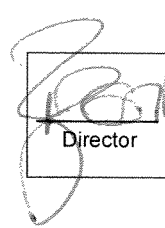
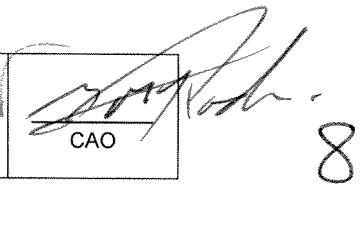


COUNCIL AGENDA/INFORMATION

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| <input type="checkbox"/> Closed | Date: _____ | Item # _____ |
| <input checked="" type="checkbox"/> Reg. Council | Date: <u>March 15, 10</u> | Item # <u>8</u> |
| <input type="checkbox"/> Supplemental | Date: _____ | Item # _____ |

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|  Director |  CAO |
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8

DISTRICT OF WEST VANCOUVER
750 – 17TH STREET, WEST VANCOUVER, BC V7V 3T3

COUNCIL REPORT

Date: March 4, 2010 File: 2150-01-01
From: Stephen Jenkins, Manager of Sustainability
Subject: **Community Climate Action Plan**

RECOMMENDED THAT:

1. Council receive the “Community Climate Action Plan” as the first steps toward the Official Community Plan amendments required for Provincial Bill 27.
2. Council request staff to apply for the \$10,000 grant from BC Hydro for the “Mayors Task Force on Climate Change”.
3. Staff return to Council with an implementation plan and report card as outlined in the report of March 4th, 2010.

Purpose

The purpose of this report is to introduce the final version “Community Climate Action Plan”, as completed by the Climate Action Working Group, and to move on current funding opportunities.

Executive Summary

Climate change initiatives are already underway in West Vancouver and are supported by existing policies in the Official Community Plan (OCP). Council has led by example on energy initiatives such as the geo-exchange systems at both the West Vancouver Community Centers. Staff has been involved as well with initiatives such as: Bio-diesel for the vehicles, water meters, Rodgers Creek development and our foreshore adaptation and enhancement projects. Further refinement of OCP policies are required by Provincial Bill 27 and the Community Climate Action Plan provides details of how those policies could be implemented.

Climate change issues appear to be in the minds of residents. According to a recent survey conducted by the Climate Action Working Group, 165 of 168 people surveyed answered “yes” regarding their concern about local effects of climate change. 158 of 165 of those surveyed are looking to local government for information and leadership with respect to this issue.

The Climate Action Working Group (CAWG) has held numerous meetings since last July to discuss and debate many aspects of climate change and to determine what

actions would be necessary at the local level to make a difference. The group studied the current greenhouse gas emissions of both DWV operations and the community. The group then considered adopting the provincial targets for reductions of CO2 which are; 33% reduction by 2020 and 80% by 2050. CAWG went on to make 19 recommended actions and detail how these will lower the carbon footprint of West Vancouver to meet these targets.

The focus of the Working Group efforts was put into the two largest contributors to carbon emissions; home heating and vehicle use. The group is confident that as the community learns the financial, social and environmental benefits of reducing energy and fossil fuel consumption, these targets can be achieved.

Background

1.1 Prior Resolutions

- On December 7, 2009 Council meeting:

That the report from the Manager of Sustainability titled Status Report on the progress of the Climate Action Working Group, dated November 22, 2009 be received for information.

The greenhouse gas reduction targets of, at least a 33% reduction below 2007 levels by 2020 and at least an 80% reduction by 2050, as proposed by the province be considered by the Climate Action Working Group to determine how they can be achieved in West Vancouver; and

Staff, in consultation with the CAWG, consult with the community on these proposed targets prior to preparing and present a proposed Official Community Plan amendment on targets for the reduction of greenhouse gas emissions, and policies and actions proposed with respect to achieving the targets, as required under the Local Government Act, Section 877(3), known as Bill 27.

- On a separate report of December 7, 2009

THAT the process for including greenhouse gas reduction targets and policies in the Official Community Plan, including a proposed public consultation program, as set out in the November 27, 2009 report from the Community Planner be approved

- On July 20, 2009 council meeting:

THAT Council receive the Climate Action Working Group's Interim Draft Plan and instruct District staff to consider the Action recommendations within and collaborate with the Working Group regarding an implementation plan in alignment with the District's forth coming strategic plan.

1.2 History

The Climate Action Working Group (CAWG) has been meeting since July of 2009. Since September the group has met bi-weekly in order to sift through the rapidly changing information on climate change and opportunities to reduce the community's carbon footprint.

The first step was to look at the carbon emissions inventories for both DWV operations and also the Community Profile as provided by the Province of BC. The group discovered that 98.7% of emissions come from the community while only 1.3% comes from DWV operations.

In order to respond to Council's resolution of December 7th 2009, the group spent a significant amount of time discussing the targets as first proposed. These targets are a 33% reduction of CO2 emissions by 2020 and 80% reduction by 2050.

One of two sub groups focussed on the metrics portion of Community Climate Action Plan. They recommended to the rest of the group that these reductions are achievable with community support and buy in, but will require a shift from business as usual.

A second sub-group focussed on education and awareness regarding climate change. The group worked with staff to organize and execute an open house and evening forum in January of 2010. These community engagement initiatives help fulfill municipal obligations for OCP amendments with respect to Bill 27 and the greenhouse gas reductions targets.

The group recommendations carefully consider strategies that are focussed mainly on the resident energy and transportation as they contribute to 97% of the carbon footprint of West Vancouver. The group also believes that by supporting and promoting innovation, while being cautious of minimizing capital requirements both by local government and residents, we can not only meet but surpass our targets for reductions.

As noted in the above proposed Council resolution, staff is looking for alternate sources of funding to further the Districts climate change initiatives. The *Mayors Task Force on Climate Change* is a Hydro grant which West Vancouver already qualifies for.

2.0 Policy

2.1 Policy

The Official Community Plan (OCP) has numerous references that are applicable and complementary to the Community Climate Action Plan. Below are a number of the applicable policy references from the OCP:

- Existing Policy U 1: Promote Energy Consciousness.

- Existing Policy T 2: Pursue comprehensive approaches to local transportation planning, including support of sustainability principles.
- Existing Policy BF A 2: Consider introduction of a program to establish standards for municipal initiatives and projects, to reduce resource consumption, reduce waste.....
- Existing Policy U 4: Encourage wise water use through communitywide education programs and explore the benefits of a universal requirement for water meters.
- Existing Policy NE 3: Maintain, protect and enhance the shoreline and foreshore and, where feasible, provide for public access.

The Community Climate Action Plan is a document that takes the broad policy statements and details actions to achieve the goals stated in the OCP.

3.0 Balanced Scorecard

3.1 Corporate Objective: 1.2 Environment: Protect, restore and defend our natural environment; legislate efforts to effect positive change.

3.2 Strategic Initiative: Complete and implement District Climate Action Plan and initiate methodology for combating climate change as per Partners for Climate Protection from the Federation of Canadian Municipalities.

3.3 2010 Milestone:

- Conduct a baseline greenhouse gases emissions inventory and forecast.
- Adopt an emissions reduction target
- Conclude the Climate Action Plan for reducing emissions
- Develop a report card on climate action
- Amend Official Community Plan for Bill 27 compliance

4.0 Analysis

4.1 Discussion

A survey conducted by members of the CAWG during an information workshop at the Community Center in January 2010 shows 158 of 165 people surveyed said "yes" to the question: "Do you think that West Vancouver's municipal government should be actively encouraging residents to respond to climate change?" The results of this survey are available in the action plan in Appendix 7.

The CAWG looked at the targets and had numerous debates regarding the ability of West Vancouver to meet these carbon reduction goals. The group felt strongly

that through the implementation of the actions in the plan, these targets are achievable and should be adopted for West Vancouver.

4.2 Sustainability

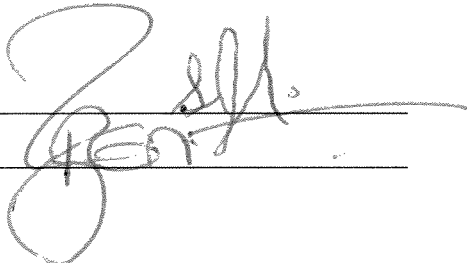
All three pillars of sustainability are affected by this plan. The environmental, social and financial benefits of the plan are measurable, manageable and reportable. As the Report Card is put in place, ongoing project implementation, grant and other financial opportunities will be targeted and monitored. As a second layer to the Corporate Balanced Scorecard, the Sustainability Report Card will keep our progress toward sustainability on the forefront of the Districts strategic management.

4.3 Consultation

Over the last year the CAWG and staff participated at events such as: Community Days, Earth Day, a climate change event hosted by Squamish Nation, and the January open house. At the January event the group conducted the survey spoken of above (see Appendix 7 of the CCAP).

5.0 Options

- 5.1 Accept the this report and endorse the recommendations
- 5.2 Ask staff for further information on aspects of the report and request a follow up report.
- 5.3 Require a third party review on aspects of the report and CCAP and request a report back to Council.

Author: _____
Concurrence (optional) _____


Appendices: Community Climate Action Plan

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District of West Vancouver's

Community Climate Action Plan

"Towards Fossil Fuel Freedom"

Presented by:

The Climate Action Working Group

March, 2010



Acknowledgements

West Vancouver's Community Climate Action Plan was the work of the Climate Action Working Group (CAWG). The multi talented group consisted of Matt Alexander, Nora Gambioli, Malcolm Metcalfe, Freda Pagani, Michael Rosen, Adrian Rowlands, Stephen Sheppard, Walter Thorneloe, and Councillor Trish Panz. Staff support was provided by Brent Leigh, Wendy Lebreton, Roberta Seabrook, and Stephen Jenkins.

Thanks for the data in this report that was kindly provided by the LARC 504 students from UBC led by Ellen Pond and David Flanders.

The Climate Action Working Group met numerous times over a one year period. Using a variety of expertise and much spirited discussion, they decided on priorities and steps to achieve substantial reductions in GHG emissions in West Vancouver. Many other staff members have contributed their time and effort to make this a valuable and realistic document.

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Overview of West Vancouver's Climate Action Plan

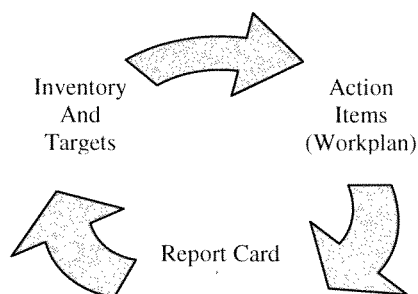
Reducing greenhouse gases (GHG), specifically, carbon dioxide (CO₂) emissions can positively affect all three pillars of sustainability. Financially, we save money by avoiding the burning of fossil fuels, socially, we benefit from more cohesive neighbourhoods and walking opportunities, and environmentally, we reduce the amount of CO₂ our community emits and improve air quality. **The Climate Action Working Group supports specific CO₂ reduction targets for the community and these are aligned with the BC Provincial government targets of 33% reduction by 2020 and 80% reduction by 2050.**

In order to meet these reduction targets, West Vancouver and its resident will have to depart from business as usual and look for opportunities in areas such as home heating, home energy efficiency, and consider the impacts on greenhouse gas contributions as a result of our transportation needs. Leading by example is not new to West Vancouver. Initiatives such as the Geo-exchange in our Community Centres and the installation of water meters throughout the municipality demonstrate a continuing commitment to leadership.

West Vancouver's Climate Action Plan outlines “**Measurable**”, “**Manageable**” and “**Reportable**” steps toward reaching these targets. Reporting to council on our progress on a bi-annual basis will help the community and staff, meet their goals.

The following elements make up the plan:

1. Baseline Inventory
2. Targets for GHG Reduction
3. The Workplan (includes reporting)
4. Appendix: Supporting Statistics, Science and Approaches



Baseline Inventory

Knowing where we are today helps us measure our success as we move forward. The GHG emissions profiles for both the community and the municipal operations were completed in 2007 and provide the baseline for measurement.

When the greenhouse gas emissions profiles are combined it becomes obvious that emissions from the community dwarf the footprint left by municipal operations.

| Totals Overall Emissions | Tonnes CO2e | Percent Of Total Emissions |
|-------------------------------------|--------------------|-----------------------------------|
| TOTAL EMISSIONS | 286941 | |
| DWV Emissions Contribution | 3669 | 1.3% |
| Community Emissions Contribution | 283272 | 98.7% |

When the greenhouse gas emissions profiles are combined it becomes obvious that GHG emissions from the community dwarf the footprint left by municipal (DWV) operations. However; there are many opportunities within the DWV operations to save money and to “lead by example” when it comes to making GHG friendly decisions. Further details of DWV emissions are available in Appendix. 2.

The Targets

In order to set targets and prioritize actions, the Climate Action Working Group (CAWG) considered the combined emissions for the District of West Vancouver. This allowed the group to concentrate efforts on actions that would result in the biggest impacts on GHG’s. While there are a variety of actions recommended, the group realizes that some relate to broader sustainability issues that are faced by the municipality.

The numbers clearly show that homes, buildings and transportation present the largest challenge and also the biggest opportunity for positive steps toward a low carbon future. The table below shows a breakdown of GHG emissions by West Vancouver. Based on these numbers the group proposed a number of actions with the intent of meeting the reductions targets of 33% by 2020 and 80% by 2050 those scenarios look like the data sheet below

| TYPE OF EMISSION | % | 2007 | 33% reduction | 80% Reduction |
|-------------------------|----------|-------------|----------------------|----------------------|
| Buildings | 53% | 152,824 | 101,872 | 30,565 |
| Transportation | 44% | 125,898 | 83,924 | 25,180 |
| Solid Waste - | 2% | 4,552 | 3,034 | 910 |
| DWV Operations | 1% | 3,669 | 2,446 | 734 |
| Totals | | 286,941 | 191,276 | 57,389 |

The Workplan

The consolidated workplan for 2010 to 2012 gives the status of actions and measurement tools that will help West Vancouver meet the 2020 and 2050 targets. The workplan has sections that the Climate Action Working Group felt were important for the community to profile and take specific measurable, manageable and reportable action on.

| | CONSOLIDATED ACTION PLAN | Status | Measurement Metric |
|----|--|--|--|
| # | HOMES, BUILDINGS AND ENERGY | | |
| 1 | Support, promote and educate on the benefits of HOME energy audits and RETROFITS | Currently supporting Eagle Island Home Energy Audit Project | # of homes audited and retrofitted |
| 2 | Support and promote NEIGHBOURHOOD retrofit projects | Supporting a multi family energy audit and potential retrofits | # of multi family units audited and retrofitted |
| 3 | Explore alternate sources for funding, such as partnering with financial institutions for home retrofits | Exploring possibilities with local institutions | # of incentive programs offered |
| 4 | Consider mandatory policy measures at a later date (2015) if retrofits are not meeting targets | To be decided | To be considered at a later date. |
| | TRANSPORTATION AND LAND USE | | |
| 5 | Implement the recommendations of the Strategic Transportation Plan | To be decided | # of recommendation implemented |
| 6 | Ensure land use decisions consider the impact on transportation requirements by promoting lively walkable neighbourhoods as is consistent with the West Vancouver OCP. | Ongoing through the Rodgers Creek Area Plan | Changes to Community GHG Profile |
| 7 | Encourage local food production. | Started a demonstration site At Community Center | # of edible gardens reported |
| | WASTE AND WATER | | |
| 8 | Promote Metro Vancouver's waste diversion program with the intent of meeting the "zero waste challenge". | Staff and Community in direct support of initiatives | Report on West Vancouver's diversion rate |
| 9 | Build on the success of the Water Meter system to promote the broader benefits of resource conservation. | Being conducted by Engineering Dept. | Report on West Vancouver's water use compared to 2008 baseline |
| 10 | Look for innovative, low carbon solutions for the upcoming replacement of the Capilano treatment plant. | Working with Metro and other NS municipalities | Progress Report |
| | ADAPTATION | | |
| 11 | Continue with foreshore protection and restoration works in keeping with actions in the 2008-2011 Shoreline Protection Plan | Ongoing from 2006 | Measure existing projects and impacts on shoreline |
| 12 | Prepare an assessment of climate-related vulnerabilities and work in progress on West Vancouver waterfront due to rising sea level, also look at impacts to water and infrastructure | To start in 2011 | Completion of assessment |
| | DWV OPERATIONS | | |
| 13 | Staff work toward carbon neutrality as committed in the Climate Action Charter | Inventory in 2008, monitoring annually | Report on fossil fuel consumption data |
| 14 | DWV operations emissions be reviewed using the report card system to be developed in 2010 | | Report on fossil fuel consumption data |
| | STRATEGIC MANAGEMENT | | |
| 15 | Assign responsibilities for implementation to all staff | Key staff have already begun process | Yearly report card with Departmental initiatives |
| 16 | Complete a Community Energy Plan in 2011 | Work with Hydro in 2010 to define scope | Completed in 2011 - Yes/No |
| 17 | Complete the revisions to the OCP required under Bill 27 | Already underway | Completed in 2010 - Yes/No |
| 18 | Create and maintain a "Climate Action Report Card" for bi-annual reporting | Will begin after Action Plan | Completed in 2010 - Yes/No |
| 19 | Establish and maintain Climate Action Awards for West Vancouver schools, businesses and individuals for 2010 and onwards. | | Report on # of applications for Climate Action Awards |

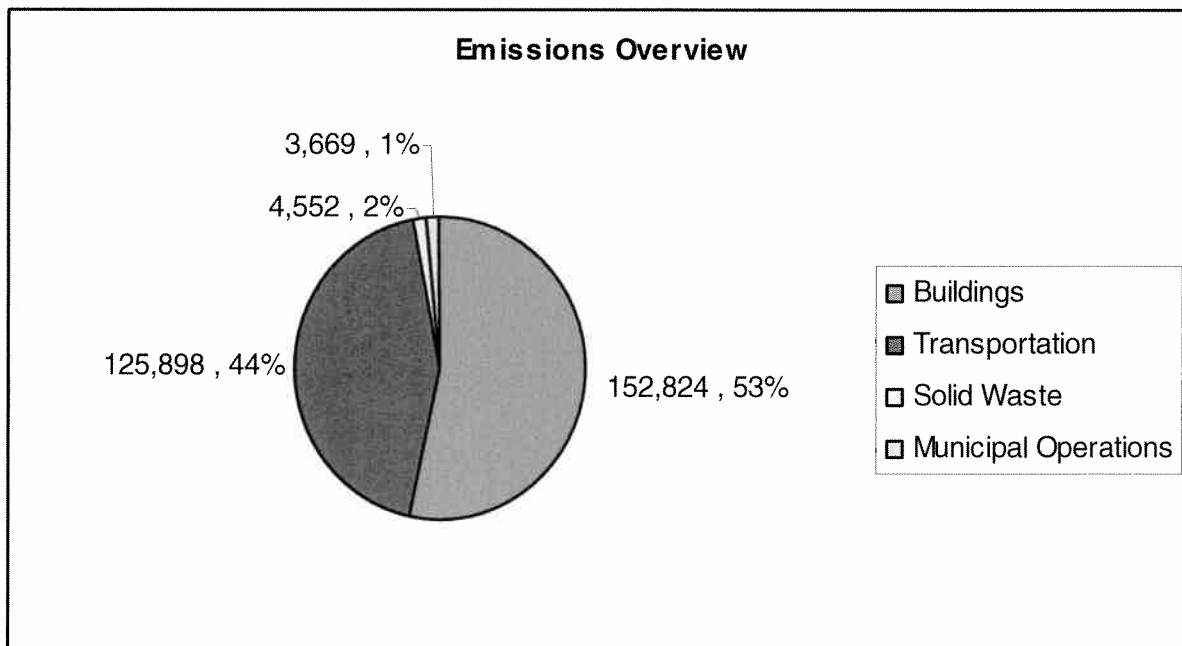
Homes, Buildings and Energy

CAWG RECOMMENDATIONS

1. Support, promote and educate on the benefits of HOME energy audits and RETROFITS
2. Support and promote NEIGHBOURHOOD and MULTI-FAMILY retrofit projects
3. Explore alternate sources for funding such as partnering with financial institutions for home retrofits and other carbon reduction strategies
4. Consider mandatory policy measures at a later date (2015) if retrofits are not meeting targets

Background

According to the 2007 audit on emissions, buildings and homes account for 53% of the emissions for the municipality. This makes them the biggest contributor to GHG's and the priority with respect to any emissions reduction strategy.



Discussion

1. Support, promote and educate on the benefits HOME energy audits and RETROFITS

Green retrofits are relatively new and the need for pilot projects remains strong.

Pilot projects;

- provide a baseline of energy use and the measurement tool required to see if retrofits are achieving objectives
- provide a learning experience for all involved as to how to build and support a community driven approach on a larger scale
- prove that the technology will work and will contribute to paying the bills
- provide metrics for assessing approaches and methods and better defining “Return on Investment” (ROI).

2. Support and promote NEIGHBOURHOOD and MULTI-FAMILY retrofit projects

West Vancouver has numerous privately owned multi-family buildings that provide an opportunity to make change both at a building and a neighbourhood level. Large scale (neighbourhood) retrofits such as district heating systems will be examined for feasibility.

3. Explore alternate sources for funding sources such as partnering with financial institutions for retrofits and other carbon reduction strategies.

Finding the capital necessary to implement retrofits will require innovative solutions. Partnering with a financial institution will help and such models as PAYS model (Pay as You Save) will be considered.

4. Consider mandatory policy measures at a later date (2015) if retrofits are not meeting targets

While the focus of CAWG’s efforts are on encouraging and promoting efforts to reduce the carbon intensities of energy use in homes and buildings, it is recognized that mandatory measures may be necessary and should be proposed if targets are not being met. A Community Energy Plan will be a valuable tool to measure the need for policy changes but should be considered no later than 2015 in order to meet 2020 targets.

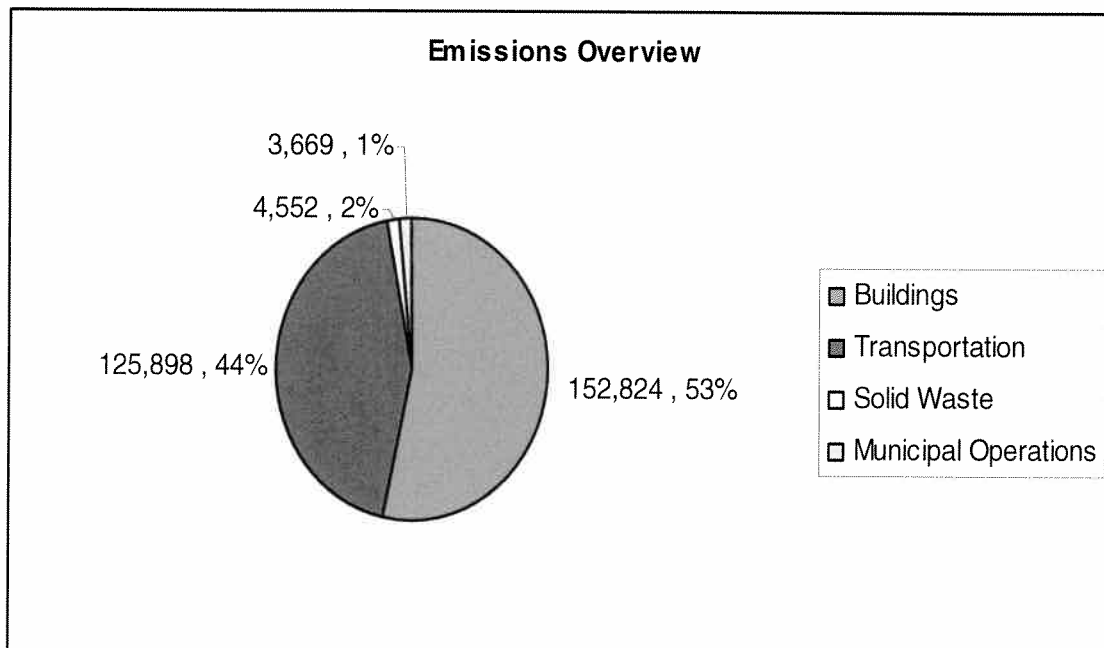
Transportation and Land Use

CAWG RECOMMENDATIONS

5. Implement the recommendations of the Strategic Transportation Plan
6. Ensure land use decisions consider the impact on transportation requirements by promoting lively walkable neighbourhoods with local amenities and well served by transit and are consistent with the West Vancouver OCP.
7. Encourage local food production initiatives.

Background

According to the 2007 audit on emissions, on-road transportation accounts for 44% of the overall emissions for West Vancouver (including municipal operations). This is the second largest GHG emissions contributor.



Discussion

5. Implement the recommendations of the Strategic Transportation Plan

The District's Strategic Transportation Plan will be complete in 2010 and many of the recommendations from that plan will complement the objectives of the Climate Action Plan. The findings and recommendations should be implemented wherever possible.

6. Ensure land use decisions consider the impact on transportation requirements by promoting lively walkable neighbourhoods with local amenities and well served by transit as is consistent with the West Vancouver OCP

Transportation issues in West Vancouver are directly tied to historic development patterns, the development of the upper lands demands that people are in vehicles to access most of their day to day necessities. Land use patterns for the future must consider the way in which we want people to move about our community. Redevelopment as well as new development should promote lively local neighbourhoods well served by transit and supported by local amenities.

7. Encourage local food production initiatives.

Food issues are not as easily quantified as energy use and vehicles however these are critical components of a Climate Action Plan. CAWG felt strongly that these issues should be included in any plan. For example, West Vancouver may consider:

- Providing food production space on underutilized WV public land.
- Opportunities for local food production during the development of the Parks and Open Space Master Plan.

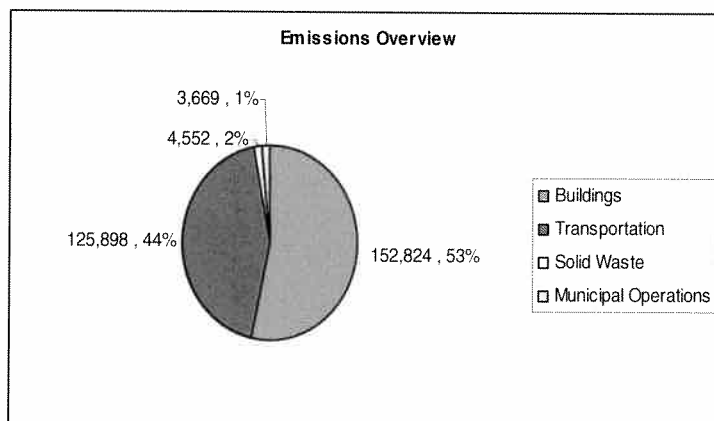
Waste, Water and Sewerage

CAWG RECOMMENDATIONS

8. Promote Metro Vancouver's waste diversion program with the intent of meeting the "zero waste challenge.
9. Build on the success of the water metering system to promote the broader benefits of resource conservation.
10. Look for innovative, low carbon solutions for the upcoming replacement of the Capilano treatment plant.

Background

Although these items make up only roughly 2% of the emissions for West Vancouver the need to continually look for ways to lower the impacts both on the environment and on the tax base are required.



Discussion

8. Promote Metro Vancouver's waste diversion program with the intent of meeting the "zero waste challenge" which is 70% diversion rate by 2015. Lowering the amount of garbage going to landfills will ultimately benefit all the residents as not only will GHG emissions result but substantial financial savings could be recognized.
 - a. Monitor the pilot project to collect food scraps that is currently underway in West Vancouver and use the information gathered to expand the program if positive feedback received.

9. Build on the success of the water metering system to promote the broader benefits of resource conservation.
 - a. West Vancouver is one of the West Coast's first municipalities to go to metered system for water delivery. The benefits of our conservation efforts should be promoted to demonstrate the long-term contributions of resource conservation strategies.
10. Look for innovative, low carbon solutions for the upcoming replacement of the Capilano treatment plant.
 - a. The Capilano Sewage treatment plant is due for replacement by 2020 and the municipality will need to work with its residents and other levels of government to ensure an integrated system that results in maximising energy generating potential, while utilizing low carbon intensive solutions.

Adaptation

CAWG RECOMMENDATIONS

11. Continue with foreshore protection and restoration works in keeping with actions from the 2008-2011 Shoreline Protection Program
12. Prepare an assessment of climate-related vulnerabilities and work in progress on West Vancouver waterfront due to rising sea level, also look at impacts to water and infrastructure;
 - a. Analyze the costs and benefits of addressing major vulnerabilities identified in this assessment and prioritize preparation actions;
 - b. Adopt a climate change preparation plan assigning responsibility to appropriate departments to address prioritized actions.

Background

Adaptation is not just about dealing with the risks due to climate variability. As the climate changes, so too is the operating environment for West Vancouver Council. Council decision-making processes need to be supported and strengthened by the capacity of staff to identify inherent opportunities that arise from adapting to change, as well as dealing with the risks. Adaptation in West Vancouver will be necessary to deal with issues such as rising sea-levels, lower annual snowpack (affecting drinking water supplies) and increased rainfall intensity.

Discussion

If our vision for 2050 is to be achieved, the ability to change and adapt is crucial. CAWG recommendations are:

11. Continue with foreshore protection and restoration works in keeping with actions from the 2008-2011 Shoreline Protection Program

West Vancouver has been working on shoreline adaptation works since 2005 and will continue to build on pilot projects that have been completed from Ambleside to Dundarave. These projects provide infrastructure protection, habitat enhancement and a certain amount of “Future Proofing” with respect to sea level rise. A yearly progress report to Council should be planned for July of each year.

12. Prepare an assessment of climate related vulnerabilities and work in progress on West Vancouver waterfront due to rising sea level, also look at impacts to water and infrastructure;

Vulnerabilities with respect to infrastructure, habitat and recreational opportunities need to be considered and should be reviewed in the next 5 years including:

- Analyzing the costs and benefits of addressing major vulnerabilities identified in this assessment and prioritize preparation actions;
- Adopting a climate change preparation plan assigning responsibility to appropriate departments to address prioritized actions.

DWV Operations

CAWG RECOMMENDATIONS

13. Staff work toward carbon neutrality as committed to under the Climate Action Charter
14. DWV operations emissions be reviewed using the report card system to be developed in 2010.

Background

Although the DWV operations makes up a minor part of the overall emissions profile it has been mandated through the Climate Action Charter that operations are to be carbon neutral by 2012. West Vancouver has already taken numerous steps to reduce its footprint including, biodiesel program for vehicles, geo-exchange for community centers, and an energy audit and retrofit at the Library.

| DWV Emissions Profile | Tonnes CO2e | Percent of Total Emissions | Weighted Percentage of Overall Emissions |
|------------------------------|--------------------|-----------------------------------|---|
| Buildings | 2330 | 63.5% | 0.8% |
| Vehicle/fleet | 1127 | 30.7% | 0.4% |
| Streetlights | 22 | 0.9% | 0.0% |
| Water and Sewerage | 33 | 0.9% | 0.0% |
| Waste | 157 | 4.3% | 0.1% |
| Totals | 3669 | 100% | 1.3% |

Discussion

13. Staff work toward carbon neutrality as committed to under the Climate Action Charter

Under the Climate Action Charter, Municipal operations are required to be carbon neutral by 2012. The Municipality is working towards this through numerous projects and programs and will be reporting on their progress with another emissions inventory in 2011

14. DWV operations emissions be reviewed using the report card system to be developed in 2010

Following the report card style recommended by CAWG in the Education section. Municipal operations should also be reviewed and rated for their performance and initiatives.

Strategic Management

CAWG RECOMMENDATIONS

15. Assign responsibilities for implementation to specific staff.
16. Complete a Community Energy Plan in 2011.
17. Complete revisions to the OCP required under Bill 27.
18. Create and maintain a “Climate Action Report Card” for bi-annual reporting.
19. Establish and maintain Climate Action Awards for West Vancouver schools, businesses and individuals for 2010 and onwards.

Background

Climate Change is an issue that will be facing all of us for the rest of our lives. The need to either repurpose existing resources or provide new resources to address this issue must be considered.

Discussion

15. Assign responsibilities for implementation to specific staff

There are numerous grants from BC Hydro that are focussed on energy management that may offset the financial burden of new resources from a financial perspective and could result in the municipality saving money through energy and GHG reductions. Senior West Vancouver staff must identify opportunities for minimizing, mitigating and adapting for climate change issues and are best positioned to make change in their individual work areas. All staff should be made aware of the Climate Action Plan and required to implement actions under their influence.

16. Complete a Community Energy Plan in 2011

The Community Energy Plan (CEP) will be a critical step to help West Vancouver create a healthy, low carbon community. Benefits of developing a CEP include identifying the energy potential in West Vancouver, promoting energy efficiency, cost-savings, and economic competitiveness. This plan should be the foundation for energy decisions in the future.

17. Complete revisions to the OCP required under Bill 27

The provincial government now requires municipalities to set targets and enact enabling wording in their Official Community Plans. West Vancouver has begun this process and should have the required amendments complete in 2010.

18. Create and maintain a “Climate Action Report Card” for bi-annual reporting

A bi-annual status report is essential and the report card should rate the community, staff and council on progress on items from the Climate Action Plan. Historic DWV environmental initiatives provide us with a broad set of objectives that require measurement and reporting. This report will not only capture climate change issues but will also allow us to track progress in these other areas.

19. Establish and maintain Climate Action Awards for West Vancouver schools, businesses and individuals for 2010 and onwards.

One of the items that the working group ranked amongst the most effective in mobilizing the community was the need for acknowledgement of individuals, groups and students who were leading in the area of climate change. The group decided this should be an annual award and incorporated into the District’s award process through the recently formed Community Awards Committee.

Conclusion

The West Vancouver Community Climate Change Action Plan is not “business as usual.” The plan sets out important steps in bringing a low carbon approach to the economy, the community and environment in West Vancouver.

West Vancouver aims to reduce its GHG output by at least 33% per cent below 2007 levels by 2020 and by at least 80% by 2050. In 2050, if successful, our community will be better off: our efforts will have help reduced the threat from climate change, our air quality will be better, our energy supply will be more predictable, more stable, and quite likely more affordable. So, rather than make sacrifices, West Vancouver will make positive changes, individually and as a community.

Change is something we have already shown we can do with examples like leading the way in changing fuels for our corporate vehicles and adapting to climate change with work along our waterfront. Our decision to dramatically reduce the amount of water we use is also one of the best examples.

We are confident other changes will come as we follow through on the Community Climate Change Action Plan. We’ll make different choices in heating, lighting and electrical appliances. We’ll plan our errands and work lives to eliminate unnecessary car trips. When we can, we will walk or ride a bike along well planned pedestrian and cycling routes.

The Community Climate Change Action Plan contains targets that to some may seem to be a daunting challenge. In West Vancouver we will achieve those targets through collaboration, motivation and sharing success stories. The Climate Action Working Group believes that once West Vancouver residents get behind the Community Climate Change Action Plan, its targets will some day be seen as mere milestones on the way to even greater achievements.

Appendix 1 - Business as Usual, How Much Might it Cost?

Municipalities are burdened with more programs every year while receiving less financial support from senior government. These extra requirements have led to more pressure on local governments to carefully consider new programs and decide whether or not the government will fund or participate in the program. Taking action on climate change is a global issue that local governments are now being requested to address. So the question remains what would it cost to do nothing? There are numerous reports and studies that consider the cost of carbon. Estimates range from the sceptics who put the cost at \$40.00 USD per tonne ¹ to the advocates who put the cost as high as \$160.00 USD per tonne ². While the exact dollar figure may be arguable the fact that there is a cost is now broadly accepted.

Provincially the BC Government is now charging Public Service Organizations (PSO's) \$20.00/ tonne of GHG for 2010, payable in 2011. This charge will increase to \$30.00 tonne by 2012. For West Vancouver, based on 2007 DWV operations emissions only, it would mean a tax of roughly \$110,000 that the Municipality would have to pay if the Provincial government decides to broaden the legislation to capture Local Governments. If the tax were expanded to capture all West Vancouver's emissions including homes and vehicles at a cost of \$20.00/tonne it would be a tax of roughly \$5.6 million per year.

Although the tax could be challenging there are even more daunting issues and costs that West Vancouver will face with such issues as rising sea-levels inundating low level properties and utilities. Municipal infrastructure costs will also rise due to more frequent extreme weather events and a depleted snowpack could affect West Vancouver's drinking water supply. Clearly these are issues that could cost the taxpayers millions of dollars annually and negatively affect the lifestyles of everyone.

While we recognize that there is a cost to combating climate change, there is potentially a far greater cost to ignoring it. The real challenge will be how to do so in a

¹ The Cost of Climate Change, Ackerman, Stanton, et al May, 2008

² Economics of Climate Change, Stern, 2007

way that respects people's pocketbooks while making meaningful reductions to our community and DWV GHG emissions profiles.

Appendix 2 - Community Emissions Inventory

The community inventories were provided by the Province of BC and include buildings (residential, commercial, and sometimes industrial), transportation, and waste components. Building energy is compiled for residential, commercial, and (sometimes) industrial facilities. This information is most commonly compiled from utility-provided data, though the residential component is sometimes estimated from the number of dwellings and average energy intensity statistics. Transportation consumption and emissions are included in all inventories and are determined from one of: fuel sales, transportation surveys and modeling, or vehicle count data. Solid waste emissions are usually estimated from generic emission factors and the mass of waste deposited, though some site emissions are defined.

| Community Emissions Profile | Tonnes CO2e | Percent of Total Emissions | Weighted Percentages |
|------------------------------------|--------------------|-----------------------------------|-----------------------------|
| Buildings | 152823 | 53.9% | 53.6 |
| On Road | 125897 | 44.4% | 44.1 |
| Transportation | | | |
| Solid Waste | 4552 | 1.6% | 1 |
| Totals | 283272 | 100% | 98.7 |

DWV Operations Emissions

An audit was conducted in 2007/2008 that looked at the sources responsible for the release of greenhouse gases from day to day activities of the Corporation of West Vancouver. Each year, the corporate activities of the District of West Vancouver create 3,669 tonnes of CO2e. The majority of emissions produced by the DWV activities are from buildings and the vehicle fleet. The DWV Greenhouse Gas Emissions Audit looked at emissions from buildings, vehicles, streetlights, water/sewage and waste. The following table numerically displays the contribution by function to West Vancouver's GHG profile.

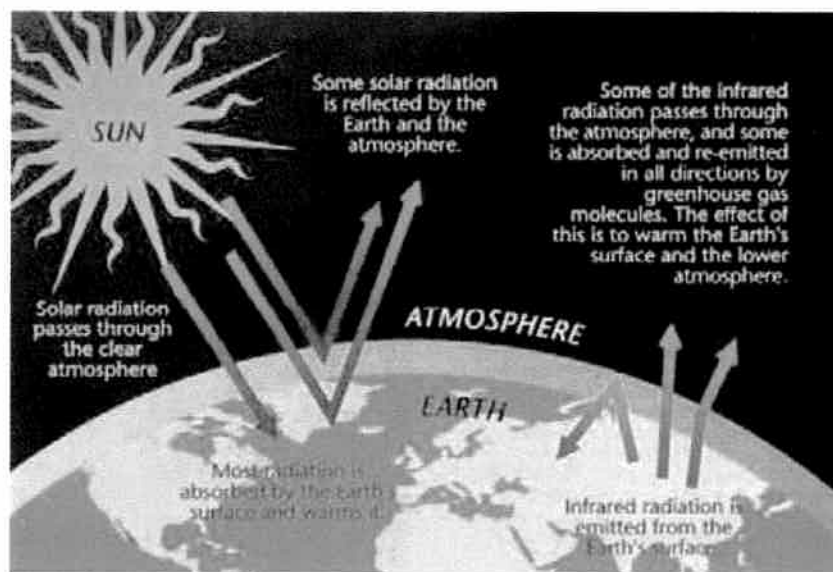
The 2007 DWV carbon emissions for the District of West Vancouver are as follows:

| DWV Emission Profile | Tonnes CO2e | Percent of Total Emissions | Weighted Percentage of Overall Emissions |
|-----------------------------|--------------------|-----------------------------------|---|
| Buildings | 2330 | 63.5% | 0.8% |
| Vehicle/fleet | 1127 | 30.7% | 0.4% |
| Streetlights | 22 | 0.9% | 0.0% |
| Water and Sewerage | 33 | 0.9% | 0.0% |
| Waste | 157 | 4.3% | 0.1% |
| Totals | 3669 | 100% | 1.3% |

Appendix 3 - The Science of Climate Change

The Earth's atmosphere is naturally composed of a number of gases that act like the glass panes of a greenhouse, retaining heat to keep the temperature of the Earth stable and hospitable for life at an average temperature of 60°F. Carbon dioxide (CO₂) is the most prolific of these gases. Other contributing gases include methane (CH₄), nitrous oxide (NO₂), ozone (O₃) and halocarbons. Without the natural warming effect of these gases the average surface temperature of the Earth would be around 14°F.

Figure 1. The Greenhouse Gas Phenomenon



Source: EPA

However, recently elevated concentrations of these gases in the atmosphere have had a de-stabilizing effect on the global climate, fuelling the phenomenon commonly referred to as global warming. The global average surface temperature increased during the 20th century by about 1°F. According to NASA scientists, the 1990s were the warmest decade of the century, and the first decade of the 21st century is well on track to be another record-breaker. The years 2002, 2003, 2004 and 2005, along with 1998, were the warmest five years since the 1890s, with 2005 being the warmest year in over a century.

Scientific Facts and Projections

- The atmospheric concentration of carbon dioxide (CO₂) during the last two decades has increased at the rate of 0.4% every year.
- Current CO₂ concentrations are higher than they have been in the last 420,000 years, and according to some research, the last 20 million years.
- About three-quarters of the CO₂ emissions produced by human activity during the past 20 years are due to the burning of fossil fuels.

Source: The Intergovernmental Panel on Climate Change

The climate and the atmosphere do not react in a linear fashion to increased greenhouse gases. You cannot simply predict the specific degree of warming that each ton of carbon dioxide emitted from a power plant or a vehicle's tailpipe will cause. The Earth's climate has a number of feedback loops and tipping points that scientists fear will accelerate global warming beyond the rate at which it is currently occurring. For example, as CO₂ emissions have increased in recent human history, the oceans have been absorbing a significant portion of these gases, but as the oceans become more permeated with CO₂, scientists anticipate they will reach a saturation point, after which each ton of anthropogenically emitted CO₂ will have a more substantial impact.³ Another example of this compounding can be found in the polar ice caps. Ice is highly reflective and acts effectively like a giant mirror, reflecting the sun's rays back into space. As the planet warms and some of this ice melts away, a darker land or ocean surface is revealed. This darker surface tends to absorb more heat, accelerating the speed at which the planet warms with each ton of greenhouse gas emitted. As these examples illustrate, the stakes are high and immediate action is necessary.⁴

³ Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report: "Climate Change 2001: The Scientific Basis."

⁴ Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report: "Climate Change 2001: The Scientific Basis."

Impacts on plants and vegetation: Native plants and animals are also at risk as temperatures rise. Scientists are reporting more species moving to higher elevations or more northerly latitudes in response. Increased temperatures also provide a foothold for invasive species of weeds, insects and other threats to native species. The increased flow and salinity of water resources could also seriously affect the food web and spawning conditions in West Vancouver streams.

Public health impact: Warming temperatures and increased precipitation can also encourage mosquito-breeding, thus engendering diseases that come with mosquitoes, such as the West Nile Virus, a disease that has just arrived in British Columbia.

Increased temperatures also pose a risk to human health when coupled with high concentrations of ground-level ozone and other air pollutants, which may lead to increased rates of asthma and other pulmonary diseases. Furthermore, anticipated increases in the number and severity of hot days place significant portions of the population, particularly the elderly, young, those already sick, and people who work outdoors, at risk for heat-stroke.

Given that climate change has local repercussions and effects on weather, water resources, ecosystems, public health, infrastructural stability and economic vitality, local governments have a vested interest in mitigating the amount of greenhouse gases being produced by their communities.

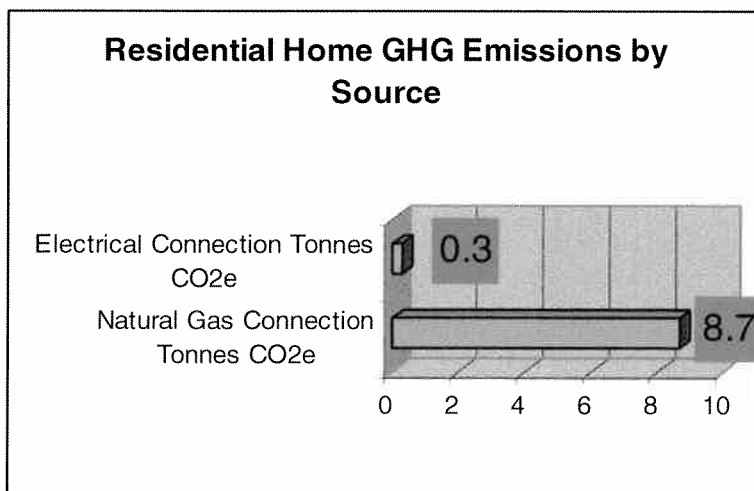
Appendix 4 - Links between Energy Planning and GHG Planning

The majority of GHG emissions are the result of combustion of fossil fuels. As a result, a reduction of GHG's is directly linked to reductions in fossil fuel consumption. As well, since some component of electricity is generated from coal or natural facilities, there is a certain amount of CO₂ 'embedded' within the consumed electricity. This is accounted for by the GHG intensity of the electricity. In BC, the majority of electricity is generated from hydro-electric facilities and so our electricity has a low GHG intensity. A consequence of this is that efforts to reduce electricity consumption do not achieve large reductions in GHG's while efforts to reduce fossil fuel consumption achieve relatively larger reductions in GHG's (per GJ of reduction). It is useful to implement a GHG emissions reduction plan within the context of a broader Community Energy Plan (CEP). This allows all forms of energy to be valued as resources worth considering and does not limit the focus to maximizing GHG reductions.

Electricity versus Natural Gas and the impact on GHG's

An illustration of the different intensities of GHG produced is well demonstrated by the Community Emissions profile of West Vancouver conducted by consultants for the Province of BC. The figures below show the difference in GHG produced by one residential electrical connection versus one residential natural gas connection.

Average residential GHG impacts per connection



Appendix 5 - Government Action Being Taken on Climate Change

International Action

As evidence that climate change has mounted, groups at the international, federal, provincial and local levels have responded with ways to confront the impending threat. The United Nations Framework Convention on Climate Change (UNFCCC) leads international efforts to investigate and combat climate change. Recognizing the problem of potential global climate change, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988 to assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk associated with human-induced climate change, its potential impacts and options for adaptation and mitigation, releasing its most recent assessment in 2007.⁵

In 1997, 10,000 international delegates, observers and journalists gathered in Kyoto, Japan to participate in the drafting and adoption of the Kyoto Protocol, requiring industrialized nations to reduce their collective greenhouse gas emissions 5.2% below 1990 levels. As of January 2007, 162 countries have ratified the Protocol, with the United States and Australia most notably absent from the list. Additionally, since 1995 the annual Conference of the Parties (COP) has met to discuss action and implementation to combat climate change, with the COP, COP-12, being held in Nairobi in 2006. Copenhagen in December of 2009 was the last major international event.

Federal and Provincial Action

Though adequate attention and action related to combating climate change has not been obvious at the federal level, the British Columbia government has taken several significant steps at the provincial level.

The following list is legislation that the province has enacted in order to address climate change issues

⁵ Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report: "Climate Change 2007"

Bill 44 – In 2008, BC’s provincial government passed the Greenhouse Gas Reduction Targets Act, Bill 44, with significant implications. The government has established a target for all public-sector organizations (PSOs), to be carbon-neutral by 2010. "Carbon neutrality" is defined here as a zero sum between the emissions generated and carbon offsets purchased. All PSOs must also achieve specific emission-reduction targets, including reducing emissions by 33 per cent from 2007 levels by 2020 and by 80 per cent by 2050

Bill 27 - Under the Local Government (Green Communities) Statutes Amendment Act (Bill 27, 2008), local governments are required to include targets, policies and actions for the reduction of GHG emissions in their Official Community Plans (OCPs) by May 31, 2010

Green Building Code - The new Building Code requirements, which came into effect on September 5, 2008, increase energy and water efficiency of new construction in BC and will apply to all new construction and renovations in the province. These new requirements apply to building permit applications submitted on or after September 5, 2008.

Carbon Tax – All BC residents were introduced to the carbon tax in July 2008. The carbon tax will apply to virtually all fossil fuels, including gasoline, diesel, natural gas, coal, propane, and home heating fuel.

Local Action

West Vancouver is serious about addressing climate change issues. The Municipality has completed Milestone 1 and is working on Milestones 2 and 3 of the Federation of Canadian Municipalities Partner for Climate Protection Program, which consists of identifying where our DWV greenhouse gas emissions are coming from and setting targets for reducing our emissions. In January 2007, the District began an audit of the greenhouse gas emissions that result from the DWV (local government) activities of the District of West Vancouver (DWV). This work has allowed us to create a baseline, and has given us the information we need to cost-effectively address how we can minimize our impact on the environment as a result of GHG emissions from our operations. Additionally, we have signed the Union of British Columbia Municipalities Climate Action Charter, which pledges the municipality to be carbon neutral with respect to DWV activities by the year 2012.

We understand that climate change will inevitably affect our life on the North Shore and the municipality has begun to prepare for these changes through adaptation

planning, including intertidal and subtidal work along the waterfront. Even in the absence of policy initiatives, work on many fronts is well underway, from geo-exchange systems in recreation centers to biodiesel for some of the municipal fleet as well as the purchase of hybrids where appropriate.

Appendix 6 - What Can You Do?

Many scientists agree that the level of CO₂ in our atmosphere is getting dangerous, and that the consequent climate change effects are happening faster than anticipated. As more than 40% of Canada's CO₂ emissions result from the choices we make as individuals, we can take action on this global issue by reducing our own CO₂ emissions.

The most effective action you can take for your home

Get a home energy audit

Companies will come in and audit your energy bills, test your home for leakages and show you the easiest way save money. For a list of local companies visit:

<http://wee.orcan.gc.ca/residential/personal/new-home-improvement/contact-advisors.cfm>

Fit attic insulation

Houses lose a quarter of their heat through the roof, so lagging your loft to the recommended depth of 270mm will save on your heating bills every year. Insulating your loft can be done for as little at \$500.00, but there are offers available to help cover the cost and make it even cheaper – maybe even free if you're elderly or receiving benefits.

Fit wall insulation

Houses lose a third of their heat through the walls. Installing cavity wall insulation only takes a couple of hours and is easily done by the insulator from outside the house, yet it could save up to \$250 every year on your fuel bills, as well as cutting your carbon footprint. If you have solid walls, these can also be insulated.

Windows

If your house does not yet have double glazing, installing it could save up to \$200 a year.

Get some financial help

There may be grants and offers available to help you make your home more energy efficient.

Won't cost you a penny – do this week!

Switch off appliances

Switch off appliances when not in use to save \$60 per year. Leaving unused appliances on standby (which means they're still using energy) costs around \$1.6 million a year in Canada alone.

Boil only as much water as you need

Only boiling as much water as you need could save you up to \$50 a year (based on five kettles a day, boiling one litre more than necessary).

Hang out clothes to dry in good weather

Switch on the washing machine when you have a full load, and wash clothes at 30° to save energy and money.

Take a quick shower

Take a quick shower rather than a long bath to cut your water use in half.

Turn down your thermostat

Turning your thermostat down by 1°C could reduce CO₂ emissions and cut your fuel bills by up to 10 per cent.

Try walking instead of driving

Try walking instead of driving to replace one short car journey a week. Also, follow smarter driving tips – like keeping tyres correctly inflated and changing up a gear a little earlier – to save up to a month's worth of fuel a year.

Try not to waste food

Try not to waste food – the average Canadian spends \$800 a year on food that goes straight in the bin. Plan a menu for the days ahead, make shopping lists and use leftovers wisely.

Set hot water thermostat to 60°C

Turn the thermostat down on your hot water cylinder so that it's set at 60°C or 140°F and save.

Close the curtains

Close the curtains at dusk to stop heat escaping through the windows.

Turn off the pilot lights to some gas appliances in the summer

Some gas appliances are not used in the summer but still have their pilot lights left on this check with the manual on how to turn yours off.

Appendix 7 – Results from Community Survey

At an open house in January 2010 for Bill 27 amendments a survey was conducted by the CAWG to gauge people's understanding and interest in climate change related facts. While not statistically valid, the findings are most revealing and focus clearly on the depth of community concern about the issue.

| CLIMATE ACTION SURVEY | | | |
|---|------------|-----------|------------|
| | Yes | No | N/A |
| Are you concerned about global and local effects of climate change? | 165 | 3 | |
| Do you think that West Vancouver's municipal government should be actively encouraging residents to respond to climate change? | 158 | 4 | 3 |
| Assuming some economic incentives, would you support the Working Group's general recommendation? | 143 | 4 | 5 |
| Would you be willing to change your current methods of home heating to use 33% less natural gas? | 118 | 14 | 18 |
| Do you need to learn more about the alternatives available for home heating? | 117 | 44 | 5 |
| Would you be willing to reduce how often you drive - and instead try walking, biking, taking public transit, ride-sharing, or staying at home 33% more often? | 114 | 34 | 15 |
| Do you need to learn more about the alternatives available for transportation? | 81 | 70 | 6 |
| Did you know about this event in advance? If yes, how did you hear about this event? | 55 | 104 | 4 |
| | | | |
| Newspaper - 7 | | | |
| Mail Out - 14 | | | |
| Community Centre - 4 | | | |
| Friends - 7 | | | |
| | | | |