

2007

Green Action Plan for New Westminster

A municipal approach to address global warming and help Canada achieve its commitment to the Kyoto Protocol.

Objective

To provide a framework for the development of a comprehensive set of policies that can be implemented at a local level that will contribute to the reduction of greenhouse gases in our atmosphere.

Background

Although the federal government has a tremendous amount of responsibility to ensure our nation meets its targets to reduce global warming emissions, they must not neglect important partnerships with local governments. Local governments are in a unique position to affect the main sources of pollution directly linked to climate change. Cities have the power to influence the amount of energy used and waste generated by their communities. They control and make decision on everything from land use and zoning to transportation planning and infrastructure. Local governments must take a leadership role in developing sustainable environment policies to help the global community in the fight against global warming.

Land Use

How our communities are designed can play a huge role in determining the lifestyles our citizens have. Managing growth and encouraging the development of dense, mixed use livable neighbourhoods can help reduce a communities' dependence on the automobile. These measures can save green spaces and money by cutting fuel, utility, infrastructure and service delivery costs.

Action Items

- Promote sustainable development in the existing downtown area and other areas near the skytrain
- Encourage more brownfield development
- Preserve open spaces (Public Parks, Plaza's, Natural Area's)
- Promote high density and in fill development
- Implement policies to limit suburban sprawl
- Protect green zones, agricultural land, & industrial land within municipality
- Promote the creation of a local farmers market
- Incorporate energy management in the Official Community Plan
- Reduce commercial and residential parking standards in neighbourhoods that are served well by public transportation

Resources

SmartGrowth BC	www.smartgrowth.bc.ca
Smart Growth on the Ground	www.sgog.bc.ca
New Urbanism	www.newurbanism.org
Greenbelt	www.greenbelt.bc.ca
Smart Bylaws Guide	www.wcel.org/issues/urban/sbg/

Transportation Planning

Motor vehicles are a leading cause of global warming. By improving the accessibility of alternative forms of transportation to residents, municipal governments have the ability to greatly reduce CO₂ emissions in their community. Local governments can also take a leadership role by improving the fuel efficiency of its municipal fleet of vehicles.

Action Items

- Purchase fuel efficient and/or smaller fleet vehicles(right sizing municipal fleet/ promoting the purchase of hybrid and compact fleet vehicles)
- Improve non motorized travel conditions. Encourage walking and cycling by improving sidewalks, paths, crosswalks, protection from fast vehicular traffic, and provide street amenities
- Develop a Pedestrian Charter
- Encourage car-pooling and transit use by municipal employees
- Equip police officers with bicycles
- Pass an idling bylaw in the community
- Improve signal synchronization
- Reduce the number of vehicles in the municipal fleet
- Initiate a “Be Tire Smart” tire maintenance program
- Require bicycle storage in new commercial and residential buildings

Resources

The National Center for bicycling and walking	www.bikewalk.org
ICLEI Green Fleets	www.greenfleets.org
Idle Free BC	www.idlefreebc.ca
Idle-Free Windsor	www.idlefreewindsor.org
Toronto Pedestrian Charter	www.toronto.ca/pedestrian

Energy Efficiency

Energy Efficiency programs offer an excellent way to reduce greenhouse gas emissions and can save local governments money in energy costs.

Action Items

- Conduct an energy audit of municipal facilities
- Perform energy-efficient lighting retrofits on all municipal buildings
- Institute a “lights when not in use” policy
- Install building/ office occupancy sensors
- Perform heating, cooling and ventilation system retrofits
- Install energy-efficient traffic lights
- Invite BC Hydro Power Smart programs to New Westminster
- Install energy-efficient street lights
- Establish a green procurement policy for all municipal equipment (ie. Energy Star)
- Perform regular maintenance and cleaning of HVAC systems

Resources

Energy Star	www.energystar.gov
American Council for an Energy-Efficient Economy	www.aceee.org
InfraGuide	www.infraguid.ca
Honeywell	www.honeywell.ca
Community Energy Association	www.communityenergy.bc.ca

Green Buildings and Urban Forestry

Implementing green building standards can ensure that energy efficiency and sustainable building techniques become accepted practices in new construction and retrofit projects in the city.

Action Items

- Encourage city staff to become LEED Accredited Professionals
- Promote and encourage new construction projects to be LEED certified
- Provide green building information to the public
- Share the efforts and knowledge of the city’s green building resources
- Include energy efficiency requirements in city building codes
- Encourage the installation of Geo-Thermal heating systems in new construction
- Promote tree planting to increase shading and to absorb CO₂

- Maintain healthy urban forests and street trees
- Implement naturescaping and improve biodiversity of landscaping on municipal sites

Resources

Canada Green Building Council	www.cagbc.org
U.S Green Building Council	www.usgbc.org
Green Building Initiative	www.thegbi.org
Architek	www.architek.ca
TreeLink	www.treelink.org

Recycling and Waste Reduction

Waste prevention and recycling reduces landfill methane emissions, transportation-related emissions and overall energy savings by reusing items that would otherwise have to be manufactured.

Action Items

- Expand recycling programs
- Implement organics and yard debris collection and composting
- Implement solid waste reduction programs for facilities
- Consider a waste-to-energy facility for your community
- Set aggressive recycling targets/goals
- Educate the public about existing programs to boost compliance
- Implement penalties for non-compliance with recycling programs
- Establish system for reuse or recycling of construction and demolition materials
- Establish a reuses website that provides a forum for citizens to exchange household items they wish to give away

Resources

International Composting Corporation	www.internationalcomposting.com
Surrey Reuses	www.surreyreuses.com
Vancouver Reuses	www.vancouver.reuses.com

Education and Community Involvement

The daily choice that every citizen makes can have a significant impact on reducing their ecological footprints. Educating government staff and the public is the crucial first step in changing behaviors that contribute to climate change.

Action Items

- Educate city staff about global warming pollution and its importance to their work and the city's mission
- Help educate the public, schools, professional association, business, and industry about the effects of global warming
- Hold Energy Awareness Day/Week or a Community Energy Challenge
- Publish Energy Conservation Tips on the City Page in the local media
- Showcase industries, neighbourhoods, developments taking leadership on climate change initiatives

General Resources

GHG Action Guide	www.ghgactionguide.ca
Clean Air Toolkit	www.cleanairkit.ca
One Day Vancouver	www.onedayvancouver.ca
Cool Cities	www.coolcities.us
Government of Canada	www.climatechange.gc.ca
Power Scorecard	www.powerscorecard.org
An Inconvenient Truth	www.climatecrisis.org
David Suzuki Foundation	www.davidsuzuki.org
Earth day network	www.earthday.net
Safe routes to school	www.saferoutestoschool.org
GVRD Sustainable Region	http://www.gvrd.bc.ca/sustainability/
Vancouver Sustainable City	http://vancouver.ca/sustainability/index.htm
Yukon Energy Challenge	http://www.yukonconservation.org/chall/pdf/Jan29.pdf
EcoAction (community funding program)	www.pyr.ec.gc.ca/ecoaction/index_e.htm

Targets

It is important that New Westminster set measurable targets as a way of gauging the effectiveness of its policies. It also provides a way for the city to set goals and continually work towards improving its plan.

- Increase ridership rates for public transit buses and skytrain
- Improve fuel efficiency of municipal vehicles
- Expand use of recycling programs/Reduction of solid waste to landfill

Canadian Examples from www.davidsuzuki.org

City of Vancouver

The City of Vancouver has traffic signals at 670 intersections throughout the city, all of which used incandescent light bulbs. Annual electricity costs to power the lights totaled \$322,500 and because incandescent lights have a short life span, they had to be replaced frequently, resulting in high maintenance costs. The city converted the lights to light-emitting diode (LED) lights, which use 80 to 90 per cent less electricity than incandescents and last six to 10 times longer. Doing this will save Vancouver taxpayers \$247,500 per year in energy costs alone, plus an additional \$110,000 per year in maintenance costs.

Halifax

A city-wide composting program now prevents organic matter from reaching landfills. This has cut methane production by the equivalent of over half a million tons of carbon dioxide per year, compared to 1995.

Calgary

Achieving its target of six per cent below 1990 levels ahead of schedule and at 50 per cent projected costs, with substantial energy bill savings and employment created. Through the "Ride the Wind" initiative, the light rail system is powered by wind-generated electricity.

Edmonton

Target - to reduce emissions by six per cent below 1990 levels by 2010, and 20 per cent by 2020. Has already reduced emissions through one landfill waste-to-energy project by 174,949 tonnes.

Regina

Reduced emissions from internal operations nine per cent, or 10,000 tonnes annually, from 1988 levels. Energy retrofits will reduce emissions another four per cent and save \$400,000 annually.

Sudbury:

Will reduce emissions by 21,000-51,000 tonnes per year with a co-generation and district energy system. Retrofit programs aim to reduce energy consumption 30 per cent and save more than \$800,000 annually.

St. John's

Retrofits to municipal buildings are expected to deliver annual energy savings of \$600,000, improve workplace lighting and comfort levels, and reduce maintenance costs.

Toronto

Reduced emissions by 67 per cent below 1990 levels, exceeding the city's goal threefold, generating thousands of jobs and reducing costs for many operations. Success was achieved through landfill waste-to-energy programs, energy efficiency building retrofits, streetlight changes, and more efficient vehicle fleets.

American Examples from ICLEI Climate Action Handbook

Ann Arbor's Municipal Energy Fund

Since 1998 Ann Arbor's Municipal Energy Fund has provided city facilities with a source of capital for energy efficiency retrofits. The Energy Fund provides initial capital for new projects and receives 80 percent of projected annual energy savings from each installed project for five years. The five-year payment plan allows projects that have a shorter payback to help support projects with a longer payback, and all savings accrued beyond the first five years remain with the departments implementing the improvements. The Fund was seeded by the city with five annual investments of \$100,000, and quickly became self sustaining. Most installed measures have had payback periods of three to six years, and projects supported by the Fund have yielded a total of 685 tons of annual eCO₂ reductions.

Seattle's Developer Incentives

Seattle was the first city in the nation to formally adopt LEED as the design and performance standard for all city projects and today Seattle has also developed strong incentives for the private sector. Developers who pursue and achieve certification at the silver, gold and platinum levels for new projects receive financial incentives and technical assistance. In order to get significant bonuses to increase building height and density, developers building New Construction (LEED-NC) or Core & Shell (LEED-CS) projects in the central city core and adjoining areas must contribute to affordable housing and other public amenities and achieve at least LEED silver certification. The City also offers financial incentives and provides technical assistance on a case-by-case basis.

Seattle's Bicycle and Pedestrian Planning

A substantial proportion of Seattleites use their bicycles for recreation or transportation. It is estimated that about 36 percent of Seattle's 520,000 citizens engage in recreational bicycling and 11 percent of commute trips are walking and bicycling trips (7 percent walking and 4 percent bicycling, respectively). In some parts of the city, bicycling and walking make up 20 percent of the commute trips. By cycling, residents avert emissions that would have otherwise been made by car trips. Cyclists and pedestrians are able to take advantage the extensive urban trails network. Seattle has about 28 miles of shared use paths, 22 miles of on-street, striped bike lanes, and about 90 miles of signed bike routes. The City's Department of Transportation has a Bicycle Program that is developing the City's first Bicycle Master Plan to improve and expand the network of shared use paths, bike lanes, signed bike routes, arterials with wide shoulders and pedestrian pathways.

Marin County's Safe Routes to School

Today only 13% of children walk or bicycle to school, as opposed to 66% in 1970. According to a study by Marin County Safe routes to School, 21-27% of the county's morning traffic can be attributed to parents driving their children to school. More parents drive their children as a result of increased congestion near schools, further aggravating the problem. These trends have serious implications for both childhood obesity and respiratory problems, which are both rising trends. The Safe Routes to Schools program promotes walking and biking to school in order to reduce pollution and promote children's health and community livability. Since the program was instituted, single student car trips have dropped 13%, saving over 4,250 one-way trips each day.

Chicago's 15 Million Square Feet Retrofit Program

The City began to audit and retrofit 15 million square feet of public buildings with efficient equipment for heating and cooling, lighting and ventilation. The 15 million square feet are made up of police stations, libraries, fire stations, park facilities, transit facilities, health centers, community/cultural centers, colleges and other types of facilities that are owned by the City, the Chicago Park District, the Chicago Transit Authority or the City Colleges of Chicago. As of June 2004, more than 5 million square feet of city-owned facilities had been audited and retrofitted. 15 million square feet is roughly equivalent to the size of three Sears towers. When the project is complete, energy savings to the City and its sister agencies are estimated to be \$6 million annually, with \$2 - 3 million in savings for the City alone. The annual savings upon completion estimates 30,000 tons of CO₂, and 84 tons nitrous oxides, and 128 tons of sulfur dioxide.

Austin Builds Green

Whether remodeling a home or building an office tower, the City of Austin's Green Building program helps community members, governments and businesses build more energy efficient, environmentally sound structures. Since 2000, the City Council has mandated that all new municipal buildings achieve a LEED silver rating. LEED accreditation ensures sustainable site development, water savings, energy efficiency and green materials selection. In 2003, 22 percent of new homes and four commercial projects totaling 145,000 sq ft. in the Austin Energy utility district were built in accordance with the program's guidelines. Overall, the program has peak load energy use and the total 21,600 megawatt-hour savings equals a \$1.8 million savings for utility customers. In terms of pollution reduction, this means 8,343 tons yearly reduction of CO₂.

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Chicago's Greening of City Hall

Surfacing the roofs of municipal buildings with greenery can not only reduce storm water runoff, but also create large energy savings. The degree of savings depends on the type of roof and the climate. Warmer climates offer greater energy savings because green roofs reduce air conditioning costs more efficiently than they lower heating bills.

The City of Chicago found that installing a green roof on city hall lowered the temperature by 3 to 7 degrees Fahrenheit, which translated into a 10 percent reduction in air conditioning requirements. While the city's green roof was 90 degrees on the summer's hottest days, neighboring roofs measured over 160 degrees Fahrenheit.

San Francisco's Organics Collection Program

The City of San Francisco instituted residential curbside collection of organic material as part of its Fantastic Three program. The program provides each household with a green cart for organic waste, a blue cart for commingled recyclables, and a black cart for all remaining trash. Residents and businesses are encouraged to place all food scraps and yard trimmings into the green cart, which is collected for composting at a regional facility. By instituting curbside organics collection, San Francisco became the first large city in the nation to collect food scraps citywide. The Fantastic Three program enabled the City to reach a reported overall 67 percent garbage diversion rate in 2004. Through outreach and other methods, the City plans to expand the Fantastic Three program and increase both the amount of organics and recyclables collected. The program's expansion is projected to achieve an annual eCO₂ reduction of 70,000 tons.

Burlington's Community 10percent Challenge

The 10 percent Challenge in Burlington, VT is a voluntary program to raise public awareness about global climate change and to encourage households and businesses to reduce their global warming pollution by at least 10 percent. Enlisting innovative outreach methods such as a musical road show called "Beat the Heat," the program is achieving an estimated annual reduction of 1,500 tons of CO₂ in the residential sector alone.