



Chilliwack School District

2010 Carbon Neutral Action Report

Executive Summary

We have now had a dedicated Energy Manager in the Chilliwack School District for 2 ½ years. The incumbent in that role has had a significant impact in assisting the district to reduce greenhouse gas emissions. We have implemented a number of projects and initiatives including upgrading our heating and lighting systems with high-efficiency models. Our “Green Team” has become well established in the district and has been successful in implementing a number of projects aimed at reducing emissions and encouraging energy efficient behaviours.

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2010

- Continuing project of replacing metal halide fixtures with T-5 fixtures
- Continuing project of upgrading lighting from T-12 to T-8 fixtures
- Continued replacement of old furnaces with high-efficiency spark-ignition furnaces
- DDC upgrades in a number of schools and sites
- Encourage carpooling to meetings
- Provide behavioural change education/training to green teams in all schools and sites
- Establish a sustainability/green awards and recognition program
- Provide green tips to staff, students and parents, as well as members of the public, in websites and in newsletters
- Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models
- Establish a practice of reusing materials wherever possible and diverting construction and demolition debris from landfills and incineration facilities
- Eliminating creation of paper documents wherever possible and replacing with electronic documents.
- Installing real time metering at all sites.

Plans to Continue Reducing Greenhouse Gas Emissions 2011-12

- Creating a low carbon travel policy and travel reduction goal
- Encourage staff to consider virtual attendance/presentation at events where possible
- Create green, sustainability, energy conservation or climate action teams with the support of senior school district staff
- Provide education to staff, students and parents about the science of climate change
- Provide education to staff about the conservation of water, energy and raw materials
- Continue with lighting, boiler and DDC upgrades throughout the district
- Installed real-time monitoring at all sites to promote energy awareness.

2010 Greenhouse Gas Emissions

Chilliwack School District #33 total emissions for 2010 include 19% Mobile Fuel Combustion from our fleet and other mobile equipment totalling 507.34 tons of CO₂, 66% from Stationary Fuel Combustion and Electricity (1762.12 tons of CO₂), 9% or 246.68 tons from paper supplies, and 6% or 162.3 tons of CO₂.

Total offsets purchased were 2254.73 with a total offset investment of \$56,368.25.

Emissions that don't require offsets were \$423.71

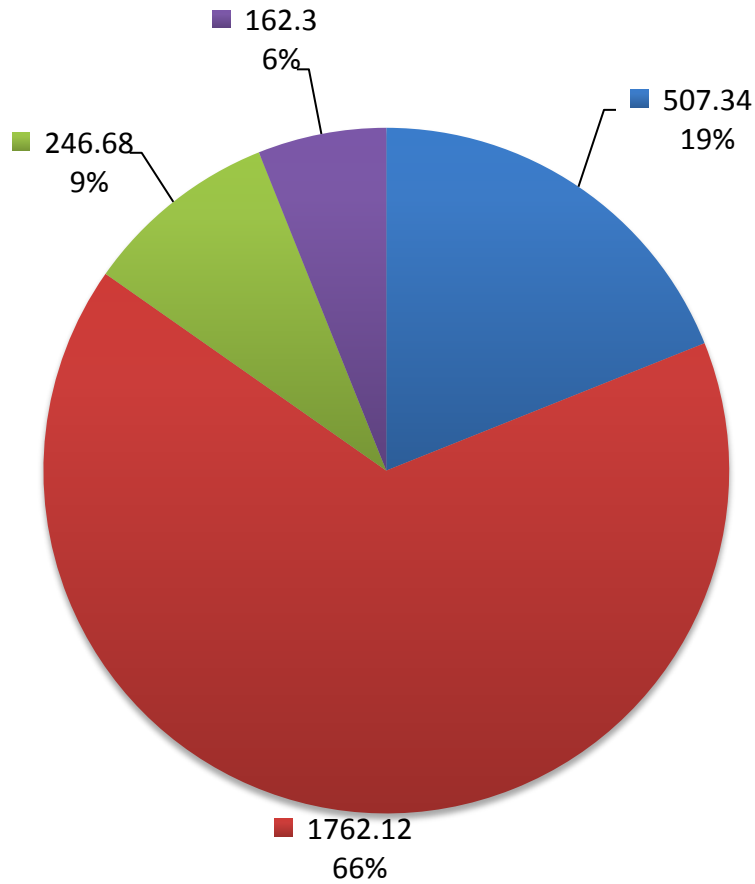
Offsets Applied to Become Carbon Neutral in 2010

As required by Section 5 of the Carbon Neutral Government Regulation, 507.34 tonnes of CO₂ of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2010. However, they were not offset as they are out-of-scope under Section 4(2)(c) of the Carbon Neutral Government Regulation.



Maureen Carradice
Secretary-Treasurer

Chilliwack School District #33 Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 2678.44

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion and Electricity (Buildings)
- Supplies (Paper)
- Fugitive Emissions

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **2254.73**. Total offset investment: **\$56,368.25**. Emissions which do not require offsets: **423.71** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Government Neutral Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.

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Actions Towards Carbon Neutrality

The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*.

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	10	% of vehicles are fuel- efficient models	We purchased 4 new fuel-efficient vehicles for the Technology department.	Transportation Manager will be in charge of ordering fuel-efficient buses and other vehicles used by the School District.	2011	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	10	% of vehicles down-sized since start year indicated	Downsized management vehicles to GMC "Canopy" styles.	Reduce the physical sizes of vehicles used by all staff.	2011	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	All District-owned vehicles have regularly scheduled maintenance planned.	Track vehicle usage and maintenance of all District vehicles.	2011	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Completed in 2010	100	% of small maintenance vehicles are fuel-efficient	Sold Smartcars and purchased	No new plans to purchase updated vehicles	2011	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	100	% of current drivers are trained	Incorporated Professional Days to train drivers.	Ongoing training to raise awareness.	2010	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress			Promoted awareness and began awareness program.	Posted signs at all school district sites.	2010	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Encourage carpooling when attending courses or seminars in out-of-district sites.	Continue to encourage carpooling whenever practical.	2010	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Enrol in a building energy benchmarking program (e.g., GREEN UP)	In Development				We currently use an in-house system utilizing ESC controls.	2009	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	100	% of buildings have a real time metering system installed	Installed real-time metering in all sites	Track energy consumption and display at each site and on the District web site to promote competitions and awareness.	2009	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress	100	% of owned buildings have an established energy performance baseline	All building now have an established energy performance baseline for use as comparison to each facility.	Compare sites on a continuing basis to keep energy consumption at the lowest rate.	2009	No End Date (Continuous)
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Ongoing/In Progress	12	% of owned buildings have operations and maintenance labelling/certification	We currently have one building that is LEED certified with 3 new buildings currently under construction.	Three new schools will be on line before the end of 2013	2010	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Ongoing/In Progress	12	% of commercial interiors in owned buildings have labelling	No plans at this time.	No plans at this time.	2011	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development	24	% of owned buildings are certified LEED NC Gold or LEED NC Platinum		All new construction is slated to have LEED gold standards.	2011	2013
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	10	% of buildings built or renovated since start year indicated used the integrated design process	Integrated design process is recommended to engineers and contractors as part of the new school's mandate.	Incorporate more design processes into our renovations and projects.	2011	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress			Begin a maintenance/pro-active plan to ensure all chillers are performing properly.	Continue with preventive maintenance program on all chillers and heat-pumps.	2010	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	100	% of owned buildings have undergone energy retrofits since start year indicated	Continue with lighting and heating upgrades to make our buildings more efficient.	Replace inefficient boilers, hot water tanks etc. with high efficiency devices.	2010	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Upgrade regular rooftop units with newer heat pump styles that use natural gas as a last resort only during extreme temperatures.	Continue with heatpump replacements as a district standard.	2010	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had lighting systems upgrades	Upgrade lighting retrofits or changeouts with lower wattage lamps and remove/replace all HID lighting with T5 flourescents where practical.	Begin LED experimentation with our lighting requirements and begin using vacancy sensors in unoccupied areas	2010	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had control system upgrades or adjustments	Take better control of automated lighting controls.	Begin using vacancy sensors in gymnasiums, librarys, multi-purpose and hallways.	2010	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had insulation improvements	Replaced single pane windows with double-pane.	Replace single pane windows at 5 sites with vinyl windows.	2011	No End Date (Continuous)
Install an on-site renewable energy demonstration project	In Development	0	% of retrofits since start year indicated had on-site renewable energy components	No plans at this time.	We will install an on-site renewable demonstration project once our new schools have been completed.	2011	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	90	% of computers shut down automatically outside of regular business hours	Already in place.	Add more computers to the shutdown list as they are purchased and implemented.	2009	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	15	% of servers have been virtualized since start year indicated	Already in place.	Once the new school is complete we will amalgamate Distance Education with the Senior Secondary school and virtualize servers.	2009	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	90	% of computers have auto-sleep settings applied	Already in place.	Ensure that ALL computers in the District will auto-sleep.	2009	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	40	% reduction in printers, copiers, and/or fax machines since start year indicated	In progress.	Our goal is to install only multi-functional devices as a district standard abd remove all stand-alone devices.	2010	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	100	% of devices have auto-sleep settings applied	Already in place.	Program auto sleep options before unit placed into operation at site.	2010	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	100	% of computers are ENERGY STAR rated	Already in place.	Ensure Purchasing Agent only purchases items with Energy *	2009	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	100	% of fridges are ENERGY STAR rated	Already in place.	Ensure Purchasing Agent only purchases items with Energy *	2009	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	100		Already in place.	Ensure Purchasing Agent only purchases items with Energy *	2009	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress	100		Program already in place.	Ensure all Electricians are only purchasing CFL or LED lamps.	2010	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	In Development	50	% of current staff have completed a workstation tune-up		Promote energy awareness through workshops and real-time monitoring.	2009	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Workplace Conservation Awareness program already in place.	Promote more energy awareness.	2010	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Workplace Conservation Awareness program already in place.	Promote more energy awareness.	2010	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress			Workplace Conservation Awareness program already in place.	Promote more energy awareness.	2010	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Workplace Conservation Awareness program already in place.	Promote more energy awareness.	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Stickers, programs already in place.	Promote more energy awareness.	2010	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Program already in place.	Promote more energy awareness.	2010	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	85	% of total paper purchased contains 30% recycled content	Purchased 30% recycled paper as a district standard.	Plan to purchase >30% recycled paper if/when it becomes available.	2011	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	10	% of total paper purchased contains 100% recycled content	Purchased 100% post-consumer recycled paper upon request as costs are higher.	Will continue to purchase 100% post-consumer recycled paper upon request.	2011	No End Date (Continuous)
Printer/document settings							

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	10	% of network printers or photocopiers are set to automatic double-sided	New multi-functional photocopiers were purchased and implemented into all sites.	Standby mode and double-sided printing will be set up as a default setting at the beginning of the new school term.	2011	No End Date (Continuous)
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	Ongoing/In Progress	10	% of network printers have 'print and hold' settings applied	New multi-functional photocopiers were purchased and implemented into all sites.	Print and Hold settings will be applied at the beginning of the new school term.	2011	No End Date (Continuous)
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress	50		Applied in 2010-2011 school term.	Will become a district standard setting.	2011	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	10	% of staff workstations with software installed	Educators will recommend which software to use after an evaluation process.	An electronic editing software will be purchased after evaluating.	2011	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress	90		Used shared drives and networking to eliminate replication.	Expand shared resources such as calendars, scheduling and documents to virtual servers and shared drives.	2010	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress	100		Expand district website to include documents normally printed.	Re-vamp existing website to become more user friendly.	2011	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed in 2010			Provided electronic pay stubs to all management group as a pilot project	Expanded electronic pay stubs to all departments.	2010	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	10	% of staff currently have received collaborative software training	Implement collaborative software at specific sites for evaluation.	Expand collaborative software to more sites.	2011	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	20		Encouraged staff and Trustees to hold paperless meetings.	Mandate paperless meetings where practical.	2011	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress	50		Scrap paper to be returned to the printing department to create notepads etc.	Encourage all sites to send non-confidential scrap paper to the printing department for re-usage.	2011	No End Date (Continuous)

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Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*. Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Business Travel							
Policy and budgeting							
Create a low-carbon travel policy or travel reduction goal	In Development				in development	2010	No End Date (Continuous)
Virtual meeting technology							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	In Development	5	% of computers have web-conferencing software installed		Live Meeting, OOvOO, Skype installed in video-conference-capable machines	2010	No End Date (Continuous)
Make desktop web-cameras available to staff	In Development	10	% of staff have access to a desktop web-camera		Web cams are available to staff if they wish to participate. Policy is not in place yet.	2010	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	In Development	5	% of meeting rooms have access to video-conferencing equipment		In progress as the need is warranted.	2010	No End Date (Continuous)
Behaviour change program							
Train staff in web-conferencing	In Development	10	% of staff are trained web-conferencing		New training facilities are now in place.	2011	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	In Development	20	% of staff are trained in video-conferencing or have access to technical support		New training facilities are now in place.	2011	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	In Development				Superintendent's memo has reminders for staff to consider virtual attendance wherever practical.	2011	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			New website allows messages to be easily inserted with reminders to encourage methods of saving energy.	"Green" pages added to new website to encourage carpooling etc.	2011	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	In Development				"Green" pages added to new website to encourage carpooling etc.	2011	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development				Started in 2009 and expanded in 2010 and 2011	2009	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			Provide documentation, newsletters and links to web-sites.	Expand Green Teams to include more students and teachers.	2010	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			Worked closely with BC Hydro with Workplace Conservation Awareness Program to promote behavioural change.	Work closely with BC Hydro to promote Energy Awareness.	2010	No End Date (Continuous)
Awards/Recognition							

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Establish a sustainability/green awards or recognition program	Ongoing/In Progress		Created an incentive program.	Provide "rebate" to all sites that show energy savings.	2011	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		Provided workshop for professional development to promote "green" items.	Expand awareness to include green ideas as part of professional development.	2011	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the science of climate change	In Development			Use Science Teachers as promoters of the impact of climate change.	2011	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	In Development			Use Science Teachers as promoters of the impact of climate change.	2011	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Implemented as part of our new School District Website	Create Green Page to raise awareness about Energy and Conservation.	2011	No End Date (Continuous)
Provide sustainability education during new staff orientation	In Development			Planned as part of our "new staff" welcome once a year.	2011	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	In Development			Use Science Teachers as promoters of the impact of climate change.	2011	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	In Development			Use Science Teachers as promoters of the impact of climate change.	2011	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Implemented as part of our new School District Website	Expand green page on Website to include a full page.	2011	No End Date (Continuous)
Other Sustainability Actions						
Water conservation						
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress		All toilets being replaced will use low-flush models.	Sinks will have restrictors placed inline plus tempered water.	2010	No End Date (Continuous)
Building construction, renovation, and leasing						
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Completed in 2010		Recycling program in effect for fluorescent/metal halide lamps and fixtures.		2009	No End Date (Continuous)