Community Led Emissions Reduction (CLER) Program

MSTW Local Climate Change Action Plan (2008-2012)

Prepared By:

Kelly Stock
CLER Climate Change Coordinator
MSTW Planning District

Acknowledgements:

MSTW Planning District Board
Town of Morden
RM of Stanley
RM of Thompson
City of Winkler
Dave Weiss – Pembina Valley Containers
Dave Wolfe – S.W.A.M.P Waste Authority
Jake & Barb Penner – Penner Waste
Shawn Dias - Manitoba Agro Woodlot
Shoni Litinsky - Climate Change Connection
Amy Jordan – Manitoba Department of Local Government
Katy Walsh – Manitoba Department of Local Government
Leita Kalinowsky – Manitoba Department of Local government
Aggie Buhler - Pembina Valley Development Corporation
SNC-Lavalin

MSTW Climate Change Advisory Committee

Alex Fedorchuk	MSTW Planning District
Brian Burrows	Community Resident (RM of Thompson)
Brian Klassen	WBS Construction
Dale Toews	RM of Stanley
Dave Weiss	Pembina Valley Containers
Dean Hildebrand	Community Resident (RM of Stanley)
Kathy Friesen	MSTW Planning District
Ron Laverty	Town of Morden
Ron Neufeld	City of Winkler

Date:

Draft 1 – February 17th, 2010
Draft 2 – February 28th, 2010
Draft 3 – May 3rd, 2010
Draft 4 – June 20th, 2011

Forward

***"Nobody can go back and start a new beginning,
but anyone can start today and make a new ending."
- Maria Robinson***

Climate change is recognised as one of our most serious global environmental problems, and demands the attention of every resident, municipal employee, and business owner in the Town of Morden, RM of Stanley, RM of Thompson, and City of Winkler (MSTW) Planning District. Climate change is real and the effects are long-term. If we do not start making globally responsible choices soon, the atmosphere may reach a climate threshold, after which change will occur very rapidly, making adaptation difficult.

A positive response to climate change will help make the MSTW Planning District a more sustainable region. Although there are many definitions of sustainability, in this context the goal is to help make the MSTW Planning District less energy-intensive while continuing to improve the quality of life and economic condition of the region. Taking action to reduce greenhouse gas (GHG) emissions and mitigate some of the impacts can be rewarding financially, environmentally and in improved personal health.

This report is the MSTW Planning Districts first summary of the regions GHG emissions by sector, forecast for future emissions, reduction targets, and strategies to reduce GHG emissions for both the municipalities as corporations and the communities at large. The MSTW municipalities must work collaboratively with residents, institutions, and organisations to implement strategies in this action plan to reduce GHG emissions in the MSTW Planning District.

The Town of Morden, RM of Stanley, RM of Thompson, and City of Winkler, as municipalities and corporations, must lead by example and serve as leaders in eco-responsibility to the members of the MSTW communities.

This action plan was developed with input and assistance from local residences, MSTW staff and councillors, MSTW Planning District staff, MSTW Climate Change Advisory Committee members, the Town of Virden Climate Change Coordinator, The Government of Canada, The Association of Manitoba Municipalities, The Province of Manitoba, Manitoba Hydro, Resource Conservation Manitoba, Climate Change Connection, and the Manitoba Eco-Network.

Thank you to everyone for your individual contributions and assistance with the development of this action plan.

Kelly Stock
CLER Climate Change Coordinator
MSTW Planning District
180 5th Street
Morden, Manitoba
R6M 1C9

Table of Contents

1. EXECUTIVE SUMMARY 1

2. INTRODUCTION AND BACKGROUND 2

2.1. CLER Program 2

2.2. The MSTW Community 3
Geography 3
Community Demographics 3
Industry 4
Regional Context 5

2.3. Community Vision 5

2.4. GHG Emissions Inventory Summary 5
Projects Implemented Since 2003 6
Community Emissions 9
2003 Community Emissions 9
Forecasted Community Emissions 10
Corporate Emissions 10
2003 Corporate Emissions 11
Forecasted Corporate Emissions 11

2.5. Recommendations from the GHG Inventory 12
Corporate Waste 12
Facility Energy Audits 12
Fleet Renewal 13
Landfill Gas Capture Programs 13
Community Transit 13

2.6. Target GHG Emissions Reduction 13

3. ENGAGING THE PUBLIC 14

3.1. Advisory Committee Mission Statement 14

3.2. Advisory Committee Roles 14

3.3. Activities Used To Gain Public Input 14
2004 Public Consultation 14
CLER Program Public Consultation Initiatives 15
Public Consultation Forums 15
Open House Booth 16
Online Web-Poll 16

4. COMMUNITY ACTION PLAN STRATEGIES 17

4.1. Community Strategy 1: Education and Communication Plan 17
Rationale 17
Objectives 17
Description of Activities 17
Hire a CLER Program Project Officer 17
Develop a Sustainability Toolkit for Home and Small Businesses 18
Develop a MSTW CLER Program website 19
Eco event days 20

Media releases 21
Community event promotional activities 21
Afforestation education workshops 22
Green home workshops 23
Green business workshops 24
High school challenges 25

4.2. Community Strategy 2: Sustainable Transportation 26
Rationale 26
Objectives 27
Description of Activities 28
Implement an Anti-Idling Bylaw 28
Develop a Pembina Valley Travel Smart Program 29
Maximise route efficiency of school busses 31
School Travel Plan 32
Improved bicycle facilities and resources 34
Develop a series of bike and walking trails 35
Community transit system 36

4.3. Community Strategy 3: Waste Management 37
Rationale 37
Objectives 38
Description of Activities 39
Freecycle Program 39
Plastic-Free Campaign 40
Municipal Organic Waste Disposal Program 42
Adoption of a two bag garbage limit 44
Extension of Hazardous Waste Disposal Program 45
Business Recycling Program 45
Building Material Recycling Program 46
Regional Zero Waste Policy 47
Methane capture study 48

4.4. Community Strategy 4: Municipal Rebate Program 48
Rationale 48
Objectives 49
Description of Activities 49
$50 Lawn mower rebate 49
$50 Low or dual flush toilet rebate 50
$30 Rain barrel rebate 50
$20 Compost bin rebates 51
$20 Programmable thermostat rebate 52
$3 Seasonal lighting rebate 52

5. CORPORATE ACTION PLAN STRATEGIES 54

5.1. Corporate Strategy 1: Green Landscaping 54
Rationale 54
Objectives 54
Description of Activities 55
Improve efficiency of grass cutting procedures 55
Adopt a Tree Planting Program 55
Adoption of a Green Procurement Policy 57

5.2. Corporate Strategy 2: Vehicle Efficiency 58
Rationale 58
Objectives 59
Description of Activities 59
Municipal fleet audit 59
Municipal Fleet Policy 60

5.3. Corporate Strategy 3: Energy Efficiency 61
Rationale 61
Objectives 62
Description of Activities 62
Conduct building energy audits 62
Install CO_2 sensors 62
Install motion lighting in municipal buildings 63
Install T5 lighting in municipal buildings 64
Install energy efficient skylights in new water treatment plant 64
Reduce draughts from windows and doors in municipal buildings 65
Community centres to adopt Energy Management Control System 66
Water conservation initiatives 66
Integrate energy efficient strategies into building design for new municipal buildings 68

5.4. Corporate Strategy 4: Waste Management 68
Rationale 68
Objectives 69
Description of Activities 69
Perform waste audits of municipal facilities 69
Implement Mini-bin Pilot Project 69
Implement a Paperless Municipality Program 70

6. SUMMARY OF COMMUNITY & CORPORATE ACTIONS 71

7. IMPLEMENTATION STRATEGY 78

8. MONITORING PROGRESS 80

APPENDIX 1 CLIMATE CHANGE ADVISORY COMMITTEE MEMBERS 81

APPENDIX 2 2004 WINKLER WORKSHOP PARTICIPANTS 82

APPENDIX 3 SPONSORS OF THE CLER PROGRAM 83

Public Consultation Forums 83

Online Web-Poll 83

Ongoing Support 83

APPENDIX 4 PUBLIC CONSULTATION FORUM 84

Forum Participants 84
Attendees at the Morden Forum 84
Attendees at the Winkler Forum 84

Description of Public Consultation Forums 85
Morden Priority areas 85
Winkler Priority areas 85

Goals and Outcomes of the Public Consultation Forums 86

Comprehensive Results from the Morden Forum 87

Comprehensive Results from the Winkler Forum 88

Lessons from the Public Consultation Forums 89

APPENDIX 5 LESSONS FROM THE OPEN HOUSE IN MIAMI 90

APPENDIX 6 ONLINE WEB-POLL INITIATIVE 91

Online Web-Poll Questions 92

Lessons from the Online Web-Poll 93

1. Executive Summary

The current combined economic and population growth of the MSTW Planning District makes this region highly susceptible to the potential effects of climate change. Recognising the importance of dealing with climate change the MSTW Planning District committed to the Federation of Canadian Municipalities (FCM) Partners for Climate Protection (PCP) Community Led Emissions Reduction (CLER) program in 2009. This program requires the submission of a local climate change action plan detailing how specific greenhouse gas (GHG) emission targets will be met and how progress will be measured.

The following strategies have been developed, with public input, to reduce GHG emissions in the community sector in the MSTW Planning District: an education and communication plan, sustainable transportation strategy, waste management strategy, and a municipal rebate program. Specific strategies for the corporate sector include: a green landscaping program, vehicle and energy efficiency initiatives, and a corporate waste management strategy.

The MSTW Planning District will work to implement low and no-cost initiatives during the spring and summer of 2010 and will allocate funding in a manner that maximizes the GHG reduction and cost benefits for the municipalities and their residents. Further funding will be sourced to implement longer term, financially dependent, initiatives in the plan.

In addition, the action plan will serve as a guide to MSTW municipalities on opportunities for practicing environmental stewardship and strengthening the sustainability of the MSTW Planning District.

Throughout the action plan implementation stage of the CLER program, MSTW municipalities will modify the action plan to fit its evolving needs and ensure the continued implementation of strategies in the action plan results in quantifiable emission reductions.

2. Introduction and Background

2.1. CLER Program

The Community Led Emissions Reduction (CLER) program is a four-year (2008-2012) pilot program of the Association of Manitoba Municipalities (AMM) and the Province of Manitoba to support community-led action to reduce greenhouse gas (GHG) emissions. It contributes to the Provincial commitment to meet the Kyoto Protocol target of reducing GHG emissions by 6% below 1990 levels by 2012.

The CLER program is directly modelled on the five milestones of the Federation of Canadian Municipalities' (FCM) Partners for Climate Protection (PCP) program. The five milestones are to:

- Establish a GHG emissions inventory.
- Set a GHG emissions reduction target.
- Develop a climate change action plan (CCAP) with public input.
- Implement GHG emissions reduction projects from the plan.
- Monitor progress and report results.

The program's goal is to work with municipal governments and community organizations to engage the public and develop projects and incentives that will reduce GHG emissions by 2012 and contribute to longer-term changes that will make communities more sustainable.

The CLER pilot program is being delivered to selected communities in two streams:

- The municipal stream is delivered in partnership with 12 local governments, including one planning district, and aims to reduce greenhouse gas emissions from municipal corporations and the broader community.
- The neighbourhood stream is delivered in partnership with not-for-profit community organizations such as schools, community centres and neighbourhood renewal corporations, and aims to support individual behavioural change amongst local residents, small businesses and other local community institutions.

The CLER program assists and encourages individuals, households, businesses and local organizations in communities to take immediate steps to reduce GHG emissions in the short-term by providing resources, tools, incentives and capacity building. In addition, the CLER program provides funding to support communities to:

- Complete GHG emissions inventories in each community.
- Hire a local climate change co-ordinator.
- Implement GHG emissions reduction projects and activities.

There are currently over 900 municipalities participating in the PCP program worldwide, with 194 municipalities in Canada and 16 of those municipalities situated in Manitoba. The Town of Morden joined the PCP program in July, 2005, City of Winkler in August 2005, RM of Thompson in February 2009, and the RM of Stanley in July, 2009. All four municipalities are included in the MSTW Planning District Local Climate Change Action Plan and have committed to completing the five milestones that constitute the basis of the PCP program.

2.2. The MSTW Community

Geography

The MSTW Planning District is located in the Pembina Valley Region of south central Manitoba, approximately 120 km southwest of Winnipeg Manitoba, and covers an area of approximately 1,351 km^2. The Pembina Valley region has a population of approximately 51,000 (1996 Census) of which approximately 44% is located in the MSTW Planning area.

The MSTW Planning area is made up of the Town of Morden, Rural Municipality (RM) of Stanley, RM of Thompson and the City of Winkler shows the Pembina Valley region and MSTW Planning area (Figure 1).

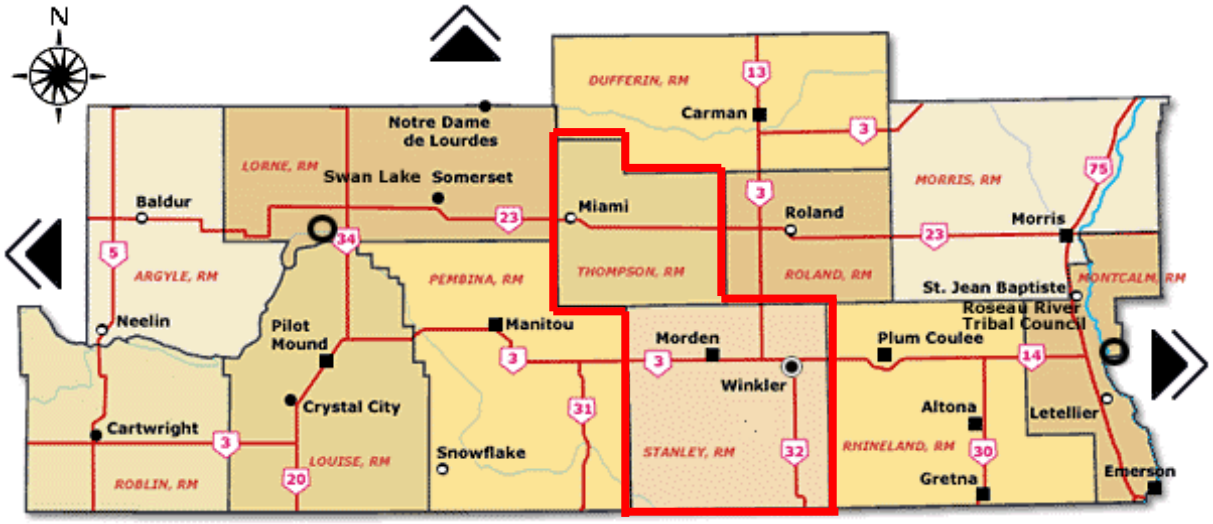


Figure 1. MSTW Planning District Boundary

Community Demographics

The planning district is among the fastest growing regions in Manitoba. The MSTW district has witnessed a positive growth rate of 22% since 1986, or, on average, an annual growth rate of 1.5%. Based on the results of the 2001 and 2006 Censuses it was estimated that the District would have had a population of approximately 21,793 in 2003. It has been estimated that the District will grow approximately 14% between 2003 and 2011 (Table 1). This estimate has been based upon analysis of the 1991, 1996, 2001, and 2006 Census data for each of the individual municipalities[1].

Table 1. Population Growth Predictions

% Growth From Previous Period					
Year	Town of Morden	RM of Stanley	RM of Thompson	City of Winkler	MSTW Planning District
1991	-	-	-	-	-
1996	8%	1%	4%	13%	8%
2001	8%	11%	1%	10%	9%
2003	3%	10%	2%	7%	6%
2006	4%	13%	-7%	8%	7%
2011	7%	6%	12%	8%	7%
From 2003-11	11%	19%	4%	17%	14%

[1] 2003 Baseline Inventory (AMEC Earth & Environmental, 2009)

According to the age demographics, the largest increase is 26% with post secondary school aged residents from 20 – 24 years of age and the second largest increase, 20%, is with pre-retirement aged residents from 55 – 64[2]. The smallest amount of change is in the early career (7%) and post-retirement (6%) demographics (Table 2).

Table 2. Age demographic of MSTW district

Demographic	Age Range	2001	2006	% Change
Preschool	0-4	1560	1840	+15%
Elementary/Junior High School	5-14	3465	3945	+12%
Secondary School	15-19	1725	2070	+17%
Post Secondary School	20-24	1435	1945	+26%
Early Career	25-44	5490	5905	+7%
Mid Career	45-54	2410	2925	+18%
Pre-retirement	55-64	1540	1925	+20%
Post-retirement	65+	2945	3140	+6%

According to corporate demographics, the Town of Morden and City of Winkler employ over 100 staff in ongoing and seasonal work, both full-time and part-time in nature. The RM of Stanley and RM of Thompson have between 8 – 21 full and part-time staff depending on the season (Table 3).

Table 3. Corporate Demographics

Employment		Town of Morden	RM of Stanley	RM of Thompson	City of Winkler
Ongoing	Full-time	56	9	5	55
	Part-time	11	0	0	4
Seasonal	Full-time	40	10-12	3	10
	Part-time	0	0	0	37

Industry

The central business district of the Town of Morden and City of Winkler are both well-established and there are a broad range of urban and rural residential housing types and densities as well as recreation, open space and institutional facilities in both communities. Its manufacturing and agri-commercial industrial base is also very strong, as evidenced by the presence of various leading firms in the industrial parks of Morden and Winkler and in the area of the RM of Stanley located along Provincial Trunk Highway (PTH) Nos. 3 and 14 between both communities, commonly referred to as the Stanley Corridor. What must also be recognised is that the economic vitality of the region continues to be closely tied to the agricultural industry, in that it has represented an average of over 92 percent of the rural land use base since 1986. Approximately 80% of the population in the RM of Stanley live 5-8km around the City of Winkler and the Town of Morden so most people live relatively close to work.

[2] Statistics Canada Community Profile Report
www.statcan.gc.ca

Regional Context

The MSTW Planning District is bordered by the RM of Dufferin to the north, the Canadian-United States border to the south, the RM's of Roland and Rhineland to the east and the RM's of Lorne and Pembina to the east. In addition to the Planning District, the communities that comprise - and those that are adjacent to - it have entered into various joint initiatives, some of which include the following:

- Morden Veterinary District
- Tripartite Fire Agreement
- South Central Regional Library
- Municipal Infrastructure Servicing Agreements
- Pembina Valley Water Cooperative
- Health Service Agreement eg Boundary Trails Health Centre
- Pembina Valley Conservation District
- Pembina Valley Development Corporation
- Regional Landfill
- Winkler Aquifer Management Plan Advisory Board

2.3. Community Vision

It is the vision and mission of the MSTW Local Climate Change Action Plan to engage residents of all four MSTW municipalities in the implementation of the action plan and to educate and raise awareness among residents about climate change issues and practical ways to take action to reduce GHG emissions.

The action plan has been developed collaboratively with the CLER Climate Change Coordinator, CLER Climate Change Advisory Committee, MSTW staff and council members, institutions, local businesses, and the broader community to achieve the following:

- educate about climate change;
- calculate a baseline GHG inventory;
- set a target for future GHG emission reduction;
- provide practical strategies for reducing GHG emissions at home, work and in the community;
- provide reporting and monitoring strategies;
- provide implementation strategies for action plan projects; and,
- reach GHG emission reduction target goals for the re-inventory in 2012.

2.4. GHG Emissions Inventory Summary

Manitoba Department of Local Government (DLG) retained AMEC Earth and Environmental ("AMEC") to prepare a baseline GHG inventory of the MSTW Planning District. The report presents information collected from a detailed accounting of the MSTW corporate and community emissions in fiscal year 2003, which is January 1, 2003 to December 31, 2003. It should be noted that the MSTW district emissions are taken as the sum of the individual municipality corporate and community emissions.

The following Greenhouse Gas Global Warming Potentials ("GWP"), as developed by the Intergovernmental Panel on Climate Change ("IPCC"), are well documented and served as the basis for calculations (Table 4).

Table 4. Greenhouse Gases and GWPs

Greenhouse Gas	Global Warming Potential
Carbon Dioxide	1
Methane	21
Nitrous Oxides	310
Hydrofluorocarbons	140-11,700 (for 13 substances)
Hydroflurorethers	HFE-7100 = 500/HFE-7200 = 100
Perflurorcarbons	6,500-23,900 (for 8 substances)

In the calendar year 2003, the total GHG emissions from the MSTW District were 168,081 metric tonnes CO_2e. The community total greenhouse gas emissions were 165,606 metric tonnes CO_2e with transportation related emissions accounting for approximately 62% of the total community emissions. Corporate emissions were 2,475 metric tonnes CO_2e of which buildings, and transportation related emissions accounted for 82% of the total corporate emissions (note waste emissions excluded). Forecasted emissions to 2011 were 2,810 tonnes CO_2e (Corporate) and 2,475 tonnes CO_2e (Community). This data is summarized in Table 5.

Table 5. MSTW GHG Emission Summary (tonnes CO2e)

Sector	2003 Baseline	2011 Forecast
Corporate	2,475	2,810
Community	165,606	190,046
Total	**168,081**	**192,856**

Projects Implemented Since 2003

Since 2003 the following initiatives have been planned, implemented or completed within the MSTW Planning District (Table 6).

Table 6. MSTW Projects Implemented Since 2003

Municipality	GHG Emission Reduction Initiative	Date Completed
Town of Morden	Recycling containers purchased for campground and beach	2004
	Subsidized compost bins to local residents as part of the One Tonne Challenge	2005
	Paperless council meetings	2005
	Programmable thermostats in all municipal buildings	2005
	Implemented no-idling zones	2005
	Upgraded to energy efficient furnace in Morden Art Gallery	2005
	Installed water saving irrigation sensors for baseball diamonds	2005
	Ornamental lights switched to energy efficient lighting	2006
	Lighting upgrades in both arenas to energy efficient lighting	2006-2007
	Recycled wood from beach platform in to picnic tables	2008
	Purchased splitter to improve the tree recycling program for woodchipping (all trees that must be removed are recycled)	2008
	Upgraded to new compost site and woodchips and compost was made available to public	2008
	Washrooms added to existing hall with low flush toilets and sensor sinks with control temperature	2008
	A+ Recycling Report Card from Manitoba Product Stewardship Corporation (MPSC)	2009
	Used 3 metric tonnes of alfalfa pellets for fertilizer for community parks, budgeted for more in 2010	2009
	Energy efficient (T8) lighting implemented in all town buildings	2003 – 2009
	Installed energy efficient LED lights in Morden Park, Buhler Walkway, Confederation Park, and the Recreation Center	2006 – 2009
	Installed ceiling skylights in washrooms and in the shop at Colert Beach	2008 - 2009
	Right-sizing municipal fleet to 6 cylinder vehicles	2007 - Ongoing
	Aggressive tree planting program throughout Morden	2007 – Ongoing
	Municipal operations to use ZEP (environmentally friendly) products in municipal parks	2007 - Ongoing
	Parks and Recreation Departments use compost from municipal compost site on municipal grounds	2008 – Ongoing
	Fuel pucks (biofuel) sold at campground to reduce firewood use	2009 – Ongoing
	Municipal curb-side compost pick-up (one week in spring, one week in fall)	Ongoing
	Regular municipal fleet upgrade with new equipment meeting current emissions standards	Ongoing
Western School Division	Changed exit lights to LED	2004
	Installed all new windows on the west side of Morden Collegiate	2006
	Implemented no-idling zones	2007
	Installed CO_2 sensor in all gymnasium fan units	2008
	Changed lighting to energy efficient (T8) lighting in all buildings	2003 – 2009
	Implemented a DDC control system to control parking space (computerized to turn on and off depending on temperature and time), urinals (only run at scheduled times), and fans and other equipment (only run when needed)	DDC upgrade in 2004 Urinals done in 2010
	Implemented recycling programs in all schools	2003 – Ongoing
	Changing all toilets to low flush toilets	2008 - Ongoing
Pembina Valley Containers	Installed geothermal system in main building	2003
	Installed energy efficient lighting in main building	2003
	Changed Bobcats to Biodiesel	2007
	Replaced T12 lights with energy efficient T8 lights	2007
	Reduced hauling distance of wood to yard by 90%	2010
	Heat geothermal ground loop and domestic water with solar power	2010
	Construction and demolition drop-off program for cardboard (2003), wood (2009), new shingles (2009) and other usable building materials (grinding of old shingles to begin in 2010)	2003 - Ongoing
	All bins used in municipal and commercial waste and recycling operations built locally	2004 - Ongoing
	Forklifts changed from propane to electric	2005 – Ongoing
	Regular fleet upgrade with new equipment meeting current emissions standards	2006 – Ongoing
	Produces fuel pucks to make use of cardboard and landfill wood (purchased large horizontal grinder for construction, demolition and other biomass materials)	2009 – Ongoing

RM of Stanley	Construction of paved walking paths in Hochfeld, Reinland, Blumenfeld, Chortitz, Schanzenfeld & Reinfeld	2000 - ongoing
	Paperless council and committee meetings, various paper-saving strategies implemented in the office, emailing vs. faxing, digital file storage vs. paper file storage, etc.	2008 - ongoing
	Regular municipal fleet upgrade with new equipment meeting current emissions standards	Ongoing
RM of Thompson	Right-size tractors to reduce fuel consumption	2005
	Community recycling program - blue box program	2010
	Regular municipal fleet upgrade with new equipment meeting current emissions standards	Ongoing
City of Winkler	Implemented no-idling zones (posted signs)	2005
	Geothermal heating/cooling added to the Water Treatment Plan and the addition to the Winkler Arena	2006
	Library construction incorporated use of recycled products and energy efficient windows and lighting	2006
	Installed energy efficient lighting, three banks per side of rink, which emits enough light when there is no one in the building for regular work crew to do business	2007
	Recycling bins on wheels purchased for events (Harvest Festival, etc.)	2008
	Toilets in City Hall, Library and Arena changed to dual flush toilets	2008
	Urinals in arena and aquatic centre changed to waterless	2008
	A+ Recycling Report Card from Manitoba Product Stewardship Corporation (MPSC)	2005 – 2009
	Upgraded to energy efficient lighting (T8) in the community hall, arena change rooms, and police renovations	2008 - 2009
	Hard good give-away once a year	2009
	Gravel road dust control (changed product to use ½ the chlorides)	2009
	Fire Hall construction incorporated green technology	2009
	Free mulch, compost, etc for Winkler residence	1992 – Ongoing
	Municipal curb-side compost pick-up 8 months of the year	1996 - Ongoing
	Used oil drop-off centre	1998 – Ongoing
	Aggressive trail expansion program	2000 – Ongoing
	Recycling bins installed throughout facilities and in parks	2000 – ongoing
	Tree planting (approximately 300 per year)	2003 – Ongoing
	Purchased energy efficient vehicles for trails, road and utility maintenance (Tool Cats, Gators & ATV's rather than trucks)	2003 - Ongoing
	Less aggressive pesticide application	2006 – Ongoing
	Holiday decorative lighting changed to LED	2006 - Ongoing
	Regular municipal fleet upgrade with new equipment meeting current emissions standards	Ongoing
Garden Valley Collegiate	Emerado school received award for most efficient school in Manitoba	2008
	Converted all parking spaces to IPLC (smart plugs), computerized to turn on and off depending on temperature and time	2000-2008 and all new installs
	Tree planting (replacement, new and shelterbelts)	1991 – Ongoing
	Reroofing program to update insulation and drainage	1992 - Ongoing
	Installed energy efficient lighting (T8) to all indoor and outdoor spaces in all school	1993 – 2010 and ongoing
	Implementation of Green Space Program	2000 - ongoing
	Aggressive recycling program (approximately 20-25% of all waste is recycled)	2000 - ongoing
	Window and door replacement projects	2005 - Ongoing
	All mechanical system upgrades include high efficiency equipment (new boiler, chillers, pumps, etc.)	2005 - ongoing
	Toilet replacement program has resulted in 83 toilets switched to low flush toilets (13L to 6L flush toilets)	2008 - Ongoing
MSTW Joint Initiatives	Regional Climate Change Workshop	2004
	Pembina Valley Development Corporation completed demand study for public transit service in Morden and Winkler	2009
	Feasibility study prepared for a regional sewage treatment plant	2010
	Household hazardous waste drop-off location alternated between communities, once a year	Ongoing

Community Emissions

Community GHG emissions are broken down into the five categories of Residential, Commercial, and Industrial Buildings, Transportation, and Solid Waste.

Residential Commercial & Industrial data was provided by Manitoba Hydro which is the Electricity and Natural Gas service provider to MSTW. There were no reported District Energy facilities located in MSTW. Use of Propane, Fuel Oil or Diesel for heating was not expected by municipal officials.

Transportation data was provided from Manitoba Public Insurance ("MPI") which has the responsibility of collecting and maintaining a vehicle database. Vehicle data was collected to describe both the type of vehicle and the type of fuel used.

Community Waste data was provided by the Solid Waste Management Project ("SWAMP") for the Town of Morden, RM of Stanley and City of Winkler. The RM of Thompson provided community waste data for the RM of Thompson. The amounts provided correspond to the actual amount deposited at the respective Waste Disposal Grounds by each municipality.

2003 Community Emissions

In the calendar year 2003, MSTW's total community GHG emissions were 165,606 metric tonnes CO_2e. Of this the largest amount was due to transportation related emissions. Transportation related emissions accounted for 102,786 tonnes CO_2e, which is approximately 62% of the total community emissions (Table 7).

Table 7. Baseline Summary of Community Emissions by Sector

Sector	CO_2e emissions (tonnes)				
	Town of Morden	RM of Stanley	RM of Thompson	City of Winkler	MSTW Planning District
Residential	10,499	1,645	324	10,308	22,777
Commercial	7,399	919	100	8,934	17,352
Industrial	4,318	311	110	7,802	12,540
Transportation	29,659	27,130	6,676	39, 321	102,786
Community Waste	2,289	479	204	7,180	10,151
Total	**54,164**	**30,485**	**7,413**	**73,545**	**165,606**

By summarizing this data according to emissions source the key contributors can be identified. In the calendar year 2003, the largest amount came from the combustion of Gasoline and Natural Gas. At 96,249 and 41,402 tonnes CO_2e respectively Gasoline and Natural Gas accounts for approximately 83% of the total emissions. All other sources each accounted for less than 10% of the total emissions (Table 8).

Table 8. Baseline Summary of Community Emission by Source

Source	CO_2e emissions (tonnes)				
	Town of Morden	RM of Stanley	RM of Thompson	City of Winkler	MSTW Planning District
Electricity	3,950	796	534	5,987	11,267
Natural Gas	18,266	2,079	0	21,057	41,402
Diesel	1,524	1,710	794	2,503	6,531
Gasoline	28,130	25,420	5,881	36,818	96,249
Propane	6	0	0	0	6
Waste	2,289	479	204	7,180	10,151
Total	**54,164**	**30,485**	**7,413**	**73,545**	**165,606**

Forecasted Community Emissions

For the year 2011, MSTW's total greenhouse gas emissions are projected to be 190,046 metric tonnes CO_2e. Of this the largest amount will be due to transportation related emissions. Transportation related emissions account for 118,133 tonnes CO_2e of the total community emissions. The breakdown by sector is shown in Table 9.

Table 9. Forecasted Summary of Community Emissions by Sector

Sector	CO_2e emissions (tonnes)				
	Town of Morden	RM of Stanley	RM of Thompson	City of Winkler	MSTW Planning District
Residential	11,662	1,963	337	12,025	25,987
Commercial	8,218	1,097	104	10,423	19,842
Industrial	4,796	372	114	9,101	14,383
Transportation	32,944	32,375	6,942	45,871	118,133
Community Waste	2,543	572	212	8,376	11,701
Total	**60,163**	**36,378**	**7,708**	**85,796**	**190,046**

By summarizing this data according to emissions source the key contributors can be identified. In the calendar year 2011, the largest amount came from the combustion of Gasoline at 110,647 tonnes CO_2e and Natural Gas at 47,334 tonnes CO_2e. All other sources each accounted for less than 10% of the total emissions (Table 10).

Table 10. Forecasted Summary of Community Emission By Source

Source	CO_2e emissions (tonnes)				
	Town of Morden	RM of Stanley	RM of Thompson	City of Winkler	MSTW Planning District
Electricity	4,387	950	555	6,985	12,877
Natural Gas	20,289	2,481	0	24,565	47,334
Diesel	1,693	2,041	826	2,919	7,479
Gasoline	31,245	30,335	6,116	42,952	110,647
Propane	7	0	0	0	7
Waste	2,543	572	212	8,376	11,701
Total	**60,163**	**36,378**	**7,708**	**85,796**	**190,046**

Corporate Emissions

Corporate GHG Emissions are broken down into the five categories of Buildings, Vehicle Fleet, Street Lights, Water & Wastewater and Solid Waste.

Buildings, Streetlights and Water & Sewage utility data was provide by Manitoba Hydro, which is the Electricity and Natural Gas service provider to MSTW. There was no reported use of District Energy or use or Diesel, Fuel Oil, or Propane in the heating or powering of municipal facilities.

Vehicle Fleet data was provided by Winkler based on their consumption records. Quantities of Gasoline, Diesel, and Propane consumed by municipal vehicles and equipment were captured here.

Corporate Waste data was not provided to AMEC by any of the MSTW areas as it was indicated that they did not collect this data in 2003 and still do not collect this data. The explanation given was that waste materials are picked up in their community collection programs.

2003 Corporate Emissions

In the calendar year 2003, the Corporate emissions from MSTW were 2,475 metric tonnes CO_2e. Of this the largest amount was due to Transportation and Buildings related emissions. These sectors accounted for 1,075 & 965 tonnes CO_2e respectively and 82% of the total corporate emissions (Table 11). No data was available for the Corporate waste emissions.

Table 11. Baseline Summary of Corporate Emissions by Sector

Sector	CO_2e emissions (tonnes)				
	Town of Morden	RM of Stanley	RM of Thompson	City of Winkler	MSTW Planning District
Buildings	633	49	20	263	965
Vehicle Fleet	203	409	265	197	1,075
Streetlights	13	4	1	27	45
Water and Sewage	92	10	4	284	389
Corporate Waste	0	0	0	0	0
Total	**941**	**472**	**291**	**771**	**2,475**

By summarizing this data according to emissions source the key contributors can be identified. In the calendar year 2003, the largest emission sources were Natural Gas and Diesel emissions, which had emissions of 1,044 and 809 metric tonnes CO_2e respectively or 75% of the corporate emissions (Table 12).

Table 12. Baseline Summary of Corporate Emissions by Source

Source	CO_2e emissions (tonnes)				
	Town of Morden	RM of Stanley	RM of Thompson	City of Winkler	MSTW Planning District
Electricity	132	21	25	177	355
Natural Gas	605	42	0	397	1,044
Diesel	83	401	233	93	809
Gasoline	120	9	32	104	265
Waste	0	0	0	0	0
Total	**941**	**472**	**291**	**771**	**2,475**

Forecasted Corporate Emissions

For the year 2011, MSTW's total GHG emissions are projected to be 2,810 metric tonnes CO_2e. Of this the largest amount will be due to transportation and building related emissions with emissions of 1,220 and 1,090 tonnes CO_2e respectively. The breakdown by sector is shown in Table 13.

Table 13. Forecasted Summary of Corporate Emissions by Sector

Sector	CO_2e emissions (tonnes)				
	Town of Morden	RM of Stanley	RM of Thompson	City of Winkler	MSTW Planning District
Buildings	703	58	21	307	1,090
Vehicle Fleet	226	488	276	230	1,220
Streetlights	15	5	2	31	52
Water and Sewage	102	12	4	331	449
Corporate Waste	0	0	0	0	0
Total	**1,045**	**563**	**302**	**900**	**2,810**

By summarizing this data according to emissions source the key contributors can be identified. In the calendar year 2011, the largest emission sources were Natural Gas and Diesel emissions, which had emissions of 1,186 and 921 metric tonnes CO_2e respectively of the corporate emissions (Table 14).

Table 14. Forecasted Summary of Corporate Emissions by Source

Source	CO_2e emissions (tonnes)				
	Town of Morden	RM of Stanley	RM of Thompson	City of Winkler	MSTW Planning District
Electricity	147	24	26	207	405
Natural Gas	673	50	0	463	1,186
Diesel	92	478	243	109	921
Gasoline	134	10	33	122	299
Waste	0	0	0	0	0
Total	**1,045**	**563**	**302**	**900**	**2,810**

2.5. Recommendations from the GHG Inventory

Based on the information gathered during the Baseline GHG Inventory, AMEC has compiled a short list of items to consider that could help to reduce the overall carbon footprint of the MSTW Planning District. Details of these programs are outlined in the sections below.

Corporate Waste

Corporate waste only refers to the waste produced through municipal operations. Unfortunately no Corporate Waste Data has been collected for any of the municipal operations. The waste collected and held in landfills is captured in the community waste section of the inventory. Without baseline data estimating the amount of waste produced by municipal departments, efforts to curb emissions from this sector cannot be measured. The Town of Morden, RM of Stanley, RM of Thompson and City of Winkler should consider performing waste audits of municipal facilities prior to implementing waste reduction or diversion goals.

Facility Energy Audits

Buildings and facilities can be a significant source of GHG emissions. Identification of potential areas of energy savings can be realized through conducting energy audits for buildings and facilities. These audits are comprised of conducting visual observations and mechanical testing of the sources of energy consumption that exist within buildings, including but not limited to building insulation, lighting, heating, ventilation and air conditioning and plug loads.

Recommendations based on energy saving opportunities are suggested for implementation to aid in overall energy cost savings. For example, green power such as solar energy and wind power may be recommended to help with total energy cost recovery and savings.

The analysis consists of performing energy savings, life cycle cost, and renewable energy generation calculations to determine the amount of energy savings that can potentially be realized through implementing recommended energy conservation opportunities.

Fleet Renewal

During the Corporate inventory it was found that 26% of emissions are generated by Gasoline & Diesel powered equipment. It is therefore prudent to, when considering ways to reduce GHG emissions, consider fuel efficiency during the normal Fleet Renewal activities.

Landfill Gas Capture Programs

Landfill gas is typically composed of 45 to 60% Methane and 40 to 60% Carbon Dioxide. One tonne of Methane is equivalent to 21 tonnes of Carbon Dioxide. By capturing and burning this gas methane is converted to carbon dioxide before it is vented to the atmosphere, thereby decreasing the tonnage CO_2e emitted without decreasing the amount of waste deposited.

Additionally given a suitable gas stream in may be possible to combust the landfill gas in a generator thereby realizing a source of electrical energy and revenue.

Community Transit

Community Transit systems have a great deal of potential to reduce GHG emissions reducing the number of vehicles travelling at a given time. They can range from encouraged car pooling to community bus service. Investigating the feasibility of a joint bus transit system between the Town of Morden and the City of Winkler would seem natural given both their size and location relative to each other.

2.6. Target GHG Emissions Reduction

Based on the 2003 Baseline Inventory Report the MSTW Planning District has committed to the following GHG emission reduction target, as recommended within the CLER Program:

- 20% below 2003 levels for municipal corporation by 2012
- 6% below 2003 levels for broader community by 2012

This translates into the reduction of:

- 495 tonnes of $C0_2e$ for the municipal corporation
- 9936.36 tonnes of $C0_2e$ for the broader community

3. Engaging the Public

3.1. Advisory Committee Mission Statement

The mission of the MSTW Climate Change Advisory Committee is to work collaboratively with the Climate Change Coordinator, local Council, MSTW Board, and the community in the development and implementation of the MSTW Local Climate Change Action Plan and the GHG emission reduction projects and activities within it. See Appendix 1 for details of the Advisory Committee members.

3.2. Advisory Committee Roles

The primary role of the MSTW Climate Change Advisory Committee is to assist the CLER Coordinator in developing a Local Climate Change Action Plan by providing the following information:

- GHG emission reduction projects currently being undertaken or desired by different groups in the broader community;
- feedback on the action plan where applicable; and,
- guidance and promotion with implementation of action plan ideas and initiatives.

The Advisory Committee roles with the public engagement initiatives include:

- assist with promotion of public consultation (PC) initiatives;
- provide CLER Coordinator with contacts and ideas for potential donations for prizes;
- provide CLER Coordinator with contacts and ideas for promoting PC initiatives; and,
- facilitate table discussions at the PC forums.

3.3. Activities Used To Gain Public Input

2004 Public Consultation

The following opportunities were highlighted in the 2004 Proceedings from the Winkler and Area Community Workshop on Climate Change (see Appendix 2 for workshop participants):

- provide residents with timers for car starters and plug-ins for cars;
- implement local bylaw to ban idling between April to October (seasonal bylaw);
- provide residents with Christmas light timers to avoid having lights on all night;
- public transportation between Morden and Winkler;
- geo-thermal conversion – ground source heat developments;
- encourage “efficient” composting and mulching;
- enhance recycling-via education;
- encourage “no-idling” program;
- describe area as “Clean and Green”;
- expand walking/biking trails, sidewalks/paths;
- joint committee (MSTW) with intent to explore ways and means to reduce GHG – form a “passion committee” to champion actions;

- collaborative efforts to establish an ethanol plant;
- continued enhancement of water conservation efforts;
- encourage home efficiency reviews (provide incentives/coupons, etc.);
- educate residents to reduce idle time, reduce short driving trips and use alternatives;
- land use planning, policies and implementation;
- greater density, solar orientation, mixed zoning, district heating, geothermal loops in at same time as water/sewer trench;
- plant trees/shrubs;
- promote carpooling to school and work;
- encourage residents to maintain vehicles (tires, tune-ups, etc.);
- public education, develop website, raise environmental awareness;
- introduce no burning by-law for certain times and places;
- promote no-idle zones;
- host open-house days at schools to increase awareness of climate change curriculum; and,
- host competitions for Power Smart construction, rebates or discounts.

CLER Program Public Consultation Initiatives

The following public consultation initiatives were used to engage the public in the action planning process: public consultation forums (Morden & Winkler), open house (Miami), online web-poll (Pembina Valley Online). All of the community engagement initiatives were advertised throughout the MSTW Planning District via numerous media methods, some of which included:

- flyers distributed to local businesses to post on community notice boards and in staff rooms;
- letters posted or emailed to local businesses informing them of the forums and requesting donations for door prizes (see Appendix 3 for list of sponsors);
- a newspaper article to inform the community prior to the forums;
- a radio interview which aired during news time on The Eagle FM;
- a LED Morden Information Community sign; and,
- online community calendars (Town of Morden, Pembina Valley Online).

Public Consultation Forums

Two public consultation sessions were organized; one in the City of Winkler and the other in the Town of Morden. Local residents were welcome to attend and share their thoughts and ideas on decreasing GHG emissions in the community.

There were 11 people who attended the public consultation forum in Winkler and 21 attended the forum in Morden. Attendees were from a variety of backgrounds and organizations. These included:

- Manitoba Agro Woodlot Program
- Stanley Soil Management Assoc.
- WBS Construction
- Pembina Valley Development Corp.
- Pembina Valley Containers
- Penner Waste Inc
- Morden Appliance Service
- Municipal/RM staff
- Taxi Business
- Retired - Zero Till Farmer
- Morden Collegiate Institute
- Eden Residential Care Service

See Appendix 4 for a list of forum participants and a detailed description of the public consultation forums, including; goals and outcomes, findings, successes, challenges, and lessons learned.

Open House Booth

An information booth was set up at an Open House in Miami, which is located in the RM of Thompson. During the four-hour Open House in Miami, approximately 25 - 30 people visited the booth and browsed through the various educational information that were available to them. Of these, six people signed up to receive regular information on the CLER program and any activities organized as a result of the action plan.

At the Miami Open House evening, ideas from the public were encouraged and gathered via an ideas board. This consisted of a large poster pad on a backboard. A summary of ideas, which will be considered for the action plan, is as follows:

- provide subsidized/free compost bins to residents;
- more efficient school bus routes;
- e-waste & household hazardous waste disposal site;
- more no-idle zones;
- bigger recycling bins in Miami; and,
- more education about composting, gardening, etc.

See Appendix 5 for a detailed description of the open house, including; successes, challenges, and lessons learned.

Online Web-Poll

An online web-poll was offered to the community on www.Pembinavalleyonline.com , which allowed individuals to vote on various initiatives that could be implemented to decrease GHG emissions.

In the first week of the online web-poll, there were 105 people who visited and voted, while, to date, another 18 votes were cast in the second week of the web-poll. Unfortunately it is not possible to know whether individuals have voted more than once on consecutive weeks or within the same week.

The online web-poll was created as five questions with each offering a choice of four responses. These questions were developed around the five streams of the CLER project and responses were gathered through ideas that were discussed at previous Advisory Committee meetings. The results of the web-poll questions were charted and included in the action plan.

See Appendix 6 for a detailed description of the web-poll questions, as well as a summary of successes, challenges and lessons learned.

4. Community Action Plan Strategies

4.1. Community Strategy 1: Education and Communication Plan

Develop a comprehensive education and communication plan to increase awareness of climate change issues within all sectors of the community.

Rationale

The demand for community education and awareness in regards to climate change issues and effective GHG emissions reduction initiatives was overwhelming at all public consultation sessions in the lead up to the action planning process. The development of a comprehensive education and communication plan would provide residents with practical information about climate change initiatives to assist in making globally responsible choices.

A demonstrable corporate commitment to reducing GHG emissions will be critical to the success of a community education and communication plan and will be shown through their support of the initiatives proposed in the plan.

Objectives

- Increase community awareness of local climate change issues and initiatives
- Provide a resource toolkit and website for residents and business owners with practical tips and strategies for decreasing GHG emissions
- Educate residents to implement green practices within the home
- Educate businesses to implement green practices within the workplace
- Engage local residents in global, national, and provincial sustainability events and initiatives
- Engage high school students and staff in national and provincial climate change initiatives
- Acknowledge the commitment of green practices by local residents and businesses
- Promote MSTW as a CLER Program participant to locals and visitors
- Increase community awareness and involvement in the CLER Program
- Promote credible information sources such as Climate Change Connection, Resource Conservation Manitoba, Environment Canada, etc.
- Prepare and utilise written and web-based material on climate change
- Respond to questions and requests for information from the community

Description of Activities

Hire a CLER Program Project Officer

MSTW municipalities will consider employing a CLER Program Project Officer (CPPO) to organize and coordinate a local advocacy Eco Champions Team and assist the MSTW Climate Change Coordinator (CCC) with organization and implementation of activities in the community Education and Communication Plan such as: the MSTW Sustainability Toolkit for Home and Small Businesses, MSTW CLER Program website, community event promotional activities, and eco event days. The CPPO will utilize the Pembina Valley Volunteer website, local media, and community event promotional activities to source volunteers.

Lead: MSTW CCC

Partners: MSTW Municipalities

Timelines: The position could be advertised immediately upon confirmation of funding for the position. The duration of the position would be dependent on funding and would ideally be filled from June – August, 2010. This time frame would enable the CCC to utilize the assistance of the employee in completing projects outlined in the community education and communication plan by the proposed deadlines.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, responsibilities of the CPPO may have varying degrees of measurability.

Additional Benefits:

- Provide employment
- Increase community involvement and a sense of pride among residents
- Strengthen regional profile as green municipalities
- Increase involvement in CLER Program initiatives resulting in empowerment of residents
- Develop a sustainability culture in the region

Budget: Funding for the project officer will be sourced through the Manitoba Green Team program as well as through the Manitoba Youth Corps program. Further funding may be provided by relevant municipal offices. Estimate for CPPO position: $4,500.

Reporting: A key measure of success will be the hiring of a CPPO and implementation of strategies from the Education and Communication Plan.

Develop a Sustainability Toolkit for Home and Small Businesses

MSTW municipalities will support the development of a resource toolkit for residents and business owners.

Information in the toolkit will include, but not be limited to; rebate/incentive programs available to residents and business owners (building retrofits, lawnmowers, energy and water efficiency, hybrid vehicles, etc.), tips and strategies for reducing GHG emissions at home and in the workplace, local green consumer options, vehicle efficiency, local green businesses, and contact information for local environmental groups and organizations.

The MSTW CCC will distribute the toolkit at the green home workshops, green business workshops, eco event days, and community event promotional activities as outlined in the community Education and Communication Plan below.

Leads: MSTW CCC

Partners: MSTW municipalities, CPPO, local businesses

Timelines: Toolkit to be completed in summer 2010 in order to distribute it among residents and business owners at the green home workshops, business workshops, eco events, and promotional initiatives. This timeline will be dependent on the hiring of a CPPO to assist with the research needed to develop a useful and user-friendly toolkit by summer, 2010.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, resources in the toolkit may have varying degrees of measurability.

Additional Benefits:

- Increase involvement in CLER Program initiatives resulting in empowerment of residents
- Develop a sustainability culture in the region
- Strengthen economy for sustainable products and services
- Educate residents to implement green practices within the home

Budget: Costs would cover stationary, printing, and research time. Estimate cost: $750.

Reporting: A key measure of success would include the number of toolkits that are developed and distributed to MSTW residents.

Develop a MSTW CLER Program website

MSTW municipalities will consider working collaboratively with the MSTW CCC to develop and promote a CLER Program website to MSTW residents.

Information on the website would include: rebate/incentive programs available to residents and business owners as outlined in the Municipal Rebate Program section of this action plan, tips and strategies for reducing GHG emissions at home and in the workplace, local green consumer options, vehicle efficiency, local green businesses, contact information for local environmental groups and organizations, and links to the regional ride-share program if adopted (Pembina Valley Travel Smart Program).

Links to the CLER Program website would be available via municipal homepages in order to demonstrate municipal support for the CLER Program.

Leads: MSTW CCC

Partners: MSTW Municipalities

Timelines: Website to be developed by July, 2010 in order to be promoted at events outlined in the Education and Communication Plan

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, resources on the website may have varying degrees of measurability.

Additional Benefits:

- Increase involvement in CLER Program initiatives resulting in empowerment of residents
- Develop a sustainability culture in the region
- Strengthen economy for sustainable products and services
- Educate residents to implement green practices within the home

Budget: Funding will be sourced from local businesses to cover the cost of a website, with links to all four MSTW municipal websites. Estimate annual cost of website design and maintenance: $500 - $1,000.

Reporting: A key measure of success will include a total number of hits on the website by 2012.

Eco event days

MSTW municipalities will encourage community participation in the following global, national and provincial eco events; ride-to-work/school days, shop-free days, car-free days, plastic-free days, earth hour, and earth day. MSTW municipalities will work collaboratively with the MSTW CCC to organise, promote and implement events such as coffeehouses and film nights in conjunction with the global, national and provincial eco events.

Eco events provide a forum to communicate climate change issues and provide practical strategies for reducing GHG emissions. Eco events can be used to showcase locally produced and ethically sourced consumer goods, as well as to distribute educational materials from Resource Conservation Manitoba (RCM), Manitoba Eco Network, and other environmentally responsible organisations.

Leads: MSTW CCC

Partners: Manitoba Eco Network, RCM, Climate Change Connection, local businesses, Garden Valley School Division, Western School Division, Morden & Winkler Friendship Centres, MSTW municipal libraries

Timelines: Eco events such as coffee houses and film nights will be promoted in line with global, national and provincial event dates as indicated by the lead organisations for each event.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, outcomes of eco events may have varying degrees of measurability.

Additional Benefits:

- Increase community involvement and sense of pride among residents
- Strengthen regional profile as green municipalities
- Increase involvement in CLER Program initiatives resulting in empowerment of residents
- Develop a sustainability culture in the region
- Strengthen economy for sustainable products and services

Budget: Estimate cost for each event is $150, which includes the hiring of a data projector, door prizes, and food and beverages. Extra costs include the hiring of a tent for outdoor events. Assuming the MSTW Planning District hosts five eco events from April – October, it would cost approximately $750, not including the hiring of a tent for outdoor events.

Reporting: A key measure of success will be the number of participants at each event and the increased demand for eco resources and information.

Media releases

The MSTW CCC will prepare information articles for the Morden and Winkler Times and Pembina Valley Online in response to public demand for information on local climate change issues and GHG emission reduction initiatives.

The MSTW CCC will develop a Green Awards program to acknowledge the commitment of green practices in the community by local residents and businesses. Details and a brief profile of award winners will be acknowledged in the local media, which will increase community involvement in the CLER Program, increase a sense of pride among residents, and encourage green practices in the community. The green awards will also provide local businesses with an opportunity to promote their eco products by donating items and services as prizes for award winners.

Leads: MSTW CCC

Partners: Pembina Valley Online, Eagle FM, Morden Times, Winkler Times, local businesses

Timelines: Media releases to be completed as necessary. Green Awards to start in April, 2010.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community and corporate awareness, education, and action. Specific tabulation is difficult to calculate; however, media releases may have varying degrees of measurability.

Additional Benefits:

- Increase community involvement
- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Strengthen economy for sustainable products and services

Budget: This initiative requires minimal funding and would depend primarily on donations for green awards and support from the local media agencies to print stories at no cost.

Reporting: The key measure of success will be the number of media releases printed from April – October, 2010, participation in the Green Awards program, and increased demand for climate change related information in the local media.

Community event promotional activities

The MSTW CCC will promote the MSTW Planning District as a CLER Program participant to locals and visitors at events including, but not limited to, the Morden Corn and Apple Festival, Winkler Harvest Festival, Back 40 Festival, Miami Festival, and the Morden Triathlon by organising an information booth, entering a cycle “float” in the parades, and facilitating the compost stations at participating festivals.

All events can be used to increase community awareness and involvement in the CLER Program and provide an avenue for distribution of CLER resources, as well as Manitoba Eco Network and RCM resources.

Leads: MSTW CCC

Partners: Morden Corn & Apple Committee, Winkler Harvest Festival Committee, Back 40 Festival Committee, Shadow Valley Race, Canada Day Celebrations Committee (Morden, Winkler, and Miami), Morden Triathlon, Miami Festival, Pembina Valley Challenge, Manitoba Eco Network, RCM

Timelines: Involvement to begin in April, 2010 and continue through the planning, implementation, and reporting process for participating festival committees.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community and corporate awareness, education, and action. Specific tabulation is difficult to calculate; however, participation in community events may have varying degrees of measurability.

Additional Benefits:

- Increase community involvement and sense of pride among residents
- Strengthen regional profile as green municipalities
- Increase involvement in CLER Program initiatives resulting in empowerment of residents
- Develop a sustainability culture in the region

Budget: Costs to include the hiring of a tent and vendor fee for the CLER information booth at local events. All resources to be distributed at the CLER information booth will be collected from RCM, Manitoba Eco Network, and other relevant environmentally responsible organisations. Estimate cost: $600.

Reporting: A key measure of success will include the number of visitors to the CLER information booth, as well as the number of resources that are distributed via the booth.

Afforestation education workshops

Afforestation is the transformation of wasteland into forest or woodland and is one of the best methods to reduce the green house effect. The Manitoba Agriculture Food and Rural Initiatives (MAFRI) Agro Woodlot Program takes in to consideration the fact that land-use decisions are made entirely by the landowner, according to planning regulations and zoning bylaws, and has offered to provide education and support services where clearing of trees is undertaken or planned.

The MSTW CCC will work collaboratively with MAFRI staff to promote the Agro Woodlot Program to local residents at the various community event promotional activities outlined in the community Education and Communication Plan.

One of these services would be a one-day community education workshop in the City of Winkler and Town of Morden. This one-day workshop would include a classroom theory and outdoor session. The MAFRI Agro Woodlot Program has a power point presentation and the services of a local arborist used to deliver the presentation. Topics include:

- tree biology – how trees function;
- planning – right tree and right location;
- planting – techniques and care for tree stock;
- maintenance – staking, mulching, watering;
- pruning – when and how to properly prune; and,
- energy efficiency (depending on type and placement of trees).

Leads: MSTW CCC

Partners: MAFRI Agro Woodlot Program

Timeline: Workshops to take place in the summer/fall, 2010.

Estimated GHG Emission Reduction Potential: 12.5 tonnes of CO_2e
This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, activities in the workshop may have varying degrees of measurability. Assuming 20 people attend the workshop and each participant plants a minimum of 250 trees in a rural area in 2010, an estimated 12.5 tonnes of carbon dioxide will be removed from the atmosphere each year.

Additional Benefits:

- Energy conservation
- Wildlife habitat
- Improved aesthetics
- Increase involvement in CLER Program initiatives resulting in empowerment of residents
- Develop a sustainability culture in the region

Budget: Costs to be determined with consultation with MAFRI staff.

Reporting: Reporting would include the number of trees planted, location of planting, and species planted. Reporting would also need to include the survival rate of the trees planted in the year following planting.

Green home workshops

The MSTW CCC will develop and implement a series of green home workshops in response to community demand for information. Potential workshop ideas that were highlighted at the public consultation forums and open house include: home and garden tours, backyard composting, vehicle maintenance, garbage and recycling, green shopping, green landscaping (eco-grass, green fertilizer, etc.), grow/shop local, green cooking and cleaning tips, energy and water efficient practices (clothes lines, changing light bulbs, fixing leaks, insulation, electronic devices and uses, and other building retrofits), and rebates and incentives for green practices.

The MSTW CCC will utilise resources provided by organisations such as the Manitoba Eco Network, RCM, and Climate Change Connection in order to reduce workshop costs.

The MSTW CCC will liaise with local businesses and community service providers to promote green initiatives and products such as composters, rain tanks, and electric or manual lawn mowers among workshop participants by offering subsidized prices and donating prizes for give-aways.

Leads: MSTW CCC

Partners: Manitoba Eco Network, Climate Change Connection, RCM, local businesses

Timelines: Workshops to occur weekly for four weeks in spring/summer, 2010.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, activities in the workshops may have varying degrees of

measurability. The workshops will be open to all residents in the MSTW Planning District with an expected audience of approximately 30 – 40 participants.

Additional Benefits:

- Increase community involvement
- Increase involvement in CLER Program initiatives resulting in empowerment of residents
- Increase sense of pride among residents
- Develop a sustainability culture in the region
- Strengthen economy for sustainable products and services

Budget: Costs include the hiring of a data projector for each workshop, travel expenses for a guest speaker from RCM, printing costs of workshop materials, and advertising. Estimate cost: $250 per workshop X 4 workshops = $1,000.

Reporting: A key measure of success includes the total number of participants in the workshops each week, as well as weekly commitments from participants on GHG emission reduction activities. Another indicator of success will be a reduction in affiliated residential and/or commercial operating costs and increased local demand for eco products and services.

Green business workshops

The MSTW CCC will work collaboratively with the Winkler and Morden Chamber of Commerce to develop and implement a series of green business workshops in response to community demand for information. Potential workshops ideas include; vehicle efficiency, office recycling and composting, energy and water efficiency initiatives (building retrofits, etc.), stationary usage and product choice, sustainable workplace practices (active transport, flexible working hours and location, etc.), e-waste disposal, and education about ISO 14001 certification.

The MSTW CCC will utilise resources provided by organizations such as the Manitoba Eco Network, Climate Change Connection, and RCM in order to reduce workshop costs.

The MSTW CCC will liaise with local businesses and community service providers to promote green initiatives and products such as composters, rain tanks, sustainable offices supplies (stationary, furniture, etc.), and energy efficient light bulbs among workshop participants by offering subsidized prices and donating prizes for give-aways.

Leads: MSTW CCC

Partners: Winkler and Morden Chamber of Commerce, Manitoba Eco Network, Climate Change Connection, RCM, local business owners and interested staff members

Timelines: Lunch time workshops to occur weekly for four weeks in the fall, 2010.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through corporate awareness, education, and action. Specific tabulation is difficult to calculate; however, activities in the workshop may have varying degrees of measurability. The workshops will be open to all business people in the MSTW Planning District with an expected audience of approximately 20 – 30 participants.

Additional Benefits:

- Increase business community involvement
- Strengthen regional profile as green municipalities
- Increase involvement in CLER Program initiatives resulting in empowerment of business owners
- Develop a sustainability culture in the region
- Strengthen economy for sustainable products and services
- Encourage businesses to adopt environmentally friendly practices and operations
- Encourage corporate commitment to eco products and services

Budget: Costs include the hiring of a data projector for each workshop, possible travel expenses for a guest speaker from RCM, printing costs of workshop materials, and advertising. Estimate cost: $250 per workshop X 4 workshops = $1,000.

Reporting: A key measure of success includes the total number of participants in the workshops each week, as well as weekly commitments from participants on GHG emission reduction activities. Another indicator of success will be a reduction in affiliated commercial operating costs and increased local demand for eco products and services.

High school challenges

The MSTW CCC will encourage school divisions in the MSTW Planning District region to participate in local, provincial, and global climate change programs such as the Envirothon Program and the EPA Climate Change Emission Calculator Kit (Climate CHECK).

Envirothon is an annual hands-on environmental education competition for high school students, designed to encourage team work, problem-solving skills, and public speaking skills while fostering an appreciation for current environmental issues.

Often referred to as the “Environmental Olympics”, Envirothon combines the exhilaration of team competition, the challenge of learning about environmental issues, and the experience of using this knowledge in hands-on activities. This approach to environmental education helps students to develop skills necessary to address environmental issues, such as team work, problem-solving, critical thinking, and public debate.

Climate CHECK is an Excel-based kit that educates high school students about climate change drivers and science by equipping them with the tools needed to understand, estimate and mitigate their high school’s GHG emissions[3].

The MSTW CCC will encourage school divisions to explore avenues to partner with the Pembina Valley Conservation District and ARocha in the promotion and delivery of climate change programs with high school students.

Leads: MSTW CCC

Partners: ARocha, PVCD, Envirothon staff, EPA, MSTW school divisions

Timelines: To begin immediately upon adoption of the action plan. Envirothon Program occurs in the spring, 2010 while the Climate CHECK resource could be introduced in the spring, 2010 or in the fall, 2010.

[3] Environmental Protection Agency

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, participation in high school challenges may have varying degrees of measurability.

Additional Benefits:

- Increase community involvement
- Increase involvement in CLER Program initiatives resulting in empowerment of students
- Increase sense of pride among students
- Develop a sustainability culture in the local high schools

Budget: Costs for this initiative are minimal and would involve the time of a staff member in the school divisions to promote and organise the high school challenges.

Reporting: A key measure of success would include the involvement of school divisions in the high school challenges.

4.2. Community Strategy 2: Sustainable Transportation

Develop a comprehensive regional sustainable transportation strategy to increase fuel efficiencies, reduce reliance on single passenger trips, and promote active transportation.

Rationale

Over one-third of Manitoba's GHG emissions come from transportation. The gasoline and diesel burned in motor vehicles emits carbon dioxide. A large percentage of these emissions come from personal transportation. The personal transportation required for day-to-day activities such as; commuting to work or school, going shopping, or travelling to recreational activities can account for a significant amount of a community's GHG emissions. In fact, personal transportation may account for upwards of half of an individual's GHG emissions. This is particularly true in Manitoban communities as they tend to be car dependent due to lower population densities.

Changing personal transportation habits can lead to real and meaningful reductions in a community's GHG emissions. Municipalities can encourage and facilitate change in their community members' transportation patterns through infrastructure, services and education or promotion. This strategy outlines some of the actions that can be taken by MSTW municipalities to facilitate behaviour change.

According to the 2003 baseline data, the transportation sector represents the largest contribution to GHG emissions in the MSTW Planning District. A 10% reduction in the number of cars on the road, particular commuter traffic in the Stanley Corridor, would contribute significantly to an overall reduction in GHG emissions in the MSTW Planning District. Conservatively, the implementation of a regional sustainable transportation strategy could reduce 9,500 tonnes of GHGs annually, with the possibility of increasing with a strong public awareness campaign.

To meet this objective, the MSTW municipalities are proposing a multi-faceted sustainable transportation strategy to be implemented over the next 2-3 years. The components of the strategy include:

- improving active transportation facilities through the creation of a network of bike paths, including a path between the City of Winkler and the Town of Morden and improved bike parking facilities and signage;
- developing and promoting a regional travel smart program;
- improving route efficiency of school busses;
- developing and implementing a school travel plan;
- implement an anti-idling bylaw; and,
- exploring a small regional public transportation system in the longer term.

The actions included in this strategy will directly impact the rate and volume of traffic in the district; however, some alternative transportation methods (i.e. cycling) are less feasible year round and will have to be supplemented in inclement weather. One issue that will need to be overcome is the attitude that "I cannot do without my car". In some instances this will be true. For others, doing without a car on a regular basis merely requires a rethinking of how they will move about their community. Reasonable alternatives are ride-sharing, public transit, or working from home. Clearly, education will be the key to the success of attitudinal change as residents embrace change with its inherent benefits.

Providing the residents of the MSTW Planning District with alternative transportation options would have significant financial benefits, as well physical health and wellbeing, while contributing to environmental health. The average cost to keep a car on the road is about $8,000.00 a year or about $660 per month (based on 12,000 km/year, including insurance, fuel, maintenance and parking).[4] A ride-sharing program would maximize resources that are already in use (75% of transportation capacity is wasted based on single-occupancy in a four-seat vehicle).

The Morden Chamber of Commerce and Winkler & District Chamber of Commerce sponsored an economic development project called the Business Retention and Expansion (BR+E) project. The BR+E report indicates the future plans/needs of local businesses and how businesses view the community as a place to do business. The report showed that a barrier to new businesses coming to this community is the lack of a transit system, specifically to the Southland Mall in the City of Winkler, recreation centres, schools, health care and the Boundary Trails Health Centre. According to the Pembina Valley Development Corporation[5], 21% of employees living and working in the City of Winkler and Town of Morden would utilize public transportation to and from work if it was made available.

The BR+E report also highlighted a concern about the dangerous road conditions for cyclists and walkers on Highway #3 between the Winkler and Morden, as well as on Pembina Valley East from Winkler to Reinfeld, and expressed the desire for a bike or walking trail in these specific areas.

Objectives

- Increase fuel efficiencies and reduce reliance on single passenger trips by implementing a Pembina Valley Travel Smart program to promote ride-sharing
- Reduce GHG emissions by providing a safe medium for active transportation options such as cycling, walking, rollerblading, etc.

[4] Winnipeg Transit
[5] Pembina Valley Development Corporation, Public Transportation Study, Phase 1

- Promote cycling as a safe and convenient active transportation option by providing cycling facilities such as bike racks, cycling route maps, and dedicated cycling paths and lanes
- Educate residents about safe cycling practices and road sharing by installing signage in heavy traffic areas
- Increase car pooling incentives by installing parking limitations at local high schools
- Reduce commuter traffic in the Stanley Corridor by providing a reliable, alternative transport option such as a regular bus service or an increased handi-van service
- Reduce GHG emissions from idling vehicles in parking and drop-off areas that do not currently have anti-idling signs
- Demonstrate municipalities commitment to reducing GHG emissions, saving energy, and promoting better air quality

Description of Activities

Implement an Anti-Idling Bylaw

MSTW municipalities aim to reduce idling in the MSTW Planning District by 23% through the implementation of an anti-idling bylaw, anti-idling signs and a broad public awareness campaign.

Canadians idle their vehicles for five to 10 minutes everyday. This wastes about 100 litres of gas a year or over $100 from our wallets. Emissions from idling contribute to as many as 1500 cases of cancer annually and aggravate respiratory and heart conditions. If every driver of a light-duty vehicle in Canada avoided idling for just five minutes a day, it would prevent more than 4500 tonnes of CO_2 from entering the atmosphere.

MSTW municipalities will consider Implementing an Anti-Idling Bylaw modelled after Chapter 517 of Toronto's Municipal Code[6]. The bylaw is intended to reduce unnecessary idling and limits idling to no more than three minutes in a given 60 minute period. The bylaw allows transit vehicles to idle when picking up or discharging passengers and also allows limited idling when transit vehicles are waiting for passengers. As well, the bylaw provides for idling during extreme outdoor temperatures to ensure heating or cooling inside a vehicle. The intention is to achieve compliance with the bylaw through voluntary measures. If these measures are not successful, the bylaw provides for a fine of up to a maximum of $1,000 for infractions of the bylaw.

Leads and Partners: MSTW municipal staff members to write the bylaws in each municipality, Councils to endorse it, municipal staff to educate the public (including signage), and law enforcement officers to issue fines for infractions of the bylaw.

Timeline: MSTW municipalities will seek Council endorsement of the bylaw in fall, 2010.

Estimated GHG Emission Reduction Potential: 697 tonnes of CO_2e
This estimate is based on 23% of the population (5,359 people) changing their behavior X 0.13 tonnes of CO_2e reduced per year[7].

[6] Toronto Municipal Code: Idling Control By-law
http://www.toronto.ca/transportation/onstreet/idling.htm
[7] Natural Resource Canada Idling Calculator
http://oee.nrcan.gc.ca/transportation/tools/calculators/Idling/idlingimpact-workplace.cfm

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Environmental health
- Physical health
- Financial savings

Budget: The Anti-Idling Bylaw is a low-cost initiative to target the reduction of local emissions. Costs include the time of municipal staff to write and endorse the bylaw. Additional costs will include educating the public and making the public aware of the new bylaw, through newspaper ads, bulletins, memos on municipal billing, and municipal websites. Estimate cost: $500.

Reporting: The key measure of success will be a reduction in municipal and community idling times. This measurement will be visual by all residents and municipal staff. To track specific reductions in GHG emissions volunteers will be posted at 'idling hotspots' to track the number of idling vehicles and time spent idling. Pre and post bylaw data will be compared using the following calculation: 0.13 tonnes CO_2e / year emitted per average vehicle idling for 5 minutes every day.

Develop a Pembina Valley Travel Smart Program

According to the Canadian Automobile Association, the average commuter spends approximately $7,500 per year or $15 per day to operate their car. These figures are based on a mid-size car driven 18,000 km annually (a 30km daily round trip) and include operating (fuel, maintenance, etc.) and ownership (financing, insurance, depreciation, etc.). Sport utility vehicle and mini-van owners can expect to spend over $9,000 annually. Ride-sharing can dramatically reduce these costs and in some cases can eliminate the need for that costly second family vehicle.

There is another, more tragic cost related to automobile use: degradation of the natural environment. Every day, millions of vehicles pump pollutants into the atmosphere; some of which fall to earth, fouling streams and contaminating crops. Others rise into the stratosphere, damaging the ozone layer and causing global climate warming – the "greenhouse effect".

Still more of these pollutants cling close to earth, inhaled with every breath we take. Air pollution is a proven cause in several lung ailments, from asthma to emphysema. Ride-sharing reduces the impact of automobiles on the roadways and the environment very simply – by travelling in groups rather than alone, ride-sharing decreases the number of vehicles on roads.

The MSTW CCC will work collaboratively with the MSTW municipalities to develop a Pembina Valley Travel Smart (PVTS) program, which will strengthen the regions commitment to reducing GHG emissions by reducing the number of vehicles on the roads. The PVTS program will include the development and implementation of a web based ride-share service and an incentive program for MSTW residents to participate in the PVTS program.

The PVTS program will have a dedicated website with links from supporting municipalities, which would be self regulated by program participants. Local businesses that choose to support the PVTS program will offer a discount as an incentive to program participants and will be recognised on the website and on the discount cards. Financial incentives will encourage ridesharing and reduce traffic congestion and associated problems.

The MSTW municipalities will explore options for using a free, web based ride-sharing service such as; www.carpool.ca, www.rideshark.com, www.eRideshare.com, or www.pickuppal.com; alternatively, municipalities will consider customizing a service specifically for the MSTW region using a web based service such as RideShark or Pathway EnRoute.

RideShark is a fully integrated solution that offers distinct advantages for a rural location. It is a full commute management system that includes ride-share matching as well as bike, walking and transit 'buddy' matching. The core ride-share module also includes a single trip matching functionality that allows users to search and find a one-time travel partner (e.g. to an event, doctors appointment, etc.). It also includes a commute tracker that allows users to record their travel each day by mode used to calculate their emissions saved (and produced).

One high level URL may be selected, such as www.pembinavalleytravelsmart.com, which would be open to all people with an origin OR destination within the Pembina Valley region. The MSTW municipalities would be able to define custom sub sites, which would allow each municipality to have their own custom branding, text, colours and links, while maintaining one central database. The RideShark software also has the capability of integrating the park and ride concept by highlighting parking lots that ride sharers can use to meet and leave vehicles in the lot in order to travel together to a common destination.

In addition to the core ride-matching system, there are additional supporting modules available that can be integrated at any time. These include incentive management (offering incentives – prizes, draws, etc. to registrants), emergency ride home, carpool parking management, integrated surveys, etc.

Pathway EnRoute is a commuter ride-matching web application similar to RideShark with the option for single site deployment or multi-site deployment which allows for company subsites for organisations within the MSTW Planning District. Pathway EnRoute is end-user driven and automated, for minimal administrative overhead, and will provide residents with a basic ride-sharing site.

Leads: MSTW Municipalities

Partners: MSTW CCC, local businesses, educational institutions, community organisations, RideShark.com, Pathway EnRoute, MSTW residents

Timelines: The RideShark software can be launched within 72 hours from the time of provision of the final files and/or information from the MSTW municipalities.

The PVTS pilot program will take place from June, 2010 to June, 2011, depending on funding opportunities.

Estimated GHG Emission Reduction Potential: 8,800 tonnes of CO_2e
This estimate is based on 10% of the MSTW population ride-sharing or biking between the Town of Morden and the City of Winkler 2-3 days a week instead of driving alone, and 5% of the MSTW population ride-sharing to Winnipeg one day per week instead of driving alone.

Additional Benefits:

- Business and resident participation in CLER Program initiatives
- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Decreased traffic congestion resulting in safer roads
- Environmental health
- Financial savings

Budget: Costs range from no fees if MSTW residents register with current web based ride-sharing programs, to higher set-up and ongoing operating fees for custom designed programs. Limited staff or volunteer time is required. Depending upon the system's set-up, some level of administration may be required to update the ride-matching service.

A custom built web based ride-matching program designed by RideShark would include a $5,000 set-up cost and a $350 monthly fee. The population of the MSTW Planning District is such that it is at the lowest price point for a public system using the RideShark software. A one-year pilot project would cost the MSTW municipalities approximately $9,200, not including cost of municipal staff time for administration duties.

A custom built web based ride-matching program designed by Pathway EnRoute would include a $250 set-up cost and a $99 monthly fee for a single site deployment. A multi-site deployment would include a $900 set-up cost and a $3,500 annual fee.

The MSTW CCC will explore options for partnering with local businesses, institutions, and municipalities outside of the MSTW Planning District boundaries, but within the Pembina Valley region, to cover costs of the PVTS program.

Costs for the park and ride aspect of the program range from low in the case of allowing parking on street or existing parking lots ($500 - $10,000 for signage, painting, and/or marketing), to medium ($35,000 to $55,000) in the case of a new parking lot. MSTW municipalities will aim to keep costs to a minimum by partnering with local businesses and institutions to utilize existing parking lot space.

Funding for the PVTS program will be sought through the MOST Program and the ecoMobility Program.

Reporting: A full administration portal provides access to data at all times for the website administrator. Administrators can filter and track emissions by modes using the RideShark software, which provides detailed and comprehensive emissions data. RideShark software also has the capability to survey user's actual commuting patterns at the start of the one-year pilot project and upon completion of the project, which would significantly reduce staffing costs required for survey delivery and would act as a useful monitoring and reporting tool. The Pathway EnRoute service allows administrative access to view user accounts, reporting, and to manage ride-sharing and incentives.

Maximise route efficiency of school busses

Garden Valley School Division to implement a software package in the fall, 2010 to maximise the route efficiency of school busses.

Leads: Garden Valley School Division

Partners: City of Winkler

Timelines: Software package to be implemented in fall, 2010.

Estimated GHG Emission Reduction Potential: 6.3 tonnes of CO_2e
This estimate is based on a total reduction of 7,500 km per year for diesel school busses averaging 7-8 miles per gallon.

Additional Benefits:

- Financial savings for GVSD
- Improved accessibility for students

Budget: To be determined with consultation with the Garden Valley School Division.

Reporting: A key measure of success will be a reduction in operating costs and improved efficiency of the bus route for the Garden Valley School Division. The software program will track the number of kilometres saved through maximising route efficiency.

School Travel Plan

MSTW school divisions will work with the guidance of Resource Conservation Manitoba's Active and Safe Routes to School program to explore options for developing and implementing School Travel Plans at divisional schools. School Travel Plans are policy and action plans that prioritize getting students more physically active while reducing greenhouse gas emissions from transportation. A School Travel Plan will provide a framework and action plan to local schools for improving engineering at or near school sites, introducing new school infrastructure, traffic safety education for pedestrians and cyclists, personal security education, community mobilization, and encouragement of physical activity and event days.

A School Travel Plan is both a policy document and a process resulting in a school specific action plan describing steps the school plans to implement such as:

- Engineering improvements at or near school sites – e.g. pedestrian crossings, repairs/upgrades to sidewalks, signage;
- Introduction of school infrastructure – e.g. bike shelters, bike racks, lockers;
- Education – e.g. traffic safety education for pedestrians and cyclists, education about personal security;
- Community mobilization – e.g. walking school buses, walking buddies, ride sharing;
- Encouragement – e.g. celebration of physical activity and environment, event days, recognition and rewards for walking/biking.

The process takes into account the local barriers to active transportation and uses a collaborative community-based approach to deal with infrastructure challenges and apply proven social marketing techniques to encourage positive behaviour change. It also promotes policy changes at the municipal scale that make the benefits and support for active school travel more sustainable.

The School Travel Planning model has been piloted by Green Communities Canada (GCC) following an evaluation of international best practices in the UK, New Zealand, Australia, and the United States. Green Communities Canada in collaboration with the Canadian Active and Safe Routes to School partnership has been engaged to pilot School Travel Planning across Canada through the Coalitions Linking Action and Science for Prevention (CLASP) initiative funded through the Public Health Agency of Canada. The Manitoba portion of this national pilot is being facilitated by RCM's Active and Safe Routes to School Program (ASRTS). While RCM has filled their funding allotment available for 12 schools in Manitoba, they are able to offer MSTW support, training and access to the School Travel Planning resources and toolkit to assist in this endeavour.

MSTW municipalities and school divisions that participate in STP pilot will be given full support by RCM throughout the School Travel Planning process (as time and resources permit). As part of this support, RCM will provide the following: assistance with identifying (hiring or appointing) a suitable STP facilitator; dedicated support and expertise provided in over the phone and face-to-face consultation (as resources permit); hands-on assistance and training, participation in walkabouts and/or action planning meetings as scheduling permits; full access to, and assistance with, the comprehensive STP on-line toolkit; and, networking and training opportunities (webinars, conference calls, phone networks, etc.) with other STP facilitators in Manitoba and Canada.

Participating MSTW municipalities and school divisions will be responsible for appointing a local facilitator to take a leadership role in the development of the STP at participating schools. Responsibilities of the facilitator will include committee coordination, surveying parents and students (through paper take-home surveys), meeting the timelines and objectives laid out in the Memorandum of Understanding between participating MSTW municipalities and the school divisions, and follow through once action plans are complete.

Leads: MSTW Municipalities, MSTW CCC, RCM

Partners: The process builds partnerships with all stakeholders including:

- school administration;
- parents and caregivers;
- police;
- school trustees;
- local city or town councillors;
- traffic engineers and planners;
- public health professionals;
- school division representatives;
- students; and,
- local residents.

These partners will work together to identify barriers to active transportation for each school and develop a written action plan for addressing those barriers.

Timelines: A meeting with all stakeholders will be organized immediately upon adoption of the CLER action plan. The School Travel Planning process can begin immediately upon confirmed participation of school divisions and municipalities.

Estimated GHG Emission Reduction Potential: 17.2935 tonnes of CO_2e per school
This estimate is based on 20% of students, at a school averaging 350 students, participating in School Travel Planning initiatives instead of getting to and from school in a vehicle an average of 3 days a week, for 27 weeks.

Additional Benefits:

- Develop a sustainability culture in the region
- Improved environmental health (reduced pollution, improved air quality, reduction in GHG emissions)
- Improved physical health of students
- Higher quality of life and improved well-being in children due to greater happiness
- Stronger community connectedness prompted by more walkable communities designed around children's mobility needs
- Decrease transportation and staff costs for school boards
- Infrastructure improvements

Budget: $2400 per school to cover the following costs; $2000 to provide the participating school with an honorarium, and $400 inclusive of any taxes to provide honoraria for the volunteers that complete the data entry of surveys. Additional funding may be required for the hiring of a facilitator to assist with the development of the STP (.25 p/t salary for six months = $4837.25).

Reporting: A key measure of success will be the number of schools who participate in the STP, as well as an increase in active transportation among students at participating schools. Surveying parents and students about their travel methods is an integral part of the STP process and will be used to report on the GHG emissions reduced.

Improved bicycle facilities and resources

MSTW municipalities will promote cycling as a safe and convenient active transportation option by providing cycling facilities such as bike racks in prominent areas, cycling route maps, and dedicated cycling paths and lanes.

MSTW municipalities will work collaboratively with the MSTW CCC and local bicycle user groups to educate residents about safe cycling practices and road sharing by installing signage in heavy traffic areas, specifically in the business districts in the City of Winkler and Town of Morden and the Stanley Corridor between the City of Winkler and the Town of Morden.

Leads: MSTW Municipalities

Partners: Bicycle user groups (triathlon clubs, fitness centres, etc.), Highway Traffic Authorities, local businesses near designated bicycle parking areas as well as municipal staff to purchase and arrange placement and installation.

Timelines: Bike safety signage and bike racks could be purchased and installed in the short term (summer, 2010), in collaboration with bicycle user groups.

Cycling route maps would involve collecting information from local cyclists and developing a map that can be accessed easily by residents (electronically on municipal websites, hard copy at municipal offices, recreation centres, visitor centres and sporting good stores). This initiative would be a short to medium term project depending on resources available.

Creating dedicated cycling paths and lanes would be a medium to long-term project.

Estimated GHG Emission Reduction Potential: 325.7 tonnes of CO_2e
This estimate is based on 5% of the MSTW population cycling between the Town of Morden and the City of Winkler 2 days a week instead of driving alone. This estimate also takes in to account people commuting between the City of Winkler and Reinfeld and Schanzenfeld.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Physical health and well-being
- Decreased traffic congestion resulting in safer roads
- Increased economic activity in the region, particularly for businesses in the Stanley Corridor
- Cycle tour potential
- Financial savings

Budget: The budget would include purchasing, shipping, and installation of bike parking facilities, as well as costs for developing bicycle route maps and development and installation of bicycle signage. Additional costs will include educating the public and making the public aware of the new equipment and encouraging active transportation throughout the year, through newspaper ads, bulletins, and municipal newsletters and websites.

Reporting: The increased availability of parking in down town core business areas would suggest an increase in active transportation. Visual inspection that the bicycle parking facilities are being used is also an indicator of success. Municipalities may also survey residents on personal transportation changes as a result of the improved bicycle facilities and resources.

Develop a series of bike and walking trails

MSTW municipalities to explore the concept of developing bike and walking trails between the City of Winkler and the Town of Morden, as well as between the City of Winkler and Reinfeld and the City of Winkler and Shanzenfeld, among other areas in the region.

Phase One: Feasibility study of connecting trail system including: expected costs; barriers to design; and, design options.

Phase Two: Source funding for implementation of trail system with highest priority as outlined in the feasibility study in phase one.

Phase Three: MSTW municipalities to construct trail system with support of local businesses, residents, Highway Traffic Authorities (HTA), and Manitoba Infrastructure and Transportation (MIT)

Leads: MSTW Municipalities

Partners: PVDC**,** Highway Traffic Authorities, local landowners, businesses in the Stanley Corridor, HTA, MIT

Timelines: Feasibility study to be completed in fall, 2010. Bike path to be completed in spring, 2011 depending on outcomes of the feasibility study

Estimated GHG Emission Reduction Potential: 652 tonnes of CO_2e
This estimate is based on 10% of the MSTW population cycling between the Town of Morden and the City of Winkler 2 days a week instead of driving alone. This estimate also takes in to account people commuting between the City of Winkler and Reinfeld and Schanzenfeld.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Physical health and well-being
- Decreased traffic congestion resulting in safer roads
- Environmental health
- Increased economic activity in the region, particularly for businesses in the Stanley Corridor
- Attract local businesses to the area due to ease of transportation within, and to, the communities
- Cycle tour potential
- Financial savings

Budget: Costs will include a feasibility study initially and then design and construction costs. Funds will be sourced from MSTW municipalities as well as from local businesses through and adopt-a-path strategy.

Reporting: A key measure of success will be a reduction in vehicles on the roads and an increase in active transportation on bike and walking trails. Traffic counts will be used to effectively measure the GHG emissions reduced.

Community transit system

The Pembina Valley Development Corporation (PVDC) completed Phase 1 of a Public Transportation Study[8] for the City of Winkler, Town of Morden, and RM of Stanley on February 4th, 2010. Results of the study were presented to the relevant municipal councils upon completion and provided councils with important information necessary for future discussions and planning regarding a community transit system.

Results of the study indicate a significant interest from employees, seniors, immigrants and students regarding the use of public transportation in the City of Winkler, Town of Morden and RM of Stanley. The report includes a summary and data from several public transportation systems that could be considered a resource in further development of public transportation in the region.

According to the SNC-Lavalin fact sheet on sustainable transportation, a shuttle service would be an appropriate public transportation option for the MSTW municipalities based on population density and locations of communities in the MSTW Planning District. Infrastructure and resources required include: small busses or large vans (require a minimum of 2 vehicles); garage or area to store the vehicles; drivers; website with rates, routes and scheduling information; and, signage at pick-up/drop-off locations.

Proposed phases to consider for implementing a community transit system the MSTW Planning District include:

> Phase one: MSTW municipalities to consider conducting a transportation baseline study of traffic in corridor and infrastructure requirements (bus stops, etc.)
>
> Phase two: MSTW municipalities to explore options for implementing a transit system between, and within, Winkler and Morden. MSTW municipalities will explore avenues for private organisations to run pilot-project as local transit business.
>
> Phase three: MSTW municipalities and/or private transportation organisation to consider expanding transit system to include transportation to other communities (Carman, Altona, Steinbach, Winnipeg, etc.)

Leads: MSTW Municipalities

Partners: Private transit organisations

Timelines: Long-term. It generally takes at least 2 years to implement a public transportation system, even with specialized consultants. More traditional public transit could possibly take longer.

Estimated GHG Emission Reduction Potential: 95,489 tonnes of CO_2e

[8] Pembina Valley Development Corporation, Public Transportation Study, Phase 1

This estimate takes in to account the findings from the PVDC Public Transportation Study, which estimated that the implementation of a public transportation system would take 235 vehicles off the road daily.

Additional Benefits:

- Develop a sustainability culture in the region
- Environmental health
- Attract local businesses to the area due to ease of transportation within, and to, the communities
- Lower travel costs for passengers
- Reduces GHG by minimizing vehicle use
- Reduces vehicle ownership
- Reduces vehicle kilometres travelled
- Reduced traffic congestion and parking demand

Budget: Implementing a public transit system will depend on significant and ongoing funding and may rely heavily on subsidies and government funding. At least one or two full time employees would be needed to administer a small scale public transit system, not including drivers if busses or shuttles are to be used.

Reporting: A key measure of success will be the number of people using the public transit system instead of personal vehicles. MSTW municipalities will explore options for conducting traffic counts to determine the number of trips that are reduced in the MSTW Planning District.

4.3. Community Strategy 3: Waste Management

Implement waste management reduction and diversion initiatives to reduce GHG emissions from landfills.

Rationale

Solid waste refers to any material, product, or by-product, for which the generator has no further use and which is discarded for management at waste disposal facilities. Waste diversion directs garbage away from landfills or incinerators through reuse, recycling, composting or gas production through anaerobic digestion. Waste diversion is a key component of effective and sustainable waste management. The focus of this strategy will be on waste diversion from all residential, industrial, and commercial sources.

On average the local landfill (SWAMP) for the Town of Morden, RM of Stanley and City of Winkler generates 26,428 tonnes of solid waste every year with an approximate increase of 4% each year[9]. The RM of Thomspon landfill generates an average of 2,350 tonnes of solid waste every year and does not anticipate much of an increase, if any, due to a push on increased recycling and composting as a result of the Provincial levy in 2011.

It is important to note that methane emissions from the SWAMP and RM of Thompson landfills are not accounted for in the corporate inventory. Under the PCP protocol, they are considered to be part of the community inventory, covering the community as a whole.

The Town of Morden, RM of Stanley, and City of Winkler, as SWAMP owners, are in a position to role model best practices in sustainable waste management by implementing

[9] Penner Waste Inc Action Plan

initiatives to decrease the amount of solid waste, compostable organics and construction and demolition (C&D) waste going to the landfill, resulting in longer lifespan for the landfill cells, as well as a decrease in the emission of greenhouse gasses and other harmful toxins.

A regional garbage bag limit will encourage residents to increase recycling opportunities and consider household composting. An organic waste disposal program for the MSTW municipalities would provide residents with alternative ways to dispose of waste resulting in diversion from landfills. Compostable organics make up between 35-60% of the volume of materials in the waste stream. The organic fraction of solid waste decomposes naturally and landfill gas is released in to the atmosphere. The landfill gas is comprised of 50% methane, which is a harmful greenhouse gas and contributes to the global warming. An organics-free waste site will produce fewer odours, less liquid leachate and the material is easier to handle and transport.

Of the average 26,428 tonnes of solid waste that is sent to SWAMP each year, an estimated 13% (3,526 tons) of waste hauled is construction and demolition waste (C&D Waste), of which an estimated 76% can be diverted[5].

According to Penner Waste Inc (PWI), C&D Waste materials suitable for recycling are “clean” lumber, shingles and cardboard. Lumber can be shredded in to wood chips and used for landscaping and/or used for mulch and compost. Shingles can be shredded and used as asphalt, dust control for municipal gravel roads, or as landfill cover. Cardboard can be made in to fuel pucks as is currently being produced by Pembina Valley Containers (PVC) in the Town of Morden.

In 2009, the Morden Chamber of Commerce and Winkler & District Chamber of Commerce sponsored an economic development project called the Business Retention and Expansion (BR+E) project. The BR+E report indicates the future plans/needs of local businesses and how businesses view the community as a place to do business. The report highlighted the need and desire for a good hazardous waste disposal program for businesses, as well as a request for more information on hazardous waste disposal options, environmental regulations, and water pollution issues. According to the study, a new service that the business community would like to see added to their community is a Business Recycling Program.

The waste management reduction and diversion initiatives outlined in this strategy are designed to decrease the volume of solid waste that results in landfill; therefore, reducing the amount of methane and hydrogen sulphide produced, reducing the amount of leachate to collect and process, and reducing odour.

Objectives

- Reduce compostable items going to the landfill
- Extend lifecycle of unwanted items
- Provide residents with alternative disposal methods to encourage composting and recycling and reduce garbage going to landfills
- Reduce household hazardous waste (HHW) items in landfills by providing more convenient HHW drop-off sites and increasing regularity of program
- Reduce plastic bags going to landfill
- Provide local businesses with economically feasible recycling options
- Reduce need for new landfills or transportation to distant landfills
- Reduced greenhouse gases and toxins
- More land for agriculture and other uses
- Improved air and water quality resulting in improved environmental and human health

- Educate residents on landfill requirements and restrictions
- Implement policy to reduce building construction and demolition waste in landfills
- Identify and consider options for methane capture and end use

Description of Activities

Freecycle Program

Freecycling, also known as Free Recycling, is the act of giving away usable unwanted items to others instead of disposing of them in landfills.

MSTW municipalities will work collaboratively with the MSTW CCC and recycling organisations to develop a Freecycle Program in the MSTW Planning District.

MSTW municipalities will consider the following phases for implementation as part of the Freeycycle Program:

Phase 1: MSTW CCC to register the MSTW Planning District on www.freecycle.org and promote the website through initiatives outlined in the community Education and Communication Plan.

Phase 2: MSTW municipalities will consider promoting and supporting a curb-side giveaway weekend on May long weekend and September long weekend in the City of Winkler, Town of Morden, and Miami. Municipalities will encourage participation by promoting the date in municipal newsletters, newspapers, notice boards, and municipal websites.

Phase 3: MSTW municipalities will consider working collaboratively with the MSTW CCC and local recycling organisations to provide a local Freecycle site in the City of Winkler, Town of Morden, and Miami. Municipalities will encourage residents to use the Freecycle sites to drop reusable household items that can not be dropped at the thrift stores (furniture, broken items, etc.), as well as to pick up reusable items that are of interest to them.

MSTW municipalities will consider installing infrastructure such as shelter, storage containers, and signage to support the Freecycle Program, as well as provide support for a volunteer repair program. The volunteer repair program would involve participation by local residents, ideally retired citizens, to volunteer their time to sort items in the Freecycle Program and complete repairs where necessary.

Leads: MSTW Municipalities

Partners: PVC, PWI, Gateway Resources, MSTW CCC, local residents

Timelines:
Phase 1: Registration to occur in May, 2010. Education to follow as outlined in the Education and Communication Plan.

Phase 2: Trial curb-side giveaway to occur on May and September long weekends, 2010 with potential to continue in following years.

Phase 3: Source funding for infrastructure and development of volunteer repair program in spring/summer, 2010. Construction of infrastructure and development of program is dependent on funding.
Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is

difficult to calculate; however, implementation of the Freecycle Program will divert items from landfills resulting in waste reduction.

Additional Benefits:

- Financially feasible
- Promotes sustainable culture of region
- Decreases landfill through promoting re-use
- Decreases illegal dumping of unwanted items
- Increase physical activity and social opportunities for senior citizens and other interested residents
- Jobs created in recycling and composting
- Increase environmentally sustainable behaviour
- Resources conserved through reuse and recycling
- Reduce need for new landfills or transportation to distant landfills
- Reduced greenhouse gases and toxins

Budget:
Phase 1: Registration with the Freecycle Program is free.

Phase 2: Advertising costs for the City of Winkler, Town of Morden, and Miami

Phase 3: Budget to include cost of covered shelter for recycling bins or storage containers similar to shipping containers, as well as staffing costs to manage the Freecycle sites and develop a volunteer repair program.

Reporting: A key measure of success will be the number of people using the online Freecycle website, as well as the Freecycle sites in the City of Winkler, Town of Morden and Miami. Another key measure of success will be the number of residents who participate in the curb-side giveaway weekends in May and September. A reporting system can be included in the volunteer repair program to monitor the number of items being moved through the Freecycle sites, resulting in direct diversion from landfills.

Plastic-Free Campaign

MSTW municipalities will consider promoting and supporting the limitation or elimination of plastic shopping bags and plastic bottles in the MSTW Planning District, in support of Manitoba's aggressive 50% reduction target[10]. MSTW municipalities and the MSTW CCC will work collaboratively to encourage businesses, schools, and residents to go 'plastic free' through education and awareness at the various eco-event days and workshops outlined in the community Education and Communication Plan.

The MSTW CCC will promote the worldwide event, 'No Plastic Day', on June 8th, 2010. No Plastic Day is intended to bring awareness of the over consumption of disposable plastic goods such as plastic bags and bottles. No Plastic Day initiatives include using re-usable shopping bags, drink water from taps or buy drinks in aluminium cans (if necessary), and limiting the creation of garbage.

Municipalities will consider banning or phase out the sale and purchase of bottled water in municipally-owned facilities and at municipal events and encourage the use of drinking fountains and re-usable water bottles. Municipalities will ensure access to tap water by

[10] Manitoba Conservation – a Manitoba solution for plastic bags
http://www.gov.mb.ca/conservation/pollutionprevention/plastic_bags.html

exploring options for installing and maintaining drinking water fountains in municipally-owned facilities and at municipally-sponsored events.

School divisions and local businesses will consider banning or phasing out the sale and purchase of bottled water in public facilities and encourage the use of drinking fountains and re-usable water bottles.

Leads: MSTW Municipalities

Partners: School divisions, local businesses, residents, MSTW CCC, Morden and Winkler Chamber of Commerce

Timelines: Education and awareness to occur in line with the community Education and Communication Plan.

MSTW municipal councils will consider passing a resolution to ban the sale of bottled water in municipal facilities and at municipal events by September, 2010. Sample resolutions can be found in the Blue Communities Project Guide[11].

School divisions and local businesses will consider the ban or phase out of sale and purchase of bottled water in school division facilities and businesses by December, 2010.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, implementation of the Plastic Free Campaign will divert items from landfills resulting in waste reduction.

Additional Benefits:

- Decrease plastic bags and plastic bottles in landfills and in waterways
- Increase community and business participation in CLER Program initiatives
- Promote sustainable culture in region
- Increases corporate goodwill resulting in customer satisfaction and loyalty
- Reduced greenhouse gases and toxins
- Significant financial savings by using tap water

Budget: Education and awareness campaign: $300 for advertising and promotional materials (re-usable water bottles as give-aways at municipal events, etc.). Municipal staff time to pass resolution in council meeting and implement in all municipal facilities and at all municipal events. Infrastructure costs of installing water fountains in public spaces.

Reporting: Measures of success would include the decrease in purchasing of bottled water at all local businesses, a decrease in plastic water bottles and plastic bags in the landfills as well as at the recycling depots, and a decrease in plastic bags distributed at grocery stores and shopping outlets and an increase in sales of re-usable shopping bags.

[11] The Council of Canadians – Blue Communities Project Guide
www.canadians.org/water

Municipal Organic Waste Disposal Program

MSTW municipalities will explore options for developing a municipal organic waste disposal program.

The organic waste disposal program would involve a phased in approach where municipalities start with education and incentives for backyard composting and work up to an annual curb-side pick up service.

The waste management reduction and diversion phases outlined in this action are designed to decrease the volume of solid waste that results in landfill; therefore, reducing the amount of methane and hydrogen sulphide produced, reducing the amount of leachate to collect and process, and reducing odour.

Municipalities can use compost product in their municipal operations for top dressing sports fields, golf course fairways, turf establishment, soil blends, parks and gardens; as well as, provide compost to residents for home use. Emerging product uses include land reclamation, erosion control, sediment removal, natural retaining walls, and surface water treatment[12].

Phase 1: The MSTW CCC will work collaboratively with RCM and local master composters to educate residents and business owners on backyard composting and regulations for current curb-side compost program. Compost education will occur as part of the community Education and Communication Plan with a specific session on composting at the green home and green business workshops.

MSTW municipalities and the MSTW CCC will organise backyard compost workshops in the City of Winkler, Town of Morden, and Miami in May/June, 2010, and will follow up with a Master Composter course in one of the communities in the fall, 2010. MSTW municipalities will consider offering residents subsidized compost bins and rainwater tanks as part of this initiative.

Phase 2: MSTW municipalities to explore the concept of purchasing a regional BIOvator^{TM} for a compost program with restaurants and institutions with cafeterias, such as; Salem Home, Tabor Home, Boundary Trails Hospital, and school cafeterias. Municipalities will also give residents the option of bringing their food waste to a central location. The BIOvator^{TM} removes the problem of sorting meat from vegetable matter, which has been noted as being one of the main roadblocks to restaurants implementing compost programs.

The BIOvator^{TM} is a combination of a device and process, targeting the quickest transformation of animal carcasses into consistent, quality compost at the lowest possible cost and management effort. The company, Nioex Systems Inc, aims to provide high quality, cost-effective environmentally and socially acceptable solutions for organic waste disposal[13].

The BIOvator^{TM} is easy to operate. Simply load organic waste into the vessel, turn it on for a few hours daily, and nature takes care of the rest. This reduces employee-operating time to achieve the desired composting results. It operates year round, eliminating the challenge of winter composting. As a bonus, the BIOvator^{TM} produces high and consistent quality compost that can be used as a soil enhancer, fertilizer, bedding material, and to control soil erosion of lagoon banks.

[12] Compost Council of Canada, *Basics of Municipal Composting Participant Handbook*, March 16, 2010, Winnipeg Manitoba
[13] Nioex Systems Inc. http://nioex.com/about

Phase 3: Extend curb-side compost pickup in the Town of Morden and City of Winkler to weekly, year-round service.

Leads: MSTW Municipalities

Partners: MSTW CCC, local businesses and institutions

Timelines:
Phase 1: April – October 2010

Phase 2: To be implemented in the short-medium term depending on funding.

Phase 3: To be implemented in the medium-long term depending on funding.

Estimated GHG Emission Reduction Potential:
Phase 1: The average household's organic waste produces 0.23 tonnes of CO_2e if sent to the landfill. Assuming 60 people purchase a backyard composter and 70% of those people use it, 9.66 tonnes of CO_2e will be reduced based on the following calculation: 0.23 tonnes CO_2e X the number of people targeted at 70% participation rate (42).

Phase 2 & 3: Estimating GHG emission reduction potential for phase 2 & 3 will depend on which specific organisations and institutions participate in the program and will be based on the following calculation: 1 tonne of organic waste produces 1.39 tonnes of CO_2e X the tonnage of organic waste estimated to be produced by the participating organisations and institutions.

Additional Benefits:

- Landfill avoidance
- Pathogen reduction
- Plant disease suppression
- Participation of residents in CLER Program initiatives
- Strengthen the sustainability culture of the region
- Lengthen lifespan of landfill (financial savings)
- Improved environmental health

Budget:
Phase one will cost approximately $500 and will include travel and accommodation for the RCM staff member to conduct the Master Compost course. Additional costs include hiring of a data projector for the compost workshops and room hire where applicable, as well as meals for staff and participants of the Master Compost course.

Costs associated with phase two include approximately $30,000 for the purchase of a BIOvator™, municipal staff time for training and management, as well as organisation of organic pick-up from restaurants and institutions.

Phase three costs are dependent on private tender fees for a weekly curb-side program and will fluctuate annually.

Reporting: Key measures of success include: number of participants in attendance at compost workshops, number of compost bins sold through the municipal rebate program, and the number of restaurants and institutions participating in the BIOvator™ organic compost program. A key measure of success for the BIOvator™ program and the weekly curb-side pick up program is the amount of organic waste that is diverted from the landfill.

Adoption of a two bag garbage limit

MSTW municipalities will consider adopting a regional garbage bag limit of two bags to restrict the amount of waste being hauled to the landfill. This initiative will be delivered in conjunction with initiatives from the Freecycle Program and the Municipal Organic Waste Disposal Program in order to provide residents with alternative waste disposal methods.

MSTW municipalities will consider providing residents with an option to purchase additional garbage bag tags if the two bay limit is exceeded.

Leads: MSTW Municipalities

Partners: PVC, PWI, SWAMP

Timelines: MSTW municipalities will consider adopting a regional garbage bag limit upon adoption of the action plan in spring, 2010.

Estimated GHG Emission Reduction Potential: 1,635.8 tonnes of CO_2e
According to Penner Waste, the company responsible for waste disposal in the City of Winkler, the average household in Winkler produces 4 bags of waste per week. Assuming there are 3,280 households in the City of Winkler[14], each producing 4 bags every week for 52 weeks in the year, a two bag garbage limit could reduce up to 1,635.8 tonnes of CO_2e annually. This estimate is based on the assumption that people will limit their garbage, as opposed to paying for additional garbage bag tags.

Additional Benefits:

- Promotes regional unity and commitment to recycling and landfill diversion
- Create efficiency for future regional waste management depot
- Financial savings
- Reduction in landfill demands
- Strengthen the sustainability culture of the region
- Promote composting and recycling in the community

Budget: Cost will include time of municipal staff to implement the two bag garbage limit and develop and deliver education and awareness material. Municipal staff will be required to administer additional garbage bag tags if municipalities decide to offer this service to the public.

Reporting: A key measure of success will be a decrease in the amount of garbage going to landfills, as well as an increase in alternative waste disposal initiatives outlined in the Municipal Organic Waste Disposal Program. Reporting will also include tracking the number of additional garbage bag tags sold and the number of garbage bags that are picked up by collectors.

[14] Statistics Canada Community Profile Report
www.statcan.gc.ca

Extension of Hazardous Waste Disposal Program

MSTW municipalities will work collaboratively with Green Manitoba to explore options for expanding the current Household Hazardous Waste (HHW) Disposal Program to encompass disposal sites in the City of Winkler, Town of Morden and Miami, with year round storage capabilities.

Leads: MSTW Municipalities

Partners: PVC, PWI, Gateway Resources, Green Manitoba, Miller Enterprises

Timelines: Opportunities for extending of the current HHW Disposal Program can be explored immediately after the adoption of the action plan; however, implementation of the program will require consultation and support from Green Manitoba, resulting in a short to medium term project.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, extension of the HHW Disposal Program will divert items from landfills resulting in waste reduction.

Additional Benefits:

- Landfill avoidance
- Pathogen reduction
- Increase business community involvement in CLER Program initiatives
- Promote sustainable culture in the business community
- Reduce need for new landfills or transportation to distant landfills
- Reduced greenhouse gases and toxins

Budget: To be determined with consultation with the MSTW municipalities, private tenders, and Green Manitoba.

Reporting: A key measure of success will be the amount of hazardous waste materials collected at the disposal sites and will be tracked as it comes in by weight.

Business Recycling Program

In response to feedback from the BR+E report, the MSTW municipalities will work in conjunction with the Winkler and Morden Chamber of Commerce offices to explore options for developing a recycling program for businesses in the MSTW region.

MSTW municipalities and Chamber offices will consider supporting a business recycling program that distributes free green bins to businesses, instead of current distribution of 6 yard garbage bins, and then requires the individual businesses to purchase a waste bin as needed. Implementation of this program will require collaboration with local businesses as well as a strong education and awareness campaign to encourage the desired sustainable behaviour changes among local business owners.

Leads: MSTW Municipalities

Partners: PVC, PWI, Gateway Resources

Timelines: Municipalities will consider developing a business recycling program immediately after the adoption of the action plan. Implementation of the program will require consultation and support from the local businesses, resulting in a short to medium term project.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, implementation of a business recycling program will divert items from landfills resulting in waste reduction.

Additional Benefits:

- Landfill avoidance
- Pathogen reduction
- Increase business community involvement in CLER Program initiatives
- Promote sustainable culture in the business community
- Resources conserved through reuse and recycling
- Reduce need for new landfills or transportation to distant landfills
- Reduced greenhouse gases and toxins

Budget: To be determined with consultation with the MSTW municipalities and private tenders.

Reporting: A key measure of success will be the amount of items that are diverted from the landfill, as well as an increase in the number of garbage bins that are purchased for businesses in the MSTW Planning District.

Building Material Recycling Program

MSTW municipalities will explore avenues for developing a regional Building Material Recycling Program in order to provide builders with an alternative to dropping construction and demolition waste (C&D waste) at landfills. Penner Waste Inc. has developed a comprehensive action plan for the diversion of C&D Waste from local landfills in the MSTW region[15], which could prove to be a valuable resource to the MSTW municipalities when considering a program of this magnitude.

MSTW municipalities will consider the following actions for inclusion in the Building Material Recycling Program: municipal support for a regional drop-off depot to facilitate the diversion of recyclable C&D waste; landfill ban on wood, shingles and cardboard materials; implementation of a three-bin recycling policy or incentive for building and demolition permits; and, municipal support for compulsory inclusion of recycled shingles in all asphalt tenders for municipal operations.

Leads: MSTW Municipalities & MSTW Planning District

Partners: PWI, PVC, Gateway Resources, Green Manitoba, SWAMP

Timelines: Due to the complexity of this program and the collaboration required from various stakeholders for successful implementation of the program, this program will need to be phased over a medium to long period of time.

[15] Penner Waste Inc Action Plan

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, implementation of the Building Material Recycling Program will divert items from landfills resulting in waste reduction.

Additional Benefits:

- Substantial decrease in landfill
- Strengthen the sustainable culture among building and construction companies
- Strengthen the sustainable profile of the region
- Decrease landfill demands
- Lengthen the lifespan of the building materials

Budget: To be determined with consultation with the MSTW municipalities, MSTW Planning District Board, and private tenders.

Reporting: A key measure of success will be the amount of C&D waste diverted from the landfill, as well as an increase in the number of recycling bins used on construction sites.

Regional Zero Waste Policy

MSTW municipalities will explore avenues for working collaboratively with the Manitoba Government to fund a feasibility study for a Regional Zero Waste Policy. The study will provide recommendations for best practice sustainable waste management strategies for consideration and implementation by the MSTW municipalities.

Leads: MSTW Municipalities

Partners: Manitoba Government, SNC-Lavalin, SWAMP, RM of Thompson landfill management, municipal compost and recycling depots.

Timelines: Feasibility study to be completed in spring/summer, 2010 with implementation of recommendations to follow based on funding and municipal support.

Estimated GHG Emission Reduction Potential: A feasibility study alone will not result in any reductions in GHG emissions; however, the study will present options for reducing GHG emissions, specifying by how much and at what cost.

Additional Benefits:

- Environmental health
- Physical health
- Extended life of landfill (financial savings)
- Strengthen the sustainable profile of the region

Budget: Costs include the feasibility study, with implementation of specific projects incurring further costs.

Reporting: A key measure of success will be the implementation of recommendations from the feasibility study, an increase in waste diversion initiatives, and a decrease in the amount of items ending up in the landfill.

Methane capture study

The Town of Morden, RM of Stanley and City of Winkler will work collaboratively with Manitoba Hydro explore options for conducting field-testing to determine the quality and quantity of the landfill gas that can be captured at the SWAMP landfill site. An additional study will also be done on the economic feasibility of utilizing the landfill gas for various end uses.

Leads: MSTW Municipalities

Partners: MB Hydro, SWAMP

Timelines: This is a long term project to be considered for implementation in 2011.

Estimated GHG Emission Reduction Potential: A feasibility study alone will not result in any reductions in GHG emissions; however, the study will present options for reducing GHG emissions, specifying by how much and at what cost.

Additional Benefits:

- Environmental health
- Financial savings
- Strengthen the sustainable profile of the region

Budget: The methane capture study is dependent on funding with initial costs to cover field-testing and a feasibility study.

Reporting: The key measure of success will be how much landfill gas is captured and utilized, resulting in a reduction in GHG emissions in to the atmosphere.

4.4. Community Strategy 4: Municipal Rebate Program

Develop a Municipal Rebate Program to encourage eco responsibility in order to reduce GHG emissions from community operations.

Rationale

MSTW municipalities will explore options for providing incentives for residents to make better environmental choices and to adopt sustainable behaviours by investing in energy-efficient improvements for their homes and workplaces.

The MSTW municipal rebate program would involve working with local businesses and residents to encourage eco responsibility in order to reduce GHG emissions. The program models the municipal rebate program from the Town of Virden's CLER Action Plan[16].

Local businesses in the MSTW Planning District will be provided with the opportunity to participate in the program by committing to the promotion of environmentally friendly products and services, as well as by permitting rebate program literature to be available to residents in stores. Local businesses will benefit from participation in the program through advertising and promotional materials as part of the public education and awareness campaign for the rebate program.

[16] Leaders in Eco-Responsibility: Virden's CLER Action Plan, prepared by Shauna Lupaschuk CLER Coordinator, March 4, 2010.

MSTW municipal commitment allows for funds allocated for one incentive to be used for another, not exceeding $11,200, based on the success of each rebate. The total cost of the proposed rebate program is $13,500, which includes $11,200 worth of rebate allocations, administrative and promotional costs.

The total GHG emissions reduction potential = 90.9553 tonnes of CO_2e.

Objectives

- Reduce GHG emissions from residential operations
- Encourage residents to make better environmental choices
- Encourage sustainable behaviours among residents
- Highlight environmentally friendly alternatives for household activities

Description of Activities

$50 Lawn mower rebate

MSTW municipalities will consider supporting a $50 rebate in the form of an in-store coupon, immediately redeemable at the time of sale, on the purchase of new electric or push mowers.

MSTW municipalities will seek the support of local businesses by sourcing an electric or push-mower prize to be drawn from names of customers purchasing eco-products during a specified time frame.

Leads: MSTW Municipalities

Partners: Relevant local retail outlets

Timelines: MSTW municipalities will work to initiate the rebate program in the spring/summer, 2010.

Estimated GHG Emission Reduction Potential: 36 lawn mowers X .0096 tonnes CO_2e/year/lawnmower = 0.3456 tonnes of CO_2e or 345.6 kilograms.

Additional Benefits:

- Reduction in residential operating costs
- Educate residents on sustainable practices
- Cost savings on local products
- Increase in the demand and sale of environmentally friendly products

Budget: Without an estimate from comparative programs, MSTW municipalities will consider providing funding to a maximum of $1,800.

Reporting: A key measure of success will be a reduction in affiliated residential and/or commercial operating costs and increased local demand for environmentally friendly products and services. The number of rebates given will provide a means of monitoring and reporting for this initiative.

$50 Low or dual flush toilet rebate

MSTW municipalities will consider supporting a $50 rebate in the form of an in-store coupon, immediately redeemable at the time of sale, on the purchase of an eco-friendly, or low-flow toilet.

Leads: MSTW Municipalities

Partners: Relevant local retail outlets

Timelines: MSTW municipalities will work to initiate the rebate program in the summer, 2010.

Estimated GHG Emission Reduction Potential: 80 toilets X 41.0625 L = 3,285,000 litres of water per year = 0.0657 tonnes of CO_2e.

Additional Benefits:

- Reduction in residential operating costs
- Educate residents on sustainable practices
- Cost savings on local products
- Increase in the demand and sale of environmentally friendly products

Budget: MSTW municipalities will consider providing funding to a maximum of $4000, which will cover the cost of approximately 80 toilets.

Reporting: A key measure of success will be a reduction in affiliated residential and/or commercial operating costs and increased local demand for environmentally friendly products and services. The number of rebates given will provide a means of monitoring and reporting for this initiative.

$30 Rain barrel rebate

MSTW municipalities will consider supporting a $30 rebate in the form of an in-store coupon, immediately redeemable at the time of sale, on the purchase of a rain barrel.

Leads: MSTW Municipalities

Partners: Relevant local retail outlets

Timelines: MSTW municipalities will work to initiate the rebate program in the summer, 2010.

Estimated GHG Emission Reduction Potential: 40 rain barrels X 200 L = 8,000 litres each fill, at several fills per year. Estimation is 1kg of GHG emission reduction potential.

Additional Benefits:

- Reduction in residential operating costs
- Educate residents on sustainable practices
- Cost savings on local products
- Increase in the demand and sale of environmentally friendly products

Budget: MSTW municipalities will consider providing funding to a maximum amount of $1,200.

Reporting: A key measure of success will be a reduction in affiliated residential and/or commercial operating costs and increased local demand for environmentally friendly products and services. The number of rebates given will provide a means of monitoring and reporting for this initiative.

$20 Compost bin rebates

MSTW municipalities will consider supporting a $20 rebate in the form of an in-store coupon, immediately redeemable at the time of sale, on the purchase of a compost bin.

Leads: MSTW Municipalities

Partners: Relevant local retail outlets

Timelines: MSTW municipalities will work to initiate the rebate program in the summer, 2010.

Estimated GHG Emission Reduction Potential: 60 compost bins/homes = 13.8 tonnes of CO_2e based on the calculations below:

- Average household of four has 22.5kg of waste per week[17] x 52 weeks = 1.7 tonnes of waste per year per home.
- Average Manitoba household has 2.5 people, therefore the average Manitoban household waste is 0.731325 tonnes per year.
- If 23% of waste stream is compostable (*EPA), then household compostable waste is 0.1681875 tonnes per year.
- X methane coefficient results in 0.23 tonnes of CO_2e per year per household.
- IF 60 households in the MSTW Planning District region composted all their organic, compostable material, then emissions may be reduced by 13.8 tonnes CO_2e.

Additional Benefits:

- Reduction in residential operating costs
- Educate residents on sustainable practices
- Cost savings on local products
- Increase in the demand and sale of environmentally friendly products

Budget: Without an estimate from comparative programs, MSTW municipalities will consider providing funding to a maximum of $1,200.

Reporting: A key measure of success will be a reduction in affiliated residential and/or commercial operating costs and increased local demand for environmentally friendly products and services. The number of rebates given will provide a means of monitoring and reporting for this initiative.

[17] GreenRegistry.org waste calculator)
http://www.greenregistry.org/residents_measureyouremissions_calculators_waste2.cfm

$20 Programmable thermostat rebate

MSTW municipalities will consider supporting a $20 rebate in the form of an in-store coupon, immediately redeemable at the time of sale, on the purchase of a programmable thermostat.

Leads: MSTW Municipalities

Partners: Relevant local retail outlets

Timelines: MSTW municipalities will work to initiate the rebate program in the summer, 2010.

Estimated GHG Emission Reduction Potential: 90 thermostats X 0.85 tonnes CO_2e = 76.5 tonnes of CO_2e.

Additional Benefits:

- Reduction in residential operating costs
- Educate residents on sustainable practices
- Cost savings on local products
- Increase in the demand and sale of environmentally friendly products

Budget: Based on estimates from the Virden CLER Action Plan, MSTW municipalities consider providing funding to a maximum amount of $1,800.

Reporting: A key measure of success will be a reduction in affiliated residential and/or commercial operating costs and increased local demand for environmentally friendly products and services. The number of rebates given will provide a means of monitoring and reporting for this initiative.

$3 Seasonal lighting rebate

MSTW municipalities will consider supporting a $30 rebate in the form of an in-store coupon, immediately redeemable at the time of sale, on the purchase of energy-efficient LED seasonal lighting.

Leads: MSTW Municipalities

Partners: Relevant local retail outlets

Timelines: MSTW municipalities will work to initiate the rebate program in the fall/winter, 2010.

Estimated GHG Emission Reduction Potential: 400 strings of lights X (equivalent) on for 6 hours per day = .00000675 CO_2e X 400 = .0027 per day X 90 days = 0.243 tonnes of CO_2e or 243 kilograms.

Additional Benefits:

- Reduction in residential operating costs
- Educate residents on sustainable practices
- Cost savings on local products
- Increase in the demand and sale of environmentally friendly products

Budget: Based on estimates from the Virden CLER Action Plan, MSTW municipalities will consider providing funding to a maximum amount of $1,200.

Reporting: A key measure of success will be a reduction in affiliated residential and/or commercial operating costs and increased local demand for environmentally friendly products and services. The number of rebates given will provide a means of monitoring and reporting for this initiative.

5. Corporate Action Plan Strategies

5.1. Corporate Strategy 1: Green Landscaping

Improve the green landscaping practices of the MSTW municipalities to decrease GHG emissions from municipal operations.

Rationale

In comparison to conventional landscaping, green landscaping is inherently low maintenance and can foster a new relationship of urban environmental stewardship[18]. Implementing green landscaping strategies such as energy efficient lawn care practices, environmentally friendly fertilizers, and tree planting has the potential to significantly improve the health and quality of life in our communities, while promoting municipal environmental stewardship.

Adopting green landscaping practices can reduce or eliminate the need for pesticides, create habitat and help preserve biodiversity, and improve air and water quality. Implementing energy efficient lawn care practices creates stronger grasses with deeper roots, which results in less watering, better insect resistance, and improved weed suppression. It is also easier on the mower, produces less grass clippings, reduces GHG emissions, and saves fuel and money.

Trees alter the environment in which we live by moderating climate, improving air quality, conserving water, and harbouring wildlife. Planting trees not only off-sets carbon emissions but provides stability within the land environment. It restores ecological balance of all ecosystems, maintains biological diversity, acts as catchments for the soil and water conservation, stabilizes soils, prevents flooding, prevents soil erosion, acts as windbreaks, and stabilizes the climate.

Through the increased promotion of environmental sustainability, and by integrating the application of environmental performance considerations in its procurement process, the MSTW municipalities are in a position to influence the demand for environmentally preferable goods and services and the ability of industry to respond to the escalating use of environmental standards in global markets[19]. A Green Procurement Policy would ensure products purchased for landscaping purposes are aligned with green landscaping outcomes, such as; lawn mowers, fertilizer, sprinkler systems, mulch, and rain water tanks.

Objectives

- Reduce GHG emissions through the development of an afforestation/tree planting program
- Improve efficiency of municipal operations
- Develop a sustainability culture at the municipal level

[18] Evergreen Common Grounds. Urban Naturalization in Canada: A policy and program guidebook, http://www.evergreen.ca/docs/res/Urban-Naturalization-in-Canada-1.pdf

[19] Government Canada. Policy on green procurement, http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html

Description of Activities

Improve efficiency of grass cutting procedures

MSTW municipal operations will consider implementing high efficiency grass cutting procedures in spring, 2010 in municipal parks and recreation areas. Examples of high efficiency grass cutting procedures include cutting grass at a different height and less-regularly to result in a reduction in GHG emissions from grass cutting machinery.

MSTW municipalities will also explore the options for purchasing grass that does not grow as quickly for new developments such as playing fields for parks and recreational areas.

Leads: MSTW Municipalities

Timelines: High efficient grass cutting procedures to begin in spring, 2010

Estimated GHG Emission Reduction Potential: Calculations will be dependent on the type of lawn mowers used, the approximate acreage of municipal parks and recreation areas mowed, and the number of times these areas are currently mowed compared to the number of times these areas will be mowed after the new procedures are in effect.

Additional Benefits:

- Develop a sustainability culture at the municipal level
- Educate municipal staff on sustainable practices
- Increase environmental health
- Decrease in demand on municipal staff
- Financial savings
- Reduction in GHG emissions

Budget: There are no costs associated to implementing this initiative; in fact, municipalities can expect energy savings from immediate implementation, as well as several other environmental health benefits.

Reporting: An indicator of success is a decrease in mowing duration and a reduction in the amount of fuel used per municipality.

Adopt a Tree Planting Program

MSTW municipalities will consider adopting an afforestation/tree planting program in conjunction with the MAFRI Agro Woodlot Program and/or the Trees for Tomorrow program[20] who are committed to planting 5 million trees by 2012.

The Trees for Tomorrow program is a join initiative between the Province of Manitoba and the MFA and while the program is focused on planting trees to extract large amounts of carbon dioxide from the air and reduce the levels of climate – changing greenhouse gases in the air, it also knows that trees can reduce soil erosion, create wildlife habitat, enhance the beauty of property and even have health benefits for humans.

[20] Province of Manitoba and the Manitoba Forestry Association (MFA) Trees for Tomorrow program http://www.gov.mb.ca/conservation/forestry/t4t.html

Depending on the parcel of land, and on the plan that is developed, Trees for Tomorrow can provide municipalities with the following services: site inspection; the development of a site plan; free seedlings; site preparation; overseeing the planting; tending the young trees; and, follow-up survival assessments.

The MAFRI Agro Woodlot Program will assist municipalities with realizing the potential of wooded property and promote stewardship of the land by providing municipalities with the following services: planting trees for beauty or profit; attracting more wildlife; creating trails for hiking, skiing, or snowmobiling; harvesting wood from the land; protecting trees from fire, insects, and diseases; collecting maple syrup or harvest mushrooms; and, protecting water quality and soil productivity.

MSTW municipalities will consider meeting with MAFRI Agro Woodlot Program staff to identify and prioritise areas to focus tree planting efforts, source stock and/or funding for stock, help implement/co-ordinate planting and monitor.

Examples of opportunities for planting in the Town of Morden include the new spray park, sportsplex development north of 1st street, and the Tree Planting Plan for Lake Minnewasta and Deadhorse creek. The RM of Thompson has recognised the local landfill as a potential location that would benefit from a tree planting program.

Utilization of timber from a clear and conversion project creates an economic opportunity while helping to improve the environment. Saw logs harvested from these projects are typically bulldozed into a pile and eventually burnt thus releasing the carbon into the atmosphere. If the trees are utilized and sent to a saw mill and manufactured into a wood product the carbon in the wood is effectively stored for the lifetime of that product and therefore reducing green house gas emissions.

MSTW municipalities will consider working collaboratively with the MAFRI Agro Woodlot Program for all potential harvesting activities. Program staff can visit interested sites and prepare a Timber Assessment, which identifies species, volume and potential markets. Once contacted, the MAFRI Agro Woodlot Program can provide the landowner with a list of loggers who may be interested in harvesting and willing to pay stumpage for access to wood.

MAFRI knows that proper woodlot management is an integral part of land stewardship. Our actions affect not only forests, but the trees around us. That is why the MAFRI Agro Woodlot Program provides landowners with the tools they need to make informed decisions around their woodlots.

Leads: MSTW Municipalities

Partners: MAFRI Agro Woodlot Program and MFA Trees for Tomorrow Program.

Timeline: MSTW municipalities will make contact with staff from the MAFRI and the Trees for Tomorrow Program immediately after adoption of the action plan to discuss tree planting options for the 2010 planting season.

Estimated GHG Emission Reduction Potential: 5 tonnes of CO_2e
Assuming each MSTW municipality plants a minimum of 500 trees in a rural area in 2010, a estimated 5 tonnes of carbon dioxide will be removed from the atmosphere each year. This estimate is based on the following calculation: 2000 trees planted ÷ 360 = estimated tonnes of carbon dioxide removed each year[21]. This equation assumes that seedlings planted will live an average lifespan of 80 years.

[21] Tree Canada Foundation: "What Trees Can do to Reduce Atmospheric CO_2". Trees affectively store carbon http://www.treecanada.ca/publications/pdf/english_reduceco2.pdf)

Additional Benefits:

- Carbon sequestration
- Energy conservation
- Noise buffering
- Wildlife habitat
- Improved aesthetics

Budget: Town of Morden has committed $10,000 in 2010 to an aggressive tree restoration program. Further funding will be sourced through the MFA programs and the Environmental Youth Corp program.

Reporting: Reporting would include the number of trees planted, location of planting, and species planted. Reporting would also include the survival rate of the trees planted in the year following planting.

Adoption of a Green Procurement Policy

As part of its ongoing commitment to improve the environment and the quality of life of MSTW residents, the MSTW municipalities will consider adopting a Green Procurement Policy modelled from the Government of Canada's Green Procurement Policy, which seeks to reduce the environmental impacts of municipal operations and promote environmental stewardship by integrating environmental performance considerations in the procurement process[22].

Green procurement is set within the context of achieving value for money. It requires the integration of environmental performance considerations into the procurement process including planning, acquisition, use and disposal. In this context, value for money includes the consideration of many factors such as cost, performance, availability, quality and environmental performance. Green procurement also requires an understanding of the environmental aspects and potential impacts and costs, associated with the life cycle assessment of goods and services being acquired. In addition, the supporting administrative processes and procurement methods can also offer opportunities to reduce the environmental impacts of government operations.

A Green Procurement Policy supports the MSTW municipalities in targeting green landscaping outcomes where procurement can effectively be used to mitigate the impact of environmental issues such as climate change and can support the protection of biodiversity, natural areas, air, soil and water.

Leads: MSTW Municipalities

Partners: All municipal staff members purchasing on behalf of the MSTW municipalities

Timelines: Policy to be written by participating municipalities in summer, 2010 for immediate to short term implementation.

Estimated GHG Emission Reduction Potential: Environmental considerations in procurement decisions will impact the amount of GHG's emitted by MSTW municipalities; however, reduction measurability will only be apparent at time of specific procurement. In terms of green landscaping practices, a new ride-on lawn mower tractor less than 2 years old will reduce GHG emissions by approximately 0.00375 tonnes of CO_2e per acre compared to an older model.

[22] Gov't Canada Green Procurement Policy 2006

In terms of office equipment, municipalities can reduce GHG emissions and reduce operating costs by consider the following products when replacing older ones:

Office Equipment Purchasing	Tonnes CO2e Reduced	Cost Savings
Replacing regular computer with an Energy Star Level 1 computer	0.03	$8/year
Replacing regular monitor (19" LCD) with an Energy Star Level 1 monitor	0.063	$16/year
Replacing regular medium speed copier with Energy Star Level 1 copier	0.058	$15/year
Replacing a regular monochrom laser printer with Energy Star Level 1 printer	0.042	$11/year
Replacing a regular fax machine with Energy Star Level 1 printer	0.031	$8/year
Replacing a regular scanner with Energy Star Level 1 scanner	0.005	$1/year
Total	**0.229**	**$59/year**

Additional Benefits:

- Financial savings
- Develop a sustainability culture at the municipal level
- Educate municipal staff on sustainable practices
- Reduce impact on environment from corporate operations
- Serve as a leader to the residents of the MSTW municipalities

Budget: The Green Procurement Policy is a low-cost initiative to ensure environmental stewardship is at the forefront of any municipal procurement decision. Costs include time of the municipal staff member to write the policy for Council endorsement. Estimate cost: $250.

Reporting: A key measure of success will be the development of a Green Procurement Policy for MSTW municipalities. An increase in the procurement of green products and services will act as indicators of success.

5.2. Corporate Strategy 2: Vehicle Efficiency

Implement corporate vehicle efficiency initiatives to reduce GHG emissions from municipal and community vehicles and educate municipal staff on methods for increasing fuel efficiency.

Rationale

Fleet vehicles are used intensively; on average producing nearly double the mileage, fuel consumption and emissions of personal vehicles. Fleets are not only expensive to operate but are a major source of GHG emissions in municipalities. The potential for GHG emissions reduction from changing fleet management practices is high. The actual reductions achieved will vary depending on the actions implemented within the municipalities. The most appropriate GHG emission reduction measures must be determined based on the needs and characteristics of the municipal fleet.

The best way to determine the appropriate actions for the MSTW municipalities is to begin with a fleet audit. A fleet audit can be conducted for operations with as little as one or as large as hundreds of fleet vehicles. The results of the fleet audit will guide the municipalities in making greener decisions regarding their fleet management. The potential of reduction measures identified through the fleet audit can be used not only for municipalities' vehicle fleets, but also for future public transportation fleets.

Stakeholders should be involved in the decision making process as much as possible throughout the fleet audit process and the development of a Municipal Fleet Policy. It is important that they be at least consulted before any final decisions are made.

Objectives

- Gain awareness into daily fleet operations and energy consumption
- Ensure accuracy and availability of information for 2012 inventory
- Reduce GHG emissions from municipal operations and vehicles
- Reduce fuel costs from municipal operations and vehicles
- Reduce maintenance and registration/insurance costs (due to the elimination of underutilized vehicles)
- Educate municipal staff on methods for increasing fuel efficiency

Description of Activities

Municipal fleet audit

MSTW municipalities will explore options for implementing a municipal fleet audit of their passenger vehicles (cars and pickup trucks used primarily for transportation), other on-road vehicles (garbage trucks, fire trucks, street sweepers, etc.), and/or off-road equipment (lawn mowers, ATVs, etc.).

MSTW municipalities will develop a detailed fleet inventory and vehicle usage database, which will include calculations of annual GHG emissions per vehicle.

Once the data is collected, the municipalities will explore options for analysing data in-house, the use of a specialized consultant, or, for a modest price, make use of tools available on the internet. MSTW municipalities will consult with stakeholders (department heads, vehicle users, mechanics, etc.) to determine which vehicles should be disposed, replaced, retained or reassigned.

Leads: MSTW Municipalities

Timelines: MSTW municipalities will develop a detailed fleet inventory and vehicle usage database in the spring, 2010 and will analyse the data and determine which vehicles should be disposed, replaced, retained or reassigned by the end of 2010.

Estimated GHG Emission Reduction Potential: It is likely that the fleet audit will enable the MSTW municipalities to understand its fleet operations and make any necessary changes to ensure maximum efficiency and lower GHG emissions.

Additional Benefits:

- Develop a sustainability culture at the municipal level
- Educate municipal staff on sustainable practices
- Financial savings
- Reduce GHG emissions
- Improve environmental health

Budget: The cost of a fleet audit depends on the amount of data available and the size of the fleet. If the municipality has no pre-existing inventory database, fuel usage records, odometer readings in an easy to access centralized location, considerable amounts of staff time may be required to assemble or estimate all of this information.

Analyzing data could be done in-house, which would involve staff time, or could be contracted out. Retaining an external firm to do the analysis would cost about $2,000 - $5,000 for a fleet with fewer than 50 cars.

Funding will be sought through the Green Municipal Fund who provide funding opportunities to municipalities to conduct fleet studies related to fleet management.

Reporting: The key measure of success will be having a municipal fleet audit completed with fleet data available for the 2012 inventory period. Additional indicators include a heightened awareness of fleet operations by municipal staff.

Municipal Fleet Policy

MSTW municipalities will consider adopting a Municipal Fleet Policy with the purpose of monitoring fleet fuel consumption and energy use, and formalising the practice of right-sizing vehicles when upgrading (upgrades to meet current emission standards). This information will be instrumental in developing the 2012 corporate inventory report.

MSTW municipalities will consider the following GHG emission reduction measures for inclusion in the Municipal Fleet Policy:

1. Switching to more fuel-efficient models and fuels
    a. Right-sizing: using the correct size vehicle for the job
    b. Using a higher blend of biodiesel
    c. Switching to alternative-fuel vehicles (hybrids, electric vehicles)
2. Reducing annual distance travelled
    a. Rationalizing travel: do several tasks during a single trip
    b. Centralize municipal offices and depots to shorten travel distance between departments and enhance alternative modes (walk, bike, etc.)
    c. Reduction of trips: reduce unnecessary trips by encouraging carpooling or videoconferencing where possible
    d. Change work methods in order to reduce or eliminate the need to use motorized vehicles or equipment (cut grass bi-weekly, maximize inspections in spring, summer, and fall when enforcement officers can get around on bike or on foot
3. Developing maintenance and operations guidelines
    a. Enforce the municipal anti-idling bylaw with municipal vehicles
    b. Keep the vehicles well-maintained
    c. Switch to synthetic oils and maximize the time between oil changes
    d. Schedule regular air filter changes
    e. Require staff to check tire pressure on a set timetable
    f. Remove roof racks or other accessories when no needed
    g. Deliver eco-driver trainer to staff

Leads: MSTW Municipalities

Timelines: MSTW municipalities will work to implement the policy in spring, 2010.

Estimated GHG Emission Reduction Potential: 122 tonnes of CO_2e
It is likely that the policy will enable the MSTW municipalities to understand its fleet operations and make any necessary changes to ensure maximum efficiency and lower GHG emissions. If these changes increase efficiency and lower GHG emissions by 10%, MSTW municipalities will achieve a reduction of 122 CO_2e tonnes.

Additional Benefits:

- Develop a sustainability culture at the municipal level
- Educate municipal staff on sustainable practices
- Financial savings
- Reduce GHG emissions
- Improve environmental health

Budget: $250
The Fleet Fuel and Mileage Tracking Policy is a low-cost initiative to gain awareness into municipal fleet operations. Costs include time of the municipal staff members to write the policy and develop affiliated tracking sheets, as well as educating municipal staff on utilizing the sheets to monitor fuel consumption from fleet operations. Implementation of the policy will increase the budget substantially at the outset if municipalities purchase new vehicles; however, many items listed above require minimal funding and will result in cost savings for municipalities in the long term.

Reporting: The key measure of success will be the writing and adoption of a Municipal Fleet Policy, which will provide fleet data for the 2012 inventory period. Additional indicators include a heightened awareness of fleet operations by municipal staff.

5.3. Corporate Strategy 3: Energy Efficiency

Identify and implement energy efficiency initiatives for municipal buildings to reduce GHG emissions from municipal operations.

Rationale

Nationally, municipal operations consume about 60 million gigajoules of energy, at a cost of about $700 million per year. Approximately 40 per cent is consumed in municipal buildings, at a cost of about $280 million per year. The energy required to power municipal building operations, given an average national fuel mix, emits approximately four million tonnes of CO_2e, the main greenhouse gas contributing to global warming and climate change[23].

By implementing energy efficiency initiatives for municipal buildings, the MSTW municipalities will serve as leaders to the community, role modelling sustainable energy practices and taking corporate responsibility for GHG emissions from facility operations. The activities outlined in this strategy are designed to reduce energy consumption; thus, reducing GHG emissions from municipal operations.

[23] Federation of Canadian Municipalities, www.sustainablecommunities.fcm.ca

Objectives

- Reduce energy use in municipal buildings
- Create awareness and behaviour change among municipal staff
- Financial savings
- Reduction in GHG emissions

Description of Activities

Conduct building energy audits

MSTW municipalities will consider conducting building energy audits through Manitoba Hydro for all municipally owned and leased buildings, and explore options for implementing recommendations from the audit where feasible.

A building audit analysis consists of performing energy savings, life cycle cost, and renewable energy generation calculations to determine the amount of energy savings that can potentially be realized through implementing recommended energy conservation opportunities

Leads: MSTW Municipalities

Partners: Manitoba Hydro

Timelines: Audits to be conducted in spring/summer, 2010

Estimated GHG Emission Reduction Potential: The amount of GHG emissions reduced is dependent on which recommendations are implemented from the audit.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Financial savings

Budget: To be determined with consultation between MSTW municipalities and Manitoba Hydro.

Reporting: A key measure of success will be the completion of building energy audits for all municipally owned and leased buildings.

Install CO_2 sensors

MSTW municipalities will consider installing CO_2 sensors in municipal buildings with infrequent occupancy to improve air quality and save on energy costs. CO_2 sensors supply just the right amount of ventilated air to meet occupant needs; therefore, avoiding unnecessary energy consumption in areas of low occupancy or when areas with high traffic are vacated for the evenings and weekends. Municipalities can expect to save approximately $230 annually on energy bills for each sensor installed.

Leads: MSTW Municipalities

Partners: Manitoba Hydro, external contractors

Timelines: Installation to occur as funding is provided.

Estimated GHG Emission Reduction Potential: GHG emission reduction will depend on the location of the sensors and the amount of energy that is saved from implementation of the sensors.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Financial savings
- Improved air quality for municipal employees
- Healthy working environment

Budget: Budget to include cost of sensors as well as installation in municipal buildings. MSTW municipalities will explore options for incentive programs through Manitoba Hydro.

Reporting: A key measure of success will be the number of CO_2 sensors installed in municipal buildings by 2012, as well as a reduction in energy costs and GHG emissions from municipal buildings.

Install motion lighting in municipal buildings

MSTW municipalities will explore the idea of installing motion lighting in municipal buildings with inconsistent traffic (washrooms, recreation centre lobbies, change rooms, libraries, schools, etc.).

Leads: MSTW Municipalities

Partners: Manitoba Hydro, external contractors

Timelines: Installation to occur as funding is provided.

MSTW municipalities will consider installing motion lighting in appropriate areas during construction process of new municipal buildings and building upgrades.

Town of Morden is currently exploring options for installing motion lighting as part of the renovations planned for the west arena basement, which is due for completion in 2010.

Estimated GHG Emission Reduction Potential: GHG emission reduction will depend on the location of the motion lighting and the amount of energy that is saved from implementation of the lighting.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Financial savings
- Reduction in GHG emissions

Budget: Budget to include cost of new motion sensors and installation of motion lighting system. MSTW municipalities will consider upgrading lighting as necessary and as funding is available.

Reporting: A key measure of success will be the number of motion lighting systems installed in municipal buildings by 2012, as well as a reduction in energy costs and GHG emissions from municipal buildings.

Upgrade lighting in municipal buildings

MSTW municipalities will explore opportunities for replacing existing lighting with T5, LED and/or induction lights and will consider installing energy efficient lighting in all new municipal facilities and upgrades.

Leads: MSTW Municipalities

Partners: Manitoba Hydro, external contractors

Timelines: All new municipal facilities to install T5, LED and/or induction lighting during construction process. Upgrade to T5, LED and/or induction lighting in current municipal buildings to occur as needed and as funding is available.

Estimated GHG Emission Reduction Potential: GHG emission reduction will depend on the number of lights that are installed and the amount of energy that is saved from installation of the lighting.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Financial savings
- Reduction in GHG emissions

Budget: Budget to include cost of lights and installation of lighting. MSTW municipalities will consider upgrading lighting as necessary and as funding is available.

Reporting: The key measure of success will be the number of lights that are installed by 2012, as well as the cost savings and GHG emission reduction from the installation of these lights.

Install energy efficient skylights in new water treatment plant

The City of Winkler will install energy efficient skylights in the new water treatment plant, due for completion by the end of 2010.

Leads: City of Winkler

Partners: Water treatment plant staff, external contractors

Timelines: The City of Winkler has committed to installing the energy efficient sky lights in the new water treatment plant during the construction phase, due for completion by the end of 2010.

Estimated GHG Emission Reduction Potential: There will be no reduction in GHG emissions for this initiative because the skylights are being installed in a new municipal building.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Financial savings
- Reduction in GHG emissions

Budget: City of Winkler to fund the construction of the water treatment plant.

Reporting: The key success measure would be the energy savings recorded after construction is completed, as well as cost savings recorded.

Reduce draughts from windows and doors in municipal buildings

MSTW municipalities to consider strategies for reducing draughts from windows and doors such as: caulking, weather stripping, and/or window and door replacement where feasible.

The Town of Morden has committed to replacing 12 doors to the outside of the Community Centre in the West Arena by early 2011.

Leads: MSTW Municipalities

Partners: Manitoba Hydro, external contractors

Timelines: Town of Morden to replace 12 doors in the Community Centre by early 2011. MSTW municipalities will consider upgrading windows and doors as necessary and as funding is available.

Estimated GHG Emission Reduction Potential: Estimates will vary for each building according to the initiative that is implemented. A building energy audit will indicate which initiatives will be the most cost effective in relation to GHG emission reduction potential.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Financial savings
- Reduction in GHG emissions

Budget: Town of Morden to fund West Arena door upgrade. Municipalities to

Reporting: A key measure of success will be the type and amount of upgrades completed in municipal buildings, as well as the energy and cost savings recorded after upgrades are completed.

Community centres to adopt Energy Management Control System

MSTW municipalities will consider feasibility study for implementation of an Energy Management Control System, through Alta West Group Ltd., in community centres with ice rinks. The implementation of an energy management control system can reduce energy costs by 60-70% with an approximate 18 month payback period.

Integrated control is a tool that can provide operation managers with many avenues to improve the facility management. Scheduling various ice temperatures and room temperatures to the appropriate activity allows the most efficient operation of the building; thus, resulting in reduced runtime and fewer stops/starts of an ice plant. In addition to the immediate savings in utility usage, there is also the related long term savings in maintenance costs plus extended life of the ice plant equipment. There is typically a reduction of approximately 25-35% in the ice plant runtime due to scheduling.

Leads: MSTW Municipalities

Partners: Municipal parks and recreation department staff.

Timelines: Town of Morden to complete feasibility study by October, 2010. Depending on funding, installation will occur in spring, 2011 in order to allow time in the low-season to organise the project and strengthen the efficiency of the system.

Estimated GHG Emission Reduction Potential: To be determined with consultation with CLER, SNC-Lavalin, Alta West Group, and the Town of Morden.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Financial savings
- Reduction in GHG emissions

Budget: Budget to include funding for a feasibility study, as well as instalment of the energy management control system. Green Municipal Fund to cover 50% of the feasibility study if granted.

Reporting: The key success measure would be the energy savings recorded after implementation, as well as cost savings recorded and confirmation of pay-back period.

Water conservation initiatives

MSTW municipalities will explore opportunities to integrate water conservation strategies in all new building designs and renovations, as well as current and future municipal operations.

The Town of Morden will integrate water conservation strategies in to the design of the new spray park, due for completion in 2010. The water recovered from the spray park will be used on municipal grounds throughout the Town of Morden.

Town of Morden will install low flush toilets and sensor sinks in the west arena basement renovations, due for completion in fall, 2010.

Town of Morden, City of Winkler and RM of Thompson will consider replacing the toilets in the community day care centres to water saver toilets.

MSTW Planning District will partner with the Manitoba Eco-Network to implement a water conservation and stewardship project called Protect Our Waters (POW) in 20 household homes in the Town of Morden and the City of Winkler.

RM of Thompson will consider conducting an investigation to identify the source of 30% of water leakage in the RM of Thompson and explore funding opportunities to implement strategies to reduce the leakage.

Timelines: The spray park is due for completion in 2010. Water recovery strategies are an integral component of the spray park design.

The west arena renovations are due for completion in the fall, 2010.

The Town of Morden day care centre toilet upgrade is due for completion in 2011 with the other municipalities completing upgrades as funding is made available.

The MSTW Planning District will hire a POW project officer in May, 2011. The POW program will run from June – September, 2011.

The RM of Thompson will explore opportunities for securing funding to conduct a water leakage investigation upon adoption of the action plan. Implementing strategies to reduce the water leakage will be dependent on funding and will be a medium to long term project.

Estimated GHG Emission Reduction Potential: There will be no reduction in GHG emissions from the spray park because it is a new facility.

An estimated .04 tonnes of CO_2e will be reduced by upgrading approximately 10 toilets in the west arena to low flush toilets; however, this is a conservative estimate based on average household flushes[24].

An estimated .048 tonnes of CO_2e / year will be reduced by having 20 households reduce their water usage by 20% based on Environment Canada's estimate of 329L/day per Canadian household.

GHG emission reduction potential for the RM of Thompson leak investigation will be dependent on the strategies implemented from the investigation.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Financial savings
- Reduction in GHG emissions

Budget: Town of Morden to fund the construction of the new spray park and the renovations in the Community Centre. MSTW municipalities to fund toilet upgrades in respective day care centres. RM of Thompson to source funding for water leakage investigation.

Reporting: A key measure of success will be a reduction in municipal water bills, as well as the energy and cost savings recorded after implementation of initiatives. The key measure of

[24] Water For Tomorrow
http://www.waterfortomorrow.ca/en/athome/bathroom.asp

success for the water leakage initiative will be the completion of a leak detection study in the RM of Thompson.

Integrate energy efficient strategies into building design for new municipal buildings

MSTW municipalities will explore options for integrating energy efficient strategies in to new building designs and renovations for all municipal buildings.

The RM of Stanley to integrate energy efficient strategies in to the building design for the new municipal building to be constructed in the Stanley Corridor, due for completion by mid-2011.

Leads: MSTW Municipalities

Partners: External contractors

Timelines: The RM of Stanley has committed to integrating energy efficient strategies in to the building design for the new municipal building, due for completion by mid-2011.

Estimated GHG Emission Reduction Potential: There will be no reduction in GHG emissions from this initiative because it involves construction of new municipal buildings.

Additional Benefits:

- Strengthen regional profile as green municipalities
- Develop a sustainability culture in the region
- Financial savings
- Reduction in GHG emissions

Budget: RM of Stanley to fund the construction of the new municipal building.

Reporting: A key measure of success will be the energy and cost savings recorded after construction is completed in comparison to an older municipal building of approximately the same size.

5.4. Corporate Strategy 4: Waste Management

Implement waste management reduction and diversion initiatives in municipal buildings to reduce GHG emissions from municipal operations.

Rationale

Solid waste refers to any material, product, or by-product, for which the generator has no further use and which is discarded for management at waste disposal facilities. Waste diversion directs garbage away from landfills or incinerators through reuse, recycling, composting or gas production through anaerobic digestion. Waste diversion is a key component of effective and sustainable waste management. The focus of this strategy will be on waste diversion from all municipal sources.

On average the local landfill (SWAMP) for the Town of Morden, RM of Stanley and City of Winkler generates 26,428 tonnes of solid waste every year with an approximate increase of

4% each year[25]. The RM of Thomspon landfill generates an average of 2,350 tonnes of solid waste every year and does not anticipate much of an increase, if any, due to a push on increased recycling and composting as a result of the Provincial levy in 2011.

It is important to note that methane emissions from the SWAMP and RM of Thompson landfills are not accounted for in the corporate inventory. Under the PCP protocol, they are considered to be part of the community inventory, covering the community as a whole. Therefore, in order to implement and measure accurate corporate waste diversion initiatives it is imperative to conduct waste audits of all municipal facilities to collect a base line inventory of corporate waste emissions.

Objectives

- Identify and implement initiatives for waste reduction and diversion in municipal facilities
- Raise awareness among municipal staff of current waste production and possible waste reduction initiatives

Description of Activities

Perform waste audits of municipal facilities

MSTW municipalities will perform waste audits of municipal facilities. Corporate waste data will be collected in order to implement waste reduction or diversion goals. Data collected will be used as a tool to measure success of waste reduction initiatives outlined in the action plan.

Leads: MSTW Municipalities

Partners: MSTW CCC

Timelines: Waste audit to be completed in spring, 2010 in order for waste diversion strategies to be considered for implementation in the summer, 2010.

Estimated GHG Emission Reduction Potential: The amount of GHG emissions reduced is dependent on which recommendations are implemented from the audit.

Additional Benefits:

- Provide baseline data on waste consumption
- Establish target to work towards for waste reduction

Budget: Costs will include staff time to develop waste audit tools, as well as to perform audit and document results.

Reporting: A key measure of success will be the baseline data that will be used to measure the success of future waste reduction initiatives.

Implement Mini-bin Pilot Project

MSTW municipalities will implement waste diversion strategies such as a Mini-bin Pilot Project in all municipal offices. The implementation of a Mini-bin Pilot Project is based on the

[25] Penner Waste Inc Action Plan

success of the current mini-bin project in the Town of Morden municipal offices, which has resulted in an increased awareness of sustainable behaviour among municipal staff.

The Mini-bin Pilot Project involves municipal staff volunteering to exchange their standard office garbage cans with a significantly smaller 'mini-bin' for a one-year trial period. The aim of the project is to encourage people to explore alternative waste diversion strategies such as re-using, recycling and composting, before placing items in a garbage can.

Leads: MSTW Municipalities

Partners: MSTW CCC

Timelines: To be implemented after the waste audit is complete in order to compare data upon completion of the one-year pilot project. The waste audit can be completed upon completion of the action plan, with the one-year Mini-bin Pilot Project to follow.

Estimated GHG Emission Reduction Potential: 7 tonnes of CO_2e
Assuming all 125 full-time ongoing MSTW municipal staff diverted 0.2kg of compostable materials a day, up to 7 tonnes of CO_2e could be reduced annually.

Additional Benefits:

- Measure waste reduction in municipal offices
- Promote recycling and composting of food waste
- Reduce waste and promote re-usable packaging
- Financial savings
- Environmental health benefits

Budget: Costs include the cost of mini-bins for all municipal offices and the time of staff to remove and store traditional garbage cans.

Reporting: A key measure of success will be the number of offices that participate in the mini-bin pilot project, as well as a reduction in waste production in municipal offices.

Implement a Paperless Municipality Program

MSTW municipalities will consider implementing a paperless municipality program to include paperless municipal meetings, online tax notices and payment options, online newsletters with hard copies available at the town office and library, and behaviour change for printing practices.

Leads: MSTW Municipalities

Timelines: Several MSTW municipalities have already committed to aspects of the paperless municipal program. The Town of Morden and RM of Stanley are currently practicing paperless council meetings and the City of Winkler is considering changing to paperless council meetings in early 2011. Municipal offices are encouraged to adopt further aspects of the program by early 2011 in order to evaluate the success of the program by 2012.

Estimated GHG Emission Reduction Potential: This initiative is expected to lower emissions through community awareness, education, and action. Specific tabulation is difficult to calculate; however, implementation of the Paperless Municipality Program will divert items from landfills resulting in waste reduction.

Additional Benefits:

- Financial savings
- Strengthen the sustainability culture of the region
- Reduce unnecessary printing and paper waste
- Promote sustainability within the community through municipal leadership

Budget: The cost will vary according to which initiatives are put in place; however, costs should be minimal and may only involve staff time in some cases.

Reporting: A key measure of success will be a reduction in paper consumption by the MSTW municipalities, resulting in a decrease in the budget for office supplies.

6. Summary of Community & Corporate Actions

Legend:

MSTW	The four municipalities of the MSTW Planning District (Town of Morden, RM of Stanley, RM of Thompson , City of Winkler)
CCC	MSTW Climate Change Coordinator
CoC	Morden and Winkler Chamber of Commerce
RCM	Resource Conservation Manitoba
Immediate term	0-6 months
Short term	6 months - 1 year
Medium term	1 - 5 years
Long term	>5 years
TBD	To be determined with consultation with relevant parties

Summary of Community Actions

Community Strategy 1	Project / Activity	Objectives	Lead	Partner	Timeline	Estimated GHG Emission Reductions	Total Project Cost	Other benefits
Education & Communication Plan	Hire a CLER Project Officer	Assist with the development and dissemination of education resources highlighted in the action plan	MSTW	MSTW Planning District	Immediate	TBD	$4500	Provide employment Benefits as below
	Sustainability Toolkit	Educate residents about climate change actions to implement in the home and workplace in order to reduce GHG emissions	CCC	Local businesses Residents MSTW	Immediate	TBD	$750	Increase community involvement Strengthen regional profile as green municipalities Increase involvement in CLER Program initiatives resulting in empowerment of residents Increase sense of pride among residents Develop a sustainability culture in the region Strengthen economy for sustainable products and services
	MSTW CLER Website	Educate residents about climate change actions to implement in the home and workplace in order to reduce GHG emissions	CCC	Local businesses Residents MSTW	Immediate	TBD	$500 – $1000	
	Eco Event Days	Engage local residents in global, national, and provincial sustainability events and initiatives	CCC	Residents Local businesses	Immediate	TBD	$750	
	Media Releases	Increase community awareness of local climate change issues and initiatives	CCC	Pembina Valley Online Eagle FM Morden & Winkler Times	Immediate	TBD	In kind	
	Community Event Promotional Activities	Increase community awareness & involvement in the CLER Program	CCC	Festival organizers	Immediate	TBD	$600	
	Afforestation Education Program	Educate residents on afforestation/tree planting opportunities and resources	CCC	MSTW MAFRI	Immediate	TBD	In kind	
	Green Home Workshops	Educate residents to implement green practices within the home	CCC	MSTW Residents Local businesses	Immediate	TBD	$1000	
	Green Business Workshops	Educate businesses to implement green practices within the workplace	CCC	MSTW Residents Local businesses CoC	Immediate to short	TBD	$1000	
	High School Challenges	Engage high school students and staff in national and provincial climate change initiatives	CCC	GVSD WSD	Immediate to short	TBD	In kind	

Community Strategy 2	Project / Activity	Objectives	Lead	Partner	Timeline	Estimated GHG Emission Reductions	Total Project Cost	Other benefits
Sustainable Transportation Strategy	Anti-idling Bylaw	Reduce GHG emissions from vehicles in MSTW	MSTW	Residents	Immediate	697 tonnes CO_2e	$500	Physical health and well-being Decreased traffic congestion resulting in safer roads Environmental health Increased economic activity in the region, particularly for businesses in the Stanley Corridor Cycle tour potential
	Pembina Valley Travel Smart Program	Increase fuel efficiencies and reduce reliance on single passenger trips in the MSTW district, particularly in the Stanley Corridor	MSTW	CCC Local businesses CoC	Immediate	8800 tonnes CO_2e	$9200	
	School Bus Route Efficiency	Maximize route efficiency of school busses to reduce GHG emissions	School Divisions	CCC MSTW	Immediate	6.3 tonnes CO_2e	TBD	
	School Travel Plan	Reduce GHG emissions from vehicles in MSTW	School Divisions	MSTW CCC RCM	Immediate	18 tonnes CO_2e / school	$2400-$7000	
	Bike Facilities and Resources	Reduce GHG emissions by providing safe and convenient active transportation facilities and infrastructure	MSTW	Cycling user groups Local businesses	Short to medium	326 tonnes CO_2e	TBD	
	Bike and Walking Trails	Reduce GHG emissions from commuter traffic in the Stanley Corridor by providing a safe medium for active transportation options such as cycling, walking, rollerblading, etc	RM of Stanley	CCC MSTW Highway Traffic Act Community Organisations	Short to medium	652 tonnes CO_2e	TBD	
	Community Transit System	Reduce commuter traffic in the Stanley Corridor	MSTW	CCC PVDC Local businesses	Medium to long	95,489 tonnes CO_2e	TBD	

Community Strategy 3	Project / Activity	Objectives	Lead	Partner	Timeline	Estimated GHG Emission Reductions	Total Project Cost	Other benefits
Waste Management Reduction and Diversion Strategy	Freecycle Program	Reduce items going to landfill by extending lifecycle of unwanted items	MSTW	CCC PVC PWI	Immediate	TBD	TBD	Environmental health benefits Promotes sustainable culture of region Decreases landfill through promoting re-use Decreases illegal dumping of unwanted items
	Plastic-Free Campaign	Reduce plastic bags going to landfills	MSTW	School divisions Local businesses CCC	Immediate to short	TBD	TBD	
	Municipal Organic Waste Disposal Program	Divert compostable items from landfills	MSTW	CCC Residents PVC PWI SWAMP	Immediate to medium	P1: 9.66 tonnes CO_2e P2&3: TBD	P1: $500 P2: $30000 P3:TBD	
	Two Bag Garbage Limit	Reduce GHG emissions from landfills	MSTW	Residents PVC PWI SWAMP	Short to medium	1,635.8 tonnes CO_2e	TBD	
	Extension of HHW Program	Reduce household hazardous waste (HHW) items in landfills	MSTW	Green Manitoba	Short to medium	TBD	TBD	
	Business Recycling Program	Reduce waste items created by business in landfills	MSTW	PVC PWI SWAMP	Short to medium	TBD	TBD	
	Building Material Recycling Program	Reduce building construction and demolition waste in landfills	MSTW	PVC PWI SWAMP	Short to Material	TBD	TBD	
	Regional Zero Waste Policy	Identify and consider options for waste management strategies	MSTW	Residents PVC PWI SWAMP Local Businesses Institutions	Medium to long	TBD	TBD	
	Methane Capture Study	Identify and consider options for methane capture and reuse	MSTW	SWAMP	Medium to long	TBD	TBD	

Community Strategy 4	Project / Activity	Objectives	Lead	Partner	Timeline	Estimated GHG Emission Reductions	Total Project Cost	Other benefits
Municipal Rebate Program	$50 Lawn Mower Rebate	Reduce GHG emissions from residential operations	MSTW	Relevant local retail outlets	Immediate	0.3456 tonnes CO_2e	$1,800	Encourage residents to adopt sustainable practices Increase demand and sale of environmentally friendly products Cost savings on local products
	$50 Low or Dual Flush Toilet Rebate	Reduce GHG emissions from residential operations	MSTW	Relevant local retail outlets	Immediate	0.0657 tonnes CO_2e	$4,000	
	$30 Rain Barrel Rebate	Reduce GHG emissions from residential operations	MSTW	Relevant local retail outlets	Immediate	1kg CO_2e	$1,200	
	$20 Compost Bin Rebate	Reduce GHG emissions from residential operations	MSTW	Relevant local retail outlets	Immediate	13.8 tonnes CO_2e	$1,200	
	$20 Programmable Thermostat Rebate	Reduce GHG emissions from residential operations	MSTW	Relevant local retail outlets	Immediate	76.5 tonnes CO_2e	$1,800	
	$3 Seasonal Lighting Rebate	Reduce GHG emissions from residential operations	MSTW	Relevant local retail outlets	Immediate	0.243 tonnes CO_2e	$1,200	

Summary of Corporate Actions

Corporate Strategy 1	Project / Activity	Objectives	Lead	Partner(s)	Timeline	Estimated GHG Emission Reductions	Total Project Cost	Other benefits
Green Landscaping Strategy	Grass Cutting Procedures	Reduce GHG emissions from municipal operations	MSTW	N/A	Immediate	TBD	N/A	Develop a sustainability culture at the municipal level Educate municipal staff on sustainable practices
	Tree Planting Program	Reduce GHG emission through afforestation/tree planting	MSTW	MAFRI MFA CCC	Immediate to short	5 tonnes CO_2e	TBD	
	Green Procurement Policy	Reduce GHG emissions from municipal operations	MSTW	N/A	Immediate to short	TBD	$250	

Corporate Strategy 2	Project / Activity	Objectives	Lead	Partner(s)	Timeline	Estimated GHG Emission Reductions	Total Project Cost	Other benefits
Corporate Vehicle Efficiency Strategy	Vehicle fleet Audits	Reduce GHG emissions from municipal vehicles	MSTW	External auditor	Immediate	122 tonnes CO_2e	$0-$5000	Strengthen regional profile as green municipalities Environmental & physical Financial savings
	Municipal Fleet Policy	Reduce GHG emissions from municipal vehicles	MSTW	N/A	Immediate to short	122 tonnes CO_2e	$250	

Corporate Strategy 3	Project / Activity	Objectives	Lead	Partner(s)	Timeline	Estimated GHG Emission Reductions	Total Project Cost	Other benefits
Municipal Building Energy Efficiency Initiatives	Municipal Building Energy Audits	Reduce energy use in municipal buildings	MSTW	MB Hydro	Immediate	TBD	TBD	Financial savings Environmental health Improve air quality Improve employee comfort Strengthen the sustainability culture of the region
	CO_2 Sensors	Reduce energy use in municipal buildings	MSTW	MB Hydro	Immediate	TBD	TBD	
	Motion Lighting	Reduce energy use in municipal buildings	MSTW	MB Hydro	Immediate	TBD	TBD	
	T5 Lighting	Reduce energy use for municipal operations	MSTW	MB Hydro	Immediate	TBD	TBD	
	Skylights in Water Treatment Plant	Reduce energy use for municipal operations	City of Winkler	Relevant contractors	Short	TBD	TBD	
	Reduce Draughts	Reduce energy use for municipal operations	Town of Morden	MB Hydro	Short to medium	TBD	TBD	
	Energy Management Control System	Reduce energy use for municipal operations	Town of Morden	Alta West Group Ltd.	Short to medium	TBD	TBD	
	Water Conservation Initiatives	Reduce energy use for municipal operations	MSTW	Relevant contractors	Short to medium	TBD	TBD	
	Energy Efficiency for New Building Design	Reduce energy use for municipal operations	RM of Stanley	Relevant contractors	Short to medium	TBD	TBD	

Corporate Strategy 4	Project / Activity	Objectives	Lead	Partner(s)	Timeline	Estimated GHG Emission Reductions	Total Project Cost	Other benefits
Waste Management Strategy	Waste Audits of Municipal Facilities	Identify and implement initiatives for waste reduction and diversion in municipal facilities	MSTW	CCC	Immediate	TBD	TBD	Financial savings Reduction in landfill demands Strengthen the sustainability culture of the region Promote composting and recycling in the community
	Mini-bin Pilot Project	Reduce municipal waste going to landfill	MSTW	CCC	Immediate to short	7 tonnes CO_2e	TBD	
	Paperless Municipality Program	Reduce municipal waste going to landfill	MSTW	Residents	Short to medium	TBD	TBD	

7. Implementation Strategy

Strategies outlined in the MSTW Local Climate Change Action Plan will be implemented according to budget restrictions, time line considerations and GHG emission reduction potential. Consistent with CLER Program goals, projects that can be implemented in the short term, with minimal costs, will be prioritised for immediate implementation upon Council endorsement of the action plan.

By prioritising short term projects for immediate implementation the MSTW Planning District aspires to create momentum and start a buzz about the regions efforts to reduce GHG emissions. Ideally, this momentum will encourage MSTW municipalities to implement further projects in the action plan.

Projects that require minimal funding and can be implemented in the short term include initiatives in the education and communication strategy such as: the promotion of eco event days; media releases and green awards; community event promotional activities; the development of green home, green business, and afforestation workshops; as well as, the initiatives included in the municipal rebate program.

Of all the opportunities residents of the MSTW Planning District have to reduce their GHG emissions, the use of their private vehicles is one of the more significant where reductions can be made; therefore, the sustainable transportation strategy has the potential to have the strongest impact on an overall reduction in GHG emissions in the community sector.

Initiatives that require minimal funding and can be implemented in the short term include: adoption of an Anti-Idling Bylaw, development of a regional ride-share program, and adopting a school travel plan. Longer term projects which require greater financial investment include the development of bike and walking trails, improved cycling infrastructure and resources, and a community transit system.

Waste management initiatives that can be implemented in the short term and require minimal funding include: the development of a regional freecycle program, promotion of a plastic free campaign, development of a municipal organic waste disposal program, and the adoption of a regional two bag garbage limit. Longer term projects include the development of a business recycling program as well as a building material recycling program. Opportunities involving greater financial investment include a regional zero waste policy and a methane capture study.

Specific strategies for the corporate sector include a: green landscaping program, vehicle and energy efficiency initiatives, and a waste management strategy. Projects that require minimal funding and can be implemented in the short term include; improving grass cutting procedures, adopting a tree planting program, developing a green procurement policy, conducting municipal fleet audits, and developing a municipal fleet policy.

All of the projects in the corporate waste management strategy require minimal funding and can be implemented in the short term including; conducting waste audits of the municipal facilities, implementing a mini-bin pilot project, and developing a paperless municipality program.

Energy efficiency initiatives that can be implemented in the short term which require funding include: conducting municipal building energy audits; installing CO_2 sensors, T5 lighting, and energy efficient windows and doors in municipal buildings as required

The Garden Valley School Division will be implementing a software package to maximise the route efficiency of school busses to reduce GHG emissions in September, 2010, as well as plans to build the new Prairie Dale elementary school to a LEED gold standard. The Town of Morden is prepared to move forward immediately on a feasibility study, dependent on Council approval, on the implementation of an Energy Management Control System in the Community Centre.

The City of Winkler will be integrating energy efficient skylights in to the new water treatment building, due for completion by the end of 2010. The City of Winkler is also in the process of researching grass cutting procedures in all municipal operations to improve efficiency and reduce GHG emissions, and intends to implement new energy efficient procedures by May, 2010. The RM of Stanley has committed to utilizing energy and water efficient strategies in the construction of the new municipal office in the Stanley Corridor by mid-2011.

Projects that will be focussed on for funding include: the hiring of a CLER Program Project Officer through the Green Team fund; the hiring of a School Travel Plan facilitator; a feasibility study of a regional zero waste policy; and, the purchasing of a BIOvator^{TM} system to be used with restaurants and institutions in the MSTW Planning District region.

Further funding will be sought for the development of a regional sustainable transportation strategy; specifically, a pathway between the Town of Morden and the City of Winkler, and promotion of reduced single occupancy vehicle trips through a regional Travel Smart program.

The MSTW municipalities have all expressed interest in, and shown support for, a municipal revolving green fund based on savings from all strategies outlined in the action plan. Municipalities that already have a revolving green fund will continue to use this system for future implementation of action plan strategies, while those that do not have a system in place will consider the revolving green fund structure for implementation upon endorsement of the action plan.

The MSTW Climate Change Advisory Committee will be consulted in regards to action plan implementation upon Council endorsement of the plan and will continue to provide feedback and support as required by the MSTW Planning District throughout the implementation stage. The action plan will be revisited and updated as found necessary by CLER Program stakeholders.

The MSTW municipalities, Climate Change Advisory Committee, and Climate Change Coordinator will continue to champion the plan while instilling a sense of ownership for the plan in municipal staff and community members.

8. Monitoring Progress

Monitoring and measurement of the Climate Change Action Plan will begin immediately upon implementation of action plan and will be measured for the duration of the CLER pilot-project, concluding in 2012. A progress report will be delivered to the MSTW Planning District Board at the end of 2010 at the completion of the Climate Change Coordinators contract. A final report will be submitted to the FCM upon completion of the PCP five-milestone program, which includes a re-inventory of corporate and community emissions at the end of 2011. Using this feedback, PCP can track the progress of municipalities to Milestone Four and Five and can share the results and lessons learned with other municipalities.

An important element of the CLER Program is communicating results to the public, whether those results are favourable or not. Encouraging residents to take action on environmental issues may depend on the initial results of a pilot project. Members of the public or the business community may want to see how others react first before trying it themselves.

The MSTW municipalities and the MSTW CCC will use the following communication tools to regularly update the public on CLER projects: municipal and community websites; local media; CLER booths at local festivals and events; information pamphlets; and, municipal literature such as property tax, water or electricity bills.

The success of the local climate change action plan will be measured in the following ways:

- ongoing and final reporting of all activities included in the action plan including: participation rates, information distributed, volunteers involved, organizing committee members, stakeholders, feedback, learning opportunities, etc.;
- use of data collection forms to assist with quantification of GHG emission reduction, criteria for air pollution reductions, and calculations of money savings from both existing and new measures;
- an increase in actions to reduce the use of energy and production of GHG emissions;
- adoption of recommendations by participating municipalities; and,
- a continued reduction in the energy intensity of activities within the district.

Reporting requirements for the CLER Program include:

- whether the GHG emissions reduction target was met or exceeded;
- estimated total tonnes of GHG emissions reduced as result of implementing action plan;
- estimated tonnes of GHG emissions reduced per project funded through CLER;
- cost savings and for whom. Estimate total savings per project / organization / capita;
- environmental benefits in addition to GHG emissions reductions;
- economic development opportunities (e.g. new business, new product or service); and,
- additional social benefits (e.g. health, safety, support for low income families).

Appendix 1 Climate Change Advisory Committee Members

Member Name	Segment of Community Represented	Meeting Dates & Attendance 2009 / 2010				
		Nov 27	Dec 18	Jan 8	Feb 5	Mar 19
Alex Fedorchuk	MSTW Planning District		✓			
Brian Burrows	Community Resident (RM of Thompson)	✓	✓	✓	✓	✓
Brian Klassen	WBS Construction	✓	✓	✓		✓
Dale Toews	RM of Stanley	✓	✓	✓	✓	
Dave Weiss	Pembina Valley Containers	✓	✓	✓		✓
Dean Hildebrand	Community Resident (RM of Stanley)	✓	✓	✓	✓	✓
Kathy Friesen	MSTW Planning District		✓	✓	✓	✓
Ron Laverty	Town of Morden	✓	✓	✓		
Ron Neufeld	City of Winkler	✓		✓	✓	✓

Other interested stakeholders who attended one of the above meetings as a guest: Jake & Barb Penner (Penner Waste), Will Epp (Pembina Valley Development Corporation), Tim Fehr, and Amy Jordan.

Appendix 2 2004 Winkler Workshop Participants

The following lists the names of all participants who attended the Winkler and Area Community Workshop on Climate Change in 2004.

Name	Organisation
Don Alexander	Chairperson, CD of Pembina Valley
Vince Anderson	CAO, Town of Winkler
Janet Bergstresser	Councillor, Town of Morris
David Boles	Manager, Morden Community Planning Services, Regional Offices
Mark Broderick	Community Planner, MB Intergovernmental Affairs & Trade
Maurice Butler	Councillor, Town of Morden
Mark Derzak	Social Sciences Teacher, Morden Collegiate Institute
Ed Driedger	Concerned Citizen
Alex Fedorchuk	Councillor, Town of Morden
Carlos Friesen	Representative, Northern Heat Pump
Barry Friesen	Maintenance Coordinator, Border School Division
Della Friesen	Science Teacher, Garden Valley Collegiate
Rick Klippenstein	CAO, RM of Stanley
Brian Nedohin	Agricultural Representative, MB Agriculture & Food, Rural Initiatives
William Reimer	Councillor, RM of Stanley
Len Schieman	Chairperson, Border School Division
Irvin Wiebe	Councillor, Town of Morden
Gloria Wiens	Concerned Citizen

Appendix 3 Sponsors of the CLER Program

Public Consultation Forums

Monetary donations were made by 3M and the MSTW Planning District which were used to cover the cost of the forums (refreshments, facility hire, supplies, etc.), as well as to purchase 'green' door prizes.

The following organizations donated 'green' items to be used as door prizes at public consultation forums as well as incentives for people to provide feedback on the draft action plan:

Great Canadian Superstore	Botanical Paperworks
Appelt's Jewellery	Pembina Valley Containers
Pizza Hotline	Penner Waste
Walmart	The Health Habit
Shoppers Drugmart	Canadian Fossil Discovery Centre
Community Futures Heartland	Hoeschen & Sloane Law Firm
WBS Construction	United Way
Morden's Heartland	Herbal Choices
Norwex	The Good Food Company
Giant Tiger	Town of Morden

Online Web-Poll

The Pembina Valley Online CLER Web-Poll was sponsored by Access Credit Union, with the bicycle prize donated by Time-Out Sports & Wiens John T Law Office.

Ongoing Support

Ongoing support has been generously given to the CLER Program in the form of regular news broadcasting and print from the following organizations:

- Pembina Valley Online
- The Eagle 93.5 FM
- Maverick 105 Radio Station
- Morden Times
- Winkler Times

Appendix 4 Public Consultation Forum

Forum Participants

Attendees at the Morden Forum

Name	Organisation
Shawn Dias	MAFRI Woodlot Forester
David Weiss	Pembina Valley Containers
Dale Toews	Assistant CAO, RM Stanley
Patrick Simoens	Community Resident (Morden)
Celso Arevalo	Community Resident (Morden)
Brian Burrows	RM Thompson
Richard Warkentin	Stanley Soil Management Association
Dean Hildebrand	Community Resident (RM of Stanley)
Walter McTavish	RM Thompson
Vern Siemens	Morden Appliance Service
Dave Haines	Town of Morden
David Lumgair	Retired - Zero Till Farmer
Donna Lumgair	Retired - Zero Till Farmer
Trevor Meredith	Taxi Business in Morden
Kathy Friesen	MSTW Planning District
Betty Dong	Boundary Trails Hospital
Lynne Cawley	Community Resident (Morden)
Art Petkau	Reeve, RM of Stanley
Tim Fehr	Farmer, RM of Stanley
Elizabeth Derksen	

Attendees at the Winkler Forum

Name	Organisation
Brian Klassen	WBS Construction
Amy Klassen	Morden Collegiate Institute
Ron Laverty	Morden Councilor
Wil Epp	Pembina Valley Development Corporation
Jake Penner	Penner Waste Inc.
Barb Penner	Penner Waste Inc.
Bev Dyck	Eden Residential Care Services
Neil Reimer	
Trevor Meredith	Taxi Business in Morden
Linda Nichols	
Richard Warkentin	Stanley Soil Management Association
Brian Nedohin	MAFRI

Description of Public Consultation Forums

The Winkler and Morden forums were organized with similar activities to encourage participants to share their knowledge, ideas and opinions.

Firstly participants briefly introduced themselves and were encouraged to give one example of something they had recently done to decrease their carbon footprint. After the initial ice-breaker, the tables of four were encouraged to participate in a conversation café. This was facilitated by a conversation café menu, which listed the major areas that caused green house gas emissions in the local community and some questions designed to create conversation within the small groups. After some time on this activity, each group was encouraged to share the areas they thought required most attention within the community to decrease GHG emissions.

These broader areas then created the basis for these groups to discuss specific issues and make note of initiatives that could contribute to decreased GHG emissions for the MSTW district. These ideas were noted on post-it notes and posted on a blank wall at the forum for all attendees to see. Once the groups had contributed a number of initiatives, they were organized along a continuum from short-term initiatives to longer-term initiatives. After a short break, each individual was given 6 coloured dots (2 x 3 colours) which were used to indicate what they perceived as the priority areas of all the ideas suggested on the wall.

- = 3 points = high priority
- = 2 points = medium priority
- = 1 point = low priority

This points system was used to calculate the initiatives that were perceived most important or effective by the forum participants. The most popular initiatives have been charted and included in the action plan. A summary has been included below.

Morden Priority areas

Short term	**score**	
plant trees	18	3 3 3 3 3 2 1
educate on compost	16	3 3 3 2 2 1 1 1
educate and coordinate car/van pool	14	3 3 3 3 2
Educate ecograss (requires less water, grows slower)	13	3 3 3 2 2
educate to grow local and buy local	12	3 3 2 2 1 1
Medium term		
public transport between Winkler and Morden	16	3 3 2 2 2 2 1
construction materials recycling program regulated by MSTW	13	3 2 2 2 2 2
increase compost pickup	12	3 2 2 2 2 1
Long term solutions		
bicycle paths	9	3 3 2 1

Winkler Priority areas

Short term ↓ Long term

Community-led ideas	**score**	
push or electric mowers	10	3 2 2 2 1
bus pooling smaller scale	9	3 3 3
parking fee in public parking zones	12	3 3 3 2 1
recycle asphalt shingle	16	3 3 3 2 2 2 1
bike path between Morden and Winkler	9	3 3 2 1
plant trees	22	3 3 3 3 3 3 2 1 1

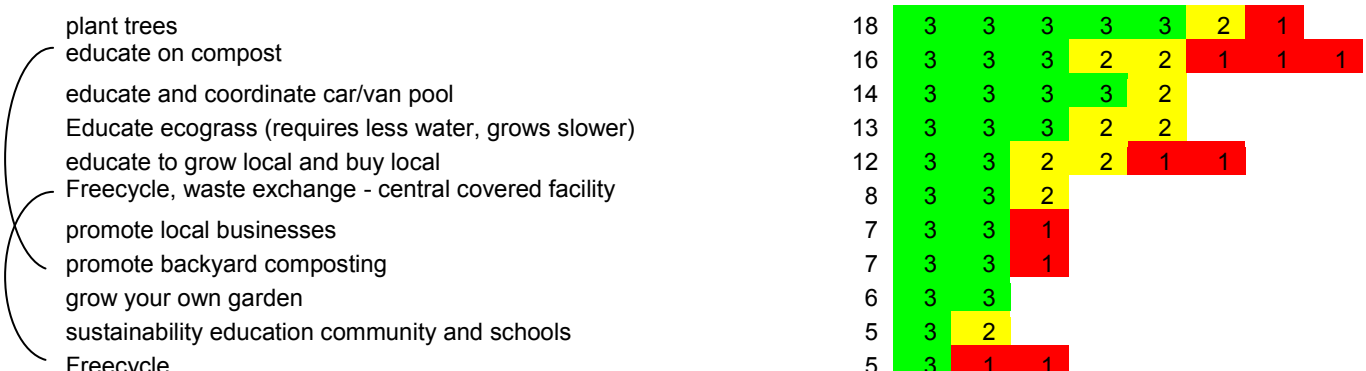
Goals and Outcomes of the Public Consultation Forums

Goal	Achieved	Changed	Notes
Raise public awareness of the CLER Program & the action plan	Yes		The feedback from both forums showed that all participants were more aware of the CLER Program and goals after attending the forums.
Gather information on previous, existing, and planned projects and initiatives to reduce GHG emissions		Yes	The forum did not focus on gathering information about previous projects and initiatives to reduce GHG emissions. It primarily focused on gathering information about projects the communities would like to see implemented in the future and allowed discussion on existing and planned projects when the opportunity arose.
Gather feedback on existing ideas for the action plan	Yes		Existing ideas were discussed when the opportunity arose in the discussions; however, existing ideas were not pushed on the participants in order to allow for opportunity to hear their ideas.
Collect new ideas for the action plan	Yes		The forums were specifically designed to allow for ample opportunity to share new ideas. Several new ideas were introduced at the forums, which will be discussed and considered further with the advisory committee.
Prioritize ideas and discover which ideas are the most supported by the public	Yes		The forums were specifically designed to allow for participants to prioritize ideas and show their support for selected ideas. Both forums used a rating system, which allowed for ideas to be ranked according to support shown by the participants.

Feedback from the public consultation forums was collected using a feedback form and will be use to improve the public consultation initiatives in the future.

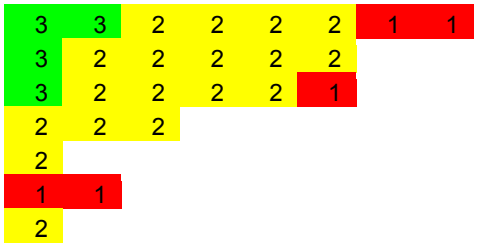
Comprehensive Results from the Morden Forum

Short term	**score**
plant trees	18
educate on compost	16
educate and coordinate car/van pool	14
Educate ecograss (requires less water, grows slower)	13
educate to grow local and buy local	12
Freecycle, waste exchange - central covered facility	8
promote local businesses	7
promote backyard composting	7
grow your own garden	6
sustainability education community and schools	5
Freecycle	5
increased garden area (veg patch), community garden	5
shuttle bus between communities	5
more idle-free zones	5
compost at Corn and Apple	4
lawn/garden - non motorised grass cutter	2
let lawns grow wild	2
CFL/LED lights and educate on disposal	1
Lawn mower share/coop	1
more regular hazardous waste collection	1
fridge/freezer disposal	1
use non recyclables for fuel source	0
increase snow removal on walkways	0
community tree planting	0



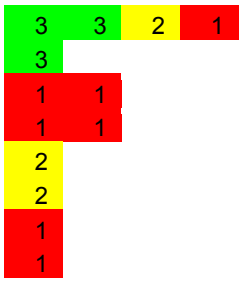
Medium term

public transport between Winkler and Morden	16
construction materials recycling program regulated by MSTW	13
increase compost pickup	12
more efficient school bus routes	6
restrict waste to landfill - incentives, deposit/return system	2
blue box recycling in larger villages	2
don't drive	2
car co-op - save the seldom used 2nd vehicle	0



Long term solutions

bicycle paths	9
promote non motorized sports and rec areas	3
walking/ bicycle planning	2
mandate or regulate reduced packaging	2
pay per use garbage collection	2
composters for livestock	2
green vehicle incentives	1
share geothermal heat between properties	1
integrate geothermal with new soccer facility	0
organise group/block geothermal	0



Comprehensive Results from the Winkler Forum

Short term

Long term

Community-led ideas	Score	
more hazardous waste management locally	0	
mower share - push electrical	3	2 1
push or electric mowers	**10**	3 2 2 2 1
incentives for electric mowers	0	
info and education on green initiatives	8	3 3 2
bus pooling smaller scale	**9**	3 3 3
education water recycle (home grey water, wetlands)	5	2 2 1
parking fee in public parking zones	**12**	3 3 3 2 1
ethical ewaste program	0	
CFL program	3	3
car pooling	5	3 2
$100.00 rebate on hybrid cars	0	
limit garbage bags	5	3 1 1
Winkler charge for garbage bag pickup	4	3 1
educate and improve increased recycling	5	2 2 1
give Mr Riemer a grant and let him build a large drum composter	2	1 1
recycle wood and compost any left over	0	
recycle asphalt shingle	**16**	3 3 3 2 2 2 1
bike path between Morden and Winkler	**9**	3 3 2 1
standard regulations for waste disposal (same regional standards)	1	1
plant trees	**22**	3 3 3 3 3 3 2 1 1
bus service Winkler/Morden/hospital	7	2 2 1 1 1
tax fuel	1	1
zoning related to food production i.e. chickens	0	
energy retrofit	0	
steel roof	0	
alt lawn care	0	
refit schools/institutions with solar heat	5	2 1 1 1

Lessons from the Public Consultation Forums

The public consultation forums worked well as it allowed local community members to share their knowledge about the services already available or in discussion with others in attendance. The forums allowed participants to feel like they were appropriately consulted and empowered to influence the action plan for the MSTW district. These forums, through the interactive activities organized throughout the two separate evenings, also permitted those individuals in relevant industries to network and meet others whom may be able to assist with their own initiatives within their businesses. This was particularly apparent when the forums were opened with brief individual introductions.

A challenge that was made evident at the forums was that a small minority of individuals was in attendance to voice their sceptical opinions about Climate Change issues. At times, this was disruptive to the group and confronting to the facilitators of the forums.

In the future, a number of improvements would ensure more effective forums. It was apparent that introductions of each individual in attendance might have helped foster new networks in the community.

Refreshments were selected and provided with consideration of the environmental and ethical impact of the products, with minimal production of waste through the use of re-useable serving-ware. However, it would have been beneficial to promote low food miles and purchase locally produced and home-made food.

The feedback form used at the Winkler forum did not allow for qualitative data to be collected so it was changed for the Morden forum and was much more successful at collecting useful feedback. Several suggestions were given for ways to improve the forums in the future, some of which include:

- Orientation of tables so all groups can interact
- More time for open discussion
- Opportunity to identify costs and benefits

Feedback was also given on what the participants would like to see included in future CLER Program open houses/community consultation events and include the following suggestions:

- More input on ideas that might be accepted
- More info on funding available
- More regular community consultation events
- Local website on environmental issues
- More advertising/promoting the CLER Program
- Guest speakers
- Separate informative program for farm field crops
- Include more examples of recycled products
- Weekly column in local newspaper on environmental issues, ideas, etc.

Appendix 5 Lessons from the Open House in Miami

The information booth provided the general public with a broad awareness of the CLER program. A number of individuals shared their stories on how they have become more sustainable (eg composting) while others informed the Climate Change Coordinator of the community recycling depot in absence of a curb-side pick up service in the Thompson district.

Due to a lack of signage or a banner, individuals were not aware of the content or purpose of the booth until they approached it to seek out further information about the CLER Program.

In future, it would be beneficial to let the community know of the booths participating in the Open House, in order to attract residents interested in sustainable issues. A banner or signage would have also helped attract attendees to the booth.

Appendix 6 Online Web-Poll Initiative

Information Posted on Pembina Valley Online CLER Web-Poll

The Community Led Emissions Reduction (CLER) Program is a four year (2008-2012) pilot program run by the Province of Manitoba to support community-led action to reduce greenhouse gas (GHG) emissions. It is directly modeled on the Federation of Canadian Municipalities' Partners for Climate Protection five-milestone program.

The Town of Morden, City of Winkler, RM of Stanley and RM of Thompson communities have joined together to work through the five-milestone framework and take action to reduce their GHG emissions, which will see a number of benefits including:

- short and long term cost savings (e.g. energy efficiency and water conservation);
- improved health and safety (e.g. cleaner air);
- protection of natural resources and habitat;
- local economic stability and development; and,
- community resilience and adaptability.

The program's goal is to work with municipal governments and community organizations to engage the community and develop projects and incentives that will reduce GHG emissions by 2012 and contribute to longer term changes that contribute to sustainable, thriving communities.

The CLER web-poll is designed to collect public feedback on the following streams, which will be the focus of the Climate Change Action Plan:

- transportation (active and public);
- green landscaping;
- waste;
- water; and,
- energy conservation.

Please contact the local Climate Change Coordinator, Kelly Stock, on 1-204-822-6223 for more details about the CLER Program in your community, and to enter your name in a draw to win a bicycle (donated by Time Out Sports & J T Wiens Law Firm).

Click on the link to the Pembina Valley Online CLER Web-Poll here

Click on the link to MB government page news release on CLER Program here

Click on the link to Environment Canada facts about greenhouse gases here

Online Web-Poll Questions

1. Which project do you think has the greatest potential to reduce greenhouse gas emissions in the Morden, Winkler, RM of Stanley, and RM of Thompson communities?
    - A bike path between Winkler and Morden
    - A bus service between Winkler and Morden
    - A bus service within Winkler and Morden
    - A carpooling service including carpool bays in central locations

2. Which ideas do you think would encourage more people to choose active transportation (cycle, walk, run, inline skate, skateboard, etc.) options instead of driving a vehicle as their preferred mode of transportation?
    - Develop more trails and bike paths in the communities and linking communities
    - Create safe cycling and walking maps for the communities
    - Install signage on busy roads to remind drivers to be cautious around cyclists and pedestrians
    - Businesses provide mileage to employees who choose active transportation (same as car mileage)

3. Which project do you think has the greatest potential to reduce greenhouse gas emissions in the Morden, Winkler, RM of Stanley, and RM of Thompson communities?
    - A municipal compost program, similar in structure to the curbside recycling and solid waste program, in Winkler and Morden
    - Eliminating plastic shopping bags at local businesses
    - A regular drop-off site for hazardous household waste in Winkler and Morden
    - A garbage bag limit in Winkler
    - Larger recycling bins and smaller garbage bins

4. Which project do you think has the greatest potential to reduce greenhouse gas emissions in the Morden, Winkler, RM of Stanley, and RM of Thompson communities?
    - Provide incentives for purchasing rain barrels
    - Educate communities on water conservation methods
    - Offer rebates and help with installation of low flow/dual flush toilets
    - Offer rebates and help with installation of low flow showerheads

5. What would you like more information about in regards to reducing greenhouse gas emissions?
    - Options and incentives for switching to green energy (lighting, geothermal heating and cooling, low-flow/dual flush toilets, etc.)
    - Options for reducing solid waste (composting, recycling, re-using, etc.)
    - Green landscaping ideas and incentives
    - Water conservation ideas and incentives

Lessons from the Online Web-Poll

The online web-poll is an effective way to collect public opinion on the preferred initiatives for decreasing GHG emissions. The limitation with the web-poll is that it cannot be moderated as individuals may be voting more than once within the same week, or over consecutive weeks so that the exact number and votes cannot be assumed to be the same for the number of people who have voted.

The online web poll could be improved by having participants register their email so that they can be regularly informed of the events and other associated information regarding the CLER program. It would also be beneficial if the web-poll was created so that individuals could only register once per week to vote to avoid multiple voting from a single individual.

2011, Association of Manitoba Municipalities. All Rights Reserved.
The preparation of this sustainable community plan was carried out with assistance from the Green Municipal Fund, a Fund financed by the Government of Canada and administered by the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors, and the Federation of Canadian Municipalities and the Government of Canada accept no responsibility for them.