the City's "green" initiatives.
  - **For consideration:** Create a television production dedicated to climate protection or integrate stories and updates into the monthly *Currently Kirkland* magazine show.
    - **Resources:** Depending on the type of production, funding may be needed to create a standalone piece.
- **Public Presentations:** City representatives are often invited to speak at neighborhood and business association meetings about the City's sustainability programs. The City's Green Building Team is active in presenting educational forums and workshops on sustainable development.
  - **For consideration:** Establish and train a Kirkland Green Speaker's Bureau whose members will present information about the City of Kirkland's Climate Action Plan efforts and results.



- **Resources:** Staff will need to seek out opportunities and schedule presentations.
  - **For consideration:** Continue to partner with other agencies and the private sector to host educational programs for the government, industry professionals, and the general public.
    - **Resources:** City facilities are typically used to host these events and speakers are often willing to present at no charge.
- **Community Events:** The City often participates in community events and activities to promote sustainable living and to provide information and tools. In 2007 and 2008, the Greater Kirkland Chamber of Commerce, with support from the City of Kirkland, hosted Sustainable September, a “green learning month” that offered continuing education courses, tours and an expo. It is anticipated that the City will participate in future Sustainable September events.

As part of its 2008 Summer “Outdoor Movies at the Beach” event, the City hosted “Green Flix” – the viewing of short films with an environmental message.

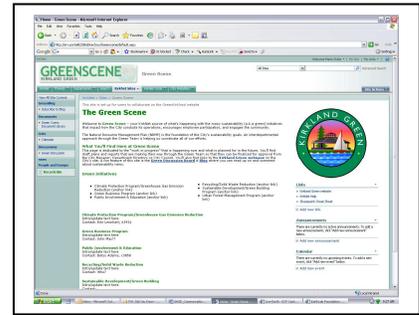
- **For consideration:** Host a viewing of “An Inconvenient Truth” and other “green flix” at the City’s Outdoor Movie at the Beach.
    - **Resources:** Costs will depend on the length of film.
  - For consideration: Promote and possibly participate in national, regional and local public participation events (e.g. National Conversation on Climate Action)
- **City Publications/Printed Materials:** The City produces publications that reach a wide range of readers and target populations. The City’s “Did You Know?” and “Water Conservation Tip” graphics offer targeted messages about how to reduce waste and conserve water. They are often printed in the City’s newsletter, City Update.
  - **For consideration:** Create climate protection-themed graphics.
    - **Resources:** Staff to develop artwork.
- **Community Engagement:** In years past, the City has hosted World GIS Day that engages local youth in learning about City operations and its GIS program. Due to funding limitations, it is not certain that GIS Day will be held in 2009 or 2010.
  - **For consideration:** If the City hosts GIS Day in conjunction with National GIS Day (November), the topic of climate protection could be integrated into the day’s learning objectives.
    - **Resources:** If the City hosts GIS Day, staff planning committees and the Green Team can work together to incorporate a Climate Protection theme into events.

Other community engagement opportunities include:

- Promote and possibly participate in national, regional and local public participation events (e.g. National Conversation on Climate Action)
- **Media Relations:** The City often issues news releases about new sustainability programs and efforts.

- **Internal Communications & Education**

**Green Scene:** An informational portal on the City's Intranet and a central source of information for City employees about green initiatives that impact City operations. (<http://srv-portal02/SiteDirectory/Greenscene/default.aspx>)



**In-house recycling program:** A program that provides City employees with opportunities to divert recyclables and food scraps from the waste stream.

**Zero Waste Events:** Staff has developed event planning guidelines to assist with weighing options that balance cost and waste with the goal of producing the least amount of waste.

**Waste Reduction and Recycling Education at Employee Orientation:** An introduction to the City's in-house waste and recycling program.

**"Green Ambassador" Subcommittee:** Representatives from all City departments that work to educate co-workers on waste reduction and conservation topics.

**Educational Signage:** Materials regarding recycling and waste reduction posted around City facilities and on/near waste containers.

**"Waste-free Workplace":** Informational page on the City's Intranet that includes information, resources, and short videos on waste reduction topics.

Opportunities to enhance outreach and education efforts can be accomplished with communications funding. Due to limited city funding, the City would most likely have to seek private sponsorship and/or grants to offer more public education. Some ideas to consider include:

- **Kid's Learning Opportunities**
  - On-line game
  - Recycled art show/competition
  - In-school presentations
  - Public service announcement production contest
- **Opinion Survey**
  - Survey homeowners & businesses about their climate protection behaviors & practices
- **Employee Education Campaign**
  - Department/Employee recognition and competition for waste reduction
- **Marketing/Advertising funding**
  - Seek sponsorship funding to support paid advertising for community events, seminars and programs
  - Seek volunteer professional consultant to create marketing materials
  - Participate in Puget Sound Clean Air Agency and ENERGY STAR education campaigns

## GLOSSARY

### **Carbon Dioxide (CO<sub>2</sub>) or Carbon Dioxide Equivalent (CO<sub>2</sub>e)**

Carbon dioxide (CO<sub>2</sub>), essential to living systems is emitted in a number of ways. It is emitted naturally through the carbon cycle (animal respiration, organic decay) and through human activities like the burning of fossil fuels. It is removed from the atmosphere by photosynthesis in green plants.

Natural sources of CO<sub>2</sub> occur within the carbon cycle where billions of tons of atmospheric CO<sub>2</sub> are removed from the atmosphere by oceans and growing plants, also known as 'sinks,' and are emitted back into the atmosphere annually through natural processes also known as 'sources.' When in balance, the total carbon dioxide emissions and removals from the entire carbon cycle are roughly equal.

Since the Industrial Revolution in the 1700's, human activities, such as the burning of oil, coal and gas, and deforestation, have increased CO<sub>2</sub> concentrations in the atmosphere. In 2005, global atmospheric concentrations of CO<sub>2</sub> were 35% higher than they were before the Industrial Revolution. (U.S. Environmental Protection Agency)

### **Criteria Air Pollutants**

Six commonly found air pollutants that the Clean Air Act requires EPA to set National Ambient Air Quality Standards. They are particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. These pollutants can harm your health and the environment, and cause property damage. Of the six pollutants, particle pollution and ground-level ozone are the most widespread health threats. EPA calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria (science-based guidelines) for setting permissible levels.

### **Volatile Organic Compounds (VOCs)**

The United States Environmental Protection Agency (EPA) defines a VOC as any organic compound that participates in a photoreaction. Other definitions are not so broad and define VOCs as organic chemical compounds that have high enough vapor pressures under normal conditions to significantly vaporize and enter the atmosphere.

### **Vehicle Miles Traveled (VMT)**

Vehicle miles traveled (VMT) is a standard measure of vehicular traffic in a community. A VMT is created when a single vehicle travels one mile (regardless of the number of passengers). If one vehicle travels 10,000 miles and a second vehicle travels 5,000 Miles, there is a total of 15,000 VMT. Annual per capita values are typically in the range of 6,000 –10,000 VMT, so that total VMT for a community of 100,000 will typically be in the range 600 million to 1 billion VMT per year.

## REFERENCES

Environmental Protection Agency website  
Intergovernmental Panel on Climate Change  
CitiesGoGreen.com  
Puget Sound Energy's All About Insulating Your Home  
Sustainable Sources

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