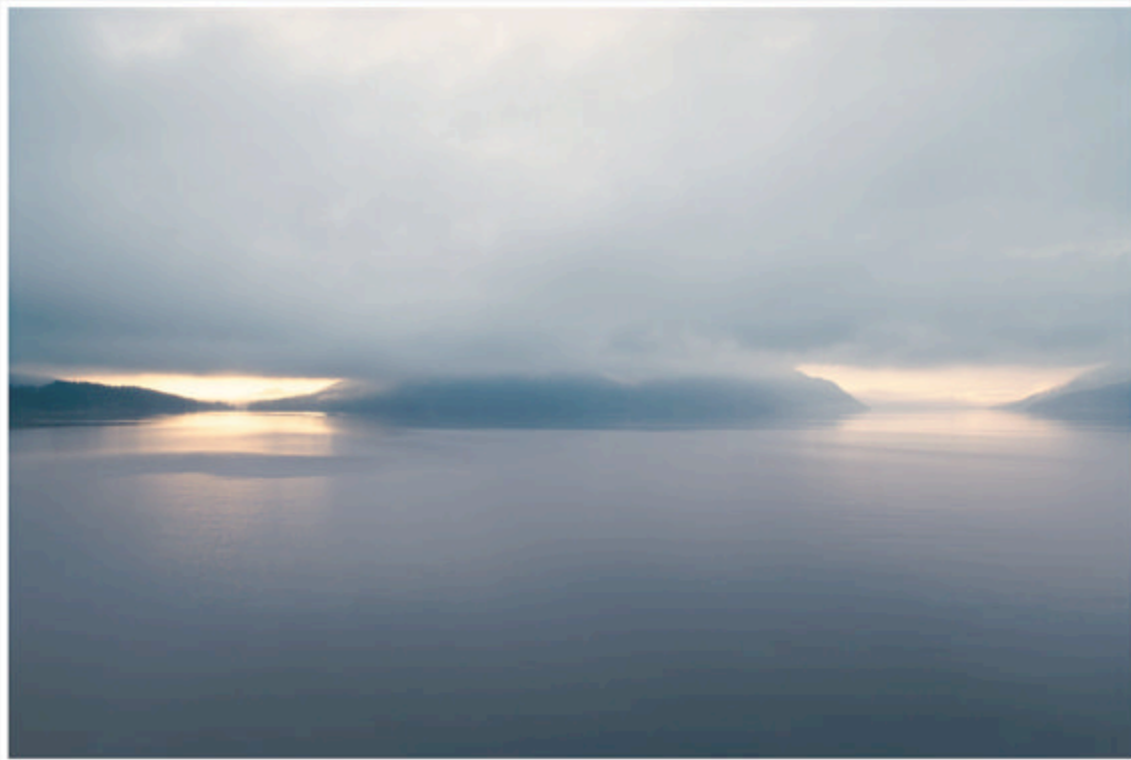


Salt Spring Island Climate Action Plan

Version 1.0



Salt Spring Island Climate Action Council

April 28, 2011

www.climateactionsaltspring.ca

APPENDICES

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APPENDIX A: NOTES AND SOURCES

Explanatory notes and sources organized by section are provided below. Website addresses and contents may change. Citations were correct as of February, 2011.

SECTION 2. INTRODUCTION

2.1 Purpose of the Plan

- 1 BC Climate Action Plan, BC Provincial Government 2008 <http://www.env.gov.bc.ca/cas/cap.html> - cap
- 2 CRD Climate Action Program <http://www.crd.bc.ca/climatechange/>

2.2 Climate change

For this very short summary of extremely complex science we were guided by *Storms of my Grandchildren* by James Hansen, Bloomsbury, 2009. This is one of the most up-to-date and authoritative of several recent books on climate change written for the lay reader. For further reading on the science and impacts of climate change, please see the following websites:

- Intergovernmental Panel on Climate Change:
www.ipcc.ch/
- Real Climate, climate science from climate scientists:
<http://www.realclimate.org/>
- Updating the Climate Science:
<http://www.columbia.edu/~mhs119/>
- CO2Now:
<http://CO2now.org>
- BC Ministry of Environment:
www.env.gov.bc.ca/epd/climate/about/index.htm
- Islands Trust:
<http://www.islandstrust.bc.ca/climatechange/pdf>
- Capital Regional District:
<http://www.crd.bc.ca/climatechange/index.htm>
- David Suzuki Foundation:
<http://www.davidsuzuki.org/issues/climate-change/>
- Pembina Institute:
<http://www.pembina.org/climate/science>
- Answers for skeptics:
<http://www.grist.org/article/series/skeptics/>
- Skeptical Science:
<http://www.skepticalscience.com/>

Coastal Climate Change

- 3 *Capital Region Climate Change Adaptation Study PHASE 1: PROJECT SCOPING*, The Sheltair Group, draft April 2007

Impact on Islands Trust Communities

- 4 *Reducing Greenhouse Gas Emissions in the Islands Trust Area*, Islands Trust, Sept 2009
<http://www.islandstrust.bc.ca/climatechange/pdf/climatechangereportsep302009.pdf>

2.3 Climate Action Plan process

- 5 Salt Spring (Islands Trust) tied for first place with the City of Vancouver for the Energy Savings Plan Community Challenge. Awarded in April, 2007, amount \$30,000. Salt Spring also won one of the first Green Cities awards

from a field of 163 electoral areas across BC and was awarded \$25,000 for local CRD projects and progressive land use initiatives. Awarded in October, 2007.

2.4 Salt Spring's GHG reduction targets

6 The following table gives the source data for Figure 3.

Table: Salt Spring Island GHG Emissions Reduction Targets

	2007 Baseline	2015 Target	2020 Target	2020 Target
Percentage	100%	15%	40%	85%
CO ₂ e(t) saved, at least	0	10,500	28,000	59,500
Emissions remaining CO ₂ e(t)	70,000	59,500	42,000	10,500

2.5 Community Energy Use and Emissions

7 Community Energy and Emissions Inventory (CEEI) reports may be downloaded from the CEEI website: <http://www.env.gov.bc.ca/cas/mitigation/ceei/reports.html>

8 Salt Spring Island Community Energy Strategy baseline report and updates may be downloaded from the Salt Spring Energy Strategy website: <http://www.saltspringenergystrategy.org/>

9 The following table gives the source data for Figure 4.

Table: Salt Spring Island 2007 Baseline Energy Consumption and GHG Emissions

Type	Energy, GJ	Co ₂ e(t)	% CO ₂ e	Data source
Cars	136,638	9,375	13%	CEEI
Light trucks and SUVs	184,815	12,667	18%	CEEI
Total light vehicles	321,453	22,042	32%	CEEI
Commercial trucks & bus	39,032	2,721	4%	CEEI
RVs, motorcycles	6,096	300	0.43%	CEEI
Total vehicles	366,581	25,063	36%	CEEI
BC Ferries Route 4 (Fulford)	49,706	5,497	8%	SSI 2002 data, less 5.1%
BC Ferries Route 6 (Vesuvius)	14,026	1,551	2%	SSI 2002 data, less 5.1%
BC Ferries 33% share of Route 9	32,613	3,607	5%	SSI 2002 data, less 5.1%
Total BC Ferries*	91,431	10,655	15%	SSI 2002 data, less 5.1%
Residential electricity	358,825	2,459	4%	CEEI
Residential oil	10,276	724	1%	CEEI
Residential propane	9,284	566	1%	CEEI
Residential wood	77,457	29	0.04%	CEEI
Total residential	455,842	3,778	5.42%	CEEI
Commercial electricity	96,734	663	1%	CEEI
Commercial other fuel	2,659	106	0.15%	CEEI
Total commercial	99,393	769	1%	CEEI
Solid waste	N/A	1,218	2%	CEEI
Food**	399,386	28,195	40%	SSI Community Energy Strategy, estimated @ 70% N American norm
Total	1,417,546	69,678	100%	
<i>Not yet included:</i> Emissions from float planes and long distance flights, private marine traffic, land clearing, embedded energy associated with construction materials and purchases of manufactured goods, etc.				

* BC Ferries 2007 fuel data for routes 4, 6, and 9 were not available, therefore 2002 data were used, adjusted downwards by 5.1% based on fleet average information provided in the BC Ferries report: *Results of the Fuel Consumption Reduction Plan to March 31, 2008*. This figure will be updated.
http://www.bcferrries.com/files/AboutBCE/August_2008_FINAL_Fuel_Savings_Plan.pdf

** In the Salt Spring Island Community Energy Strategy baseline, indirect energy and emissions from food were assumed to be the N. American norm, based on the work of Pimentel et al. (Pimentel, D. and Pimentel, M. *Food, Energy and Society* published by University Press of Colorado, 1996. (363pp.) Pimentel, D. and Pimentel, M. 2003. *World Population, Food, Natural Resources, and Survival* in, *World Futures* 59: (3-4) 145-167, and personal communication). For the Climate Action Plan estimates have been reduced to 70% of the N. American norm in recognition that some of the emissions included in the Pimentel analysis have already been included in the Salt Spring transportation, residential and commercial emissions. Salt Spring's aging and health-conscious population is also considered likely to eat less, and less red meat in particular, than the N. American norm. There is considerable uncertainty surrounding the food-related emissions, although the numbers are known to be large. Estimates will be revised as more information becomes available.

2.6 Per Capita Energy Use and Emissions

10 Conference Board of Canada, 2005 data:

<http://www.conferenceboard.ca/hcp/details/environment/greenhouse-gas-emissions.aspx>

11 *British Columbia Greenhouse Gas Inventory Report 2008*, BC Ministry of Environment, Sep 2010

SECTION 3 MEETING 2015 AND 2020 TARGETS

3.1 Targets and proposed savings by sector

1 Table 2 proposed savings were developed by an iterative process, looking at potential savings of specific actions and overall contributions by sector.

3.2 Summary of savings by sector to meet 2015 and 2020 targets

2 On-island Transportation assumptions:

1. If all islanders eliminate one trip in five.

20% of 22,042 tonnes (total light vehicle emissions) = 4,408 tonnes.

This assumes one trip in five to Ganges, one trip in five to Victoria and so on. In other words, a 20% reduction in annual VKT.

2. If all islanders increase vehicle occupancy by one, every fourth trip.

25% of 22,042 tonnes (total light vehicle emissions) = 5,511 tonnes.

This assumes that the additional occupant would otherwise have driven their own vehicle. Actual emissions saved will be perhaps 5% less than stated because the weight of the extra passenger will increase fuel consumption slightly.

3. If all islanders tune up and drive smart for 5% better performance

5% of 22,042 tonnes (total light vehicle emissions) = 1,102 tonnes.

Measures include those suggested in the CRD Transportation Tune Up workshops: no idling, proper tire inflation, remove extra weight, no rapid acceleration and braking, etc.

4. If islanders replace 1 in 5 pick-ups and SUVs with small cars

20% of 12,667 tonnes (light truck and SUV emissions) minus 20% of 6,006 tonnes (small car emissions) = 1,332 tonnes.

Estimate of small car emissions from CEEI report.

5. If islanders replace 1 in 10 light vehicles with electric vehicles

10% of 22,042 tonnes (total light-vehicle emissions) minus 339 tonnes (emissions from electric cars) = 1,332 tonnes.

Emissions from electric cars were estimated as follows:

Average kWh per km electric car	0.186
Annual kWh for SSI light vehicle @11,000 km	2,050
Annual emissions for SSI electric car, CO ₂ e(t)	0.05
Total number of light vehicles (CEEI)	6,776
Annual emissions from 678 electric cars, CO ₂ e(t)	339

3 Food and Agriculture assumptions:

For simplicity, we have assumed that a diet consisting of either dairy-free vegetarian or local and regional organic food represents 75% fewer emissions than a diet of conventional imported food.

1. If all islanders eat local 1 day / week
 $1/7$ of 28,000 tonnes (total emissions from food) x 25% = 1,000 tonnes
2. If all islanders eat 10% smaller portions
 10% of 28,000 tonnes (total emissions from food) = 2,800 tonnes.
3. If all islanders eat dairy-free vegetarian 3 days / week
 $3/7$ of 28,000 tonnes (total emissions from food) x 25% = 3,000 tonnes
4. If all islanders eat only local and regional organic food
 25% of 28,000 tonnes (total emissions from food) = 7,000 tonnes

4 BC Ferries assumptions:

The assumptions and calculations in this section will be updated after reviewing with BC Ferries and the BC Ferries Advisory Committee.

1. If overall fleet fuel efficiency is improved by 5%
 5% of 10,700 tonnes (total emissions from BC Ferries, SSI routes) = 533 tonnes
2. If Queen of Nanaimo (Route 9) is replaced with 25% more efficient ship
 25% of 3,607 tonnes (SSI share of Route 9 emissions) = 902 tonnes

The Salt Spring share of emissions from Route 9 (Long Harbour to Tssawwassen) is assumed to be 33% of total Route 9 emissions, or 3,607 tonnes. The 25% savings is a guess, and might be achieved by some combination of vessel replacement and/or changes to Route 9, possibly involving a hub at one of the outer islands.

3. If 10% sailings from Route 4 (Fulford) shift to Route 6 (Vesuvius)
 10% of 5,497 tonnes (Route 4 emissions) minus 10% of 1,551 tonnes (Route 6 emissions) = 395 tonnes
 This implies roughly one fewer sailing from Fulford and slightly more than one additional sailing daily from Vesuvius. Whether this could be accomplished given traffic volumes at both terminals is unclear.
4. If sailings on all routes reduced by 10%
 10% of 10,700 tonnes (total emissions from BC Ferries, SSI routes) = 1,070 tonnes
 This would significantly reduce ferry service to Salt Spring and would inconvenience many islanders. It is not recommended but included for information.
5. If Queen of Nanaimo is replaced with foot passenger ferry, est. 75% savings
 75% of 3,607 tonnes (SSI share of Route 9 emissions) = 2,705 tonnes

5 Assumptions for Homes:

1. If islanders retrofit 1 in 5 island homes for 20% savings / home
20% of 3,778 tonnes (total emissions from homes) times 20% = 151 tonnes.
The average energy savings per retrofit for BC under the old EGH program was 27% of (calculated) post retrofit energy use.
2. If all islanders conserve energy, average 5% savings / home
5% of 3,778 tonnes (total emissions from homes) = 189 tonnes.
Assumes low-cost and no-cost measures such as thermostat set-backs, turning off lights, draft proofing, cold water wash, etc.
3. If islanders replace remaining oil furnaces with electric furnaces
724 tonnes (residential heating oil) minus 175 x 0.3 tonnes (emissions from electric furnaces)
= 671 tonnes
Assumes 175 furnaces replaced by electric furnaces.
4. If islanders retrofit 1 in 5 electrically heated homes with heat pump equipment
20% of 3,778 tonnes (total emissions from homes) times 60% divided by 3 = 151 tonnes.
Assumes heat pump coefficient of performance of 3 and that 60% of electricity consumption is for space heating.

6 Assumptions for businesses and institutions:

1. If building and processing energy efficiency increase by 10% overall
10% of 766 tonnes (total emissions from businesses and institutions) = 77 tonnes.
2. If heating oil and propane equipment is replaced with electric equipment
106 tonnes (emissions from heating oil and propane) minus 6 tonnes (emissions from electrical equipment)
= 100 tonnes
3. If electric heating and hot water is replaced with heat pump equipment
30% of 660 tonnes (electrical emissions) = 230 tonnes / 3 (coefficient of performance) = 77 tonnes

7 Assumptions for Solid waste:

1. If 20% of remaining methane emissions are collected at Hartland
20% of 1,200 tonnes (solid waste emissions at Hartland) = 240 tonnes
2. If half of all compostables are diverted to local compost
50% of 1,200 tonnes (solid waste emissions at Hartland) = 600 tonnes

8 Assumptions for local renewable energy:

1. If biogas plant built for SSI solid or liquid waste, compressing and using the gas produced to fuel vehicles.
80% of 600 tonnes (50% of solid waste emissions) = 480 tonnes
Assumes half the emissions produced from solid waste could be captured and used to displace transportation emissions with process efficiency losses of 20%.
2. If 100 solar water heaters installed @ 6 GJ ea
600 GJ = 167 MWh x 0.02467 (emission factor CO₂e(t)/MWh) = 4 tonnes
Assumes lower efficiency and smaller SHW systems, 12 GJ systems are available.

3. If 800 MWh/y produced from 70 microhydro sites

$$800 \text{ MWh/y} \times 0.02467 \text{ (emission factor CO}_2\text{e(t)/MWh)} = 20 \text{ tonnes}$$

See Microhydro Feasibility Study for Salt Spring Island for estimates of microhydro potential.

4. If solar district heating installed for 100 homes

$$100 \times 0.5 \text{ tonnes (average emissions per home)} \times 78\% \text{ (percentage attributable to space heating and hot water)} = 39 \text{ tonnes}$$

5. If 500 @ 2 kW solar roofs installed, each producing 1000 kWh/y

$$500 \text{ MWh/y} \times 0.02467 \text{ (emission factor CO}_2\text{e(t)/MWh)} = 12 \text{ tonnes}$$

3.3 Impact of population growth

- 9 J.G. Consulting Services and Judi Stevenson. 2009. *Islands Trust Housing Needs Assessment*.

- 10 E.g., Druckman, A. and T. Jackson. 2008. The carbon footprint of UK households 1990-2004: a socio-economically disaggregated, quasi-multi-regional input-output model IIOMME 2008; Natural Resources Canada, *National Private Vehicle Use Survey - October 1994 to September 1996*.

- 11 Climate Talk http://50plus.climatetalk.org.uk/info?p_id=17

3.4 Immediate priority actions for 2015

- 12 Project coordinated by the Earth Festival Society, with help from the Salt Spring Island Conservancy and Island Natural Growers, to help islanders calculate and reduce their individual GHG emissions. The project was part of a national initiative, terminated in 2006 when the federal Conservative government cancelled the program and withdrew permission for communities to use the phrase "One Tonne Challenge".

SECTION 5 CLIMATE ACTION PLAN FOR INDIVIDUALS AND FAMILIES

Notes to Table 3: Examples of the long-term carbon legacy of personal decisions

1. See: Murtaugh, P.A. and M.G.Schlax. 2009. Reproduction and the carbon legacy of individuals. *Global Environmental Change* 19:14-20. Note that the birth of a child triggers a parental carbon legacy that accumulates for generations beyond the lifetime of the parents. This example assumes current lifetime per capita emissions of 1320 tons, lifespan of 81 years, generation cycle of 25 years, and fertility rate of 1.7. Emission savings estimate (500 tons) assumes linear GHG reduction of 85 percent by 2050 then linear decline to zero fossil fuel use by 2100. The Canadian birth rate is almost 60 percent higher than the death rate, therefore the population is growing and per capita GHG reductions for future years must decline disproportionately to offset the impact of the larger population. Also the fertility rate is rising. An additional contributor to population growth is immigration, which is currently approximately 0.72 x birth rate (Population Reference Bureau. 2010. World population Data Sheet).
2. Deforestation example assumes fuel consumption of 140 tons biomass yielding 1.569 tons CO₂ per ton = 220 tons, plus nine tons carbon dioxide per year in sequestration loss (90 tons for ten year period). (Wiedinmyer, C. et al. 2006. Estimating emissions from fires in North America for air quality monitoring. *Atmospheric Environment* 40:3419-3432.) Local old growth forest stores may amount to hundreds of tons of carbon dioxide per hectare. See also: Smithwick, E.A.H. et al. 2002. Potential upper bounds of carbon stores in forests of the Pacific northwest. *Ecological applications* 12:1303-1317. Humphreys, E.R, T.A. Black, K. Morgenstern, T. Cai, G.B. Drewitt, Z. Nestic, and J.A. Trofymow. 2006. Carbon dioxide fluxes in coastal Douglas-fir stands at different stages of development after clearcut harvesting. *Agricultural and Forest Meteorology*, 140:6-22. Lusaert, S. et al. 2008. Old growth forests as global carbon sinks. *Nature* 455:213-215.

3. US Environmental Protection Agency. Household Emissions Calculator. http://www.epa.gov/climatechange/emissions/ind_calculator.html
4. B.C. Hydro 2010 March 25 emission factor of 0.000028 tons of CO₂ per kWh.
5. Example uses 22.1 kg CO₂e/kg red meat with Caloric substitution @ 25 percent yield kg CO₂e/kg food. (Weber, C.L. and H.S. Matthews. 2008. Food-miles and the relative climate impacts of food choices in the United States. Environmental Science and Technology 42:3508-3513.) Annual Canadian per capita meat consumption 108.1 kg (World Resources Institute. earthtrends.wri.org)
6. Using dog food equivalent to 90 grams of meat and 150 grams of cereal per day.
7. Example uses 250 kg carbon dioxide per square metre for wood frame house. (Suzuki, M., T. Oka, and K. Okada. 1995. The estimation of energy consumption and CO₂ emission due to housing construction in Japan. Energy and Buildings, 22: 165-169.)
8. Alter, L. The carbon footprint of renovation vs new construction. www.treehugger.com
9. Car, truck, bus bicycle calculations use Vehicle fuel consumption: Natural Resources Canada Fuel Consumption Ratings <http://oee.nrcan.gc.ca/transportation/tools/fuelratings/ratings-search.cfm?attr=8>. Gasoline car: assumes single occupancy subcompact @7 litres per 100 km, 2.4 kg per litre. GHG. Truck: assumes 12litres per 100 km, 2.4 kg per litre GHG. Electric car: assumes 24 kWh per 160 km @ B.C. Hydro 2010 March 25 emission factor of 0.000028 tons of CO₂ per kWh. Bus: assumes average occupancy ten riders, 13000 km per passenger per year @ 22 litres per 100 km, 2.6 kg CO₂ per litre. Cycling: Bike vs walk vs drive calculator <http://bicycleuniverse.info/transpo/energy.html>. Savings, if any, depend upon fuel efficiency of vehicle and diet of rider, and may well be negligible. (See: Ulrich, K.T. 2006. The environmental paradox of bicycling. Working Paper — Department of Operations and Information Management, The Wharton School.) Cycling assumes 70 kg person 16-19 kph.
10. Ferry assumes Queen of Nanaimo at 60 percent passenger capacity of 1163 using 4957 litres fuel per round trip. (British Columbia Ferry Services Inc. 2008. Fuel route consumption.) Mass transit (ferry, aircraft) emission savings are applicable only if a sufficient number of people avoided traveling such that flights and sailings were cancelled.
11. <http://www.catalina34.com>
12. <http://www.yachtworks.info/en/motoryacht.html>
13. International Civil Aviation Organization. Carbon emissions calculator. <http://www2.icao.int/en/carbonoffset/Pages/default.aspx> Fuel route consumption mass transit (ferry, aircraft) emission savings are applicable only if a sufficient number of people avoided traveling such that flights and sailings were cancelled.
14. (Emissions only from manufacturing, other emissions would occur from vehicle transport, mining, etc.) Automotive Engineer. Europe's automotive engineering magazine. Emissions web page, <http://www.ae-plus.com/key%20topics/kt-emissions-news4.htm>

Notes to Table 4: Examples of Single-day Emissions Savings

15. Car, truck, calculations use Vehicle fuel consumption: Natural Resources Canada Fuel Consumption Ratings <http://oee.nrcan.gc.ca/transportation/tools/fuelratings/ratings-search.cfm?attr=8> Gasoline car: assumes single occupancy subcompact @7 litres per 100 km, 2.4 kg per litre. GHG. Truck: assumes 12liters per 100 km, 2.4 kg per litre GHG.
16. Ferry assumes Queen of Nanaimo at 60 percent passenger capacity of 1163 using 4957 litres fuel per round trip. (British Columbia Ferry Services Inc. 2008. Fuel route consumption.) Mass transit (ferry, aircraft)

emission savings are applicable only if a sufficient number of people avoided traveling such that flights and sailings were cancelled.

17. http://www.bchydro.com/guides_tips/green-your-ome/appliances_guide/drying_laundry.html
18. Example uses 22.1 kg CO₂e/kg red meat with caloric substitution @ 25 percent yield kg CO₂e/kg food. (Weber, C.L. and H.S. Matthews. 2008. Food-miles and the relative climate impacts of food choices in the United States. *Environmental Science and Technology* 42:3508-3513.) Annual Canadian per capita meat consumption 108.1 kg (World Resources Institute. earthtrends.wri.org)
19. International Civil Aviation Organization. Carbon emissions calculator. <http://www2.icao.int/en/carbonoffset/Pages/default.aspx>. Fuel route consumption mass transit (ferry, aircraft) emission savings are applicable only if a sufficient number of people avoided traveling such that flights and sailings were cancelled.
20. <http://www.yachtworks.info/en/motoryacht.html>
21. Reeb, J. 2009. Home Heating Fuels. Oregon State University Extension Service, EC 1628-E.

SECTION 6 IMPLEMENTATION AND EVOLUTION OF THE PLAN

6.5 New technology

- 1 Electric fleets: BC Hydro, Fraser Basin Council, City of Vancouver
http://vancouver.ca/greencapital/pdf/VGC_Electric_Vehicle.pdf

6.6 Regulatory opportunities

- 2 *The GHG Implications of Different Settlement Patterns on Saltspring Island*, Sustainability Solutions Group, Holland Barrs Planning Group, and *Policy Options to Reduce Energy Consumption and Greenhouse Gas Emissions in New Residential Buildings*, Deborah Curran & Company, Pembina Institute, Oct 2008

SECTION 7 TRACKING PROGRESS

7.1 Existing data sources

- 1 *Salt Spring Island Trust Area: updated 2007 Community Energy and Emissions Inventory*, BC Ministry of Environment, June 2010.
- 2 *Capital Regional District 2006 Origin Destination Household Travel Survey*, Halcrow Consulting Inc. March 2007
- 3 The following table compares CEEI with Community Energy Strategy emissions estimates for vehicles and electricity emissions in 2007. There are some discrepancies, e.g. vehicle counts, and number of BC Hydro connections, that need to be investigated.

Table comparing CEEI and Community Energy Strategy estimated emissions for 2007

Type	CEEI Co ₂ e(t)	Energy Strategy Co ₂ e(t)	difference Co ₂ e(t)	difference percentage
Light vehicles	22,042	22,643	601	2.73%
Total vehicles	25,063	25,408	345	1.38%
Residential electricity	2,459	2,174	-285	-11.59%
Commercial electricity	663	511	-152	-22.93%
Total	50,227	50,736	509	1.01%

- 4 *Salt Spring Island Community Energy Strategy Baseline Report Second Update*, E. White, Earth Festival Society,

March 2010.

- 5 See *Salt Spring Island Trust Area: updated 2007 Community Energy and Emissions Inventory*, and Appendix A, p 35.

New homes

- 6 CRD building permit data and the Statistics Canada data regarding the growing number of smaller households provided in section 3.3 suggest the question: If the overall population of Salt Spring has been growing and the number of smaller households has been growing, where are the additional households living? One explanation may be that some former summer homes are now being occupied year round. Illegal, and therefore unreported, rental of secondary suites and seasonal cottages is another possible source of accommodation. The shortage of affordable housing on Salt Spring is well-documented.

Food

- 7 *Report on Salt Spring Island Livestock Production in 2008*, P. Reichert , M. Thomson, Salt Spring Island Agricultural Alliance, Dec 2009.
- 8 *Salt Spring Island Produce Study*, P. Reichert, Salt Spring Island Agricultural Alliance, March 2010.

APPENDIX B: REFERENCE DOCUMENTS

The following is a consolidated list of the principal documents that have informed the Salt Spring Island Climate Action Plan:

- BC Ministry of Environment, *Salt Spring Island Trust Area: updated 2007 Community Energy and Emissions Inventory*, June 2010
- BC Ministry of Environment, *Technical Methods and Guidance Document for 2007 CEEI Reports*, Draft May 2010
- BC Provincial Government, *Climate Action Plan*, 2008
- Community Energy Association, *Community Energy & Emissions Planning: a guide for B.C. local governments*, Sep 2008
- Community Energy Association, *Funding Your Community Energy and Climate Change Initiatives, a guide to funding and resources for British Columbia and local governments*, July 2010
- Deborah Curran & Company, Pembina Institute, *Policy Options to Reduce Energy Consumption and Greenhouse Gas Emissions in New Residential Buildings*, Oct 2008.
- Energy Strategy Task Force and Earth Festival Society, *Energy Priorities for the Salt Spring OCP, local government, and other agencies*, March 2007
- Earth Festival Society, *Salt Spring Island Community Energy Strategy*, March 2005
- Earth Festival Society, *Salt Spring Island Community Energy Strategy Baseline Report*, May 2004
- Fraser Basin Council, Community Energy Association, *Energy Efficiency & Buildings—A Resource for BC's Local Governments*, 2007
- James Hansen, *Storms of my Grandchildren*, Bloomsbury, 2009
- Islands Trust, *Reducing Greenhouse Gas Emissions in the Islands Trust Area*, Sept 2009
- ICLEI Local Governments for Sustainability, *Changing Climate, Changing Communities: guide and workbook for municipal climate adaptation*, 2010
- Islands Trust, *Salt Spring Island Official Community Plan Bylaw No. 434, 2008*, Oct 2008
- Masselink Environmental Design, *Salt Spring Island Area Farm Plan detailed report*, Jan 2008
- Pembina Institute and Community Energy Association, *Bowen Island Community Energy Planning Options Report*, April 2003
- G. A. Richardson, *Adapting to Climate Change: an introduction for Canadian municipalities*, Natural Resources Canada, 2010
- K. Scarfo et al, *Island Community Ridesharing: Resource Toolkit and Implementation Strategy*, Sept 2005
- The Sheltair Group, *Capital Region Climate Change Adaptation Study PHASE 1: PROJECT SCOPING*, draft April 2007
- Sustainability Solutions Group, Holland Barrs Planning Group *The GHG Implications of Different Settlement Patterns on Saltspring Island*, (undated)
- Peter Robinson, *BC Local Government Survey: District Energy, Renewable Energy and Energy Planning report on results*, Community Energy Association, March 2009
- S. Rutherford, *Bill 27: Opportunities and Strategies for Action by BC Local Government*, West Coast Environmental Law, 2009
- E. White, *Salt Spring Island Community Energy Strategy Baseline Report Second Update*, Earth Festival Society, March 2010
- E. White, *Potential Climate Actions for Salt Spring Island*, Earth Festival Society, March 2010
- E. White, S. Davis, P. Grange, J. Booth, *Microhydro Feasibility Study for Salt Spring Island*, May 2009

APPENDIX C: WEB AND OTHER RESOURCES

BC Climate Action Toolkit

www.toolkit.bc.ca/

Climate action tools for local government by local government in collaboration with UBCM, Smart Planning for Communities & the Province of BC

BC Climate Exchange

www.bcclimateexchange.ca/

Network for government, civil society and private sector organizations in BC engaged in public education and outreach on climate change, impacts and solutions.

BC Community Energy Association

www.communityenergy.bc.ca/

First stop for local governments connecting communities, energy, and sustainability.

BC Community Energy and Emissions Inventory

www.env.gov.bc.ca/cas/mitigation/ceei

The Province of B.C. has committed to reducing greenhouse gas (GHG) emissions by 33 per cent from 2007 levels by 2020. It is estimated that local governments have control or influence over approximately 45 per cent of these emissions.

BC Hydro Powersmart

www.bchydro.com/powersmart/

Help lead the way to a better B.C. by using less electricity.

Canada's Action on Climate Change

www.climatechange.gc.ca

Climate change is a global problem that requires real solutions.

City Green Solutions

<http://www.citygreen.ca/city-green-solutions>

City Green Solutions is an enterprising non-profit with a mission to excite, inspire and lead British Columbians in finding innovative home and building energy efficiency solutions. We are the only non-profit provider of the ecoENERGY and LiveSmart BC programs in BC.

CRD Climate Action

<http://www.crd.bc.ca/climatechange>

The CRD's Climate Action Program (CAP) acts as a regional hub and facilitator on climate change issues. We work with local governments, non-profit societies, public institutions and the private sector to help reduce emissions today and plan for climates of tomorrow.

Earth Festival Society

<http://saltspringenergystrategy.org/>

Salt Spring Energy Strategy, taking action on climate change.

Islands Trust, Climate Wise Islands

www.islandstrust.bc.ca/climatechange/

Climate change is a global problem that demands local action to reduce greenhouse gases.

Natural Resources Canada, Office of Energy Efficiency

<http://oee.nrcan.gc.ca/>

Take advantage of the ecoENERGY Efficiency Initiative to reduce energy use in buildings and houses, industry, personal vehicles and fleets.

Pacific Carbon Trust

www.pacificcarbontrust.com/

We are a Crown corporation of the Government of BC, created to deliver quality made-in-BC greenhouse gas offsets to help clients reduce their carbon footprint and drive the growth of BC's low-carbon economy.

Pacific Institute for Climate Solutions

<http://www.pics.uvic.ca/>

Building on the strengths of its partner universities, PICS will develop innovative climate change solutions, seek new opportunities for positive adaptation, and lead the way to a vibrant low-carbon economy.

Transition Salt Spring

<http://transitionsaltspring.ning.com/>

committed to working together with all existing groups to address the urgent and critical issues of global climate change and declining fossil fuel supplies.

APPENDIX D: ABBREVIATIONS

CEEI	Community Energy and Emissions Inventory
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CO ₂ e(t)	tonnes of carbon dioxide equivalent
CRD	Capital Regional District (of Victoria)
EFS	Earth Festival Society
Emissions	greenhouse gas emissions
GHG	greenhouse gas
GJ	gigajoule, unit of energy. One GJ is about 278 kWh.
IPCC	Intergovernmental Panel on Climate Change
IT	Islands Trust
kWh	kilowatt hour. The standard unit of measure for electrical energy use. One kWh will light a 100-watt bulb for 10 hours.
LUB	Land Use Bylaw
OCP	Official Community Plan
tonnes	tonnes of carbon dioxide equivalent (metric)
VKT	vehicle kilometres travelled

APPENDIX E

GREENHOUSE GAS IMPACTS ON LAND CLEARING

DRAFT 2010 12 22

Salt Spring Island

Greenhouse Gas Impacts of Land Clearing

Land clearing for buildings, roads, gravel pits, parking lots, and driveways can result in removal of vegetation and soils that sequester carbon.

If a carbon levy were to be imposed for land development projects, an estimate of the displaced carbon storage **potential** would be required. The amount of carbon stored per unit area can vary greatly among sites depending upon soil structure, plant species composition, site index, stem density, and vegetation age. (Fahey et al. 2009; Luysaert et al. 2008).

Individualized estimates for each proposed development would be costly and time-consuming. Therefore it is proposed that a **nominal value** be employed that is anchored in field sampling of representative local environments.

Salt Spring Island forest cover is about 79 percent of land area, of which 76 percent is in the coastal Douglas-fir moist maritime ecological unit. Four percent of land area is sparsely vegetated and 17 percent is devoted to industrial/residential /agricultural use. Over 80 percent of forest cover sampled is classified as structural stages four and five, “reflecting logging over the past 50 – 80 years” (Zinovich 2008).

Pending availability of more data from Salt Spring Island, it is proposed that a value be adopted from forests of comparable age from the northern San Juan Islands Forest Inventory and Analysis plots (predominantly Douglas-fir forest). These carbon estimates qualify for reporting of greenhouse gas emissions in accordance with section 1605(b) of the US Energy Policy Act.

The San Juan carbon **stock** estimate for a 70-year-old forest is 262.62 tons per hectare, which translates to 963.82 tons of **carbon dioxide** storage, or 96.39 **kilograms per square metre** (COLE Development Group. 2010).

A nominal value for **annual carbon sequestration** can be estimated from the difference in the live tree carbon stock between 70 and 100 years divided by 30 years:

71.58 tons of carbon per hectare / 30 years = 2.38 tons sequestered per hectare per year.
= 8.73 tons of **carbon dioxide** per hectare per year.
= 0.873 kilograms of carbon dioxide per square metre per year.

Literature Cited:

COLE Development Group. 2010. COLE 1605(b) Report for Washington. USDA Forest Service and National Council for Air and Stream Improvement Inc.

Fahey, T.J. et al. 2009. Forest carbon storage: ecology management, and policy. *Frontiers in Ecology and the Environment* 8:245-252.

Luysaert, S. et al. 2008. Old-growth forests as global carbon sinks. *Nature* 455:213-215.

Zinovich, B. 2008. Terrestrial Ecosystem Mapping of Salt Spring Island. Madrone Environmental Services, Ltd. 103 pp.

APPENDIX F

Comments received on consultation draft

RECEIVED AT THE DRAFT CLIMATE ACTION PLAN OPEN HOUSES ON FEB 26, 2011

From Comment sheets:

(each bullet point contributed by a different respondent for that question)

Given the extreme urgency of the global climate situation, the Salt Spring Climate Action Council is seeking everyone's assistance; this is the beginning of the process.

1. Transportation and food are priority areas for action to meet the 2015 targets. Do you have comments or suggestions about these priority areas?

- Lobby for speed limit reductions. This will save fuel, improve safety (vehicles, pedestrians, cyclists & animals). It could also position us to get approval for small electric vehicles.
- There is enormous public attention on these issues, but transforming that awareness into practice requires government legislation.
- Better safety for cyclists. Bike paths! More bike capacity on the bus. Year around farmers market.
- I think your ideas cover everything I could suggest.
- Promote / encourage people to get more fuel efficient vehicles, especially if they are going to change anyway. Lots of ads and articles for not very [fuel efficient vehicles] in the Driftwood every week. Why?
- A cycle path (off-road) crossing the island (like the Lochside Trail on the Saanich Peninsula).
- Focus on Food First because:

(1) Food is a matter of basic survival, thus, both more urgent to immediately satisfy (we could survive without driving cars, but we can't survive without eating) and has direct local impact (we conserve fuel till the cows come home but it's a drop in the bucket compared to global fuel use).

(2) as more people garden, they will drive less often to the supermarket because of (a) greater satisfaction and rewards of home-gardening and home-cooking compared to eating processed foods, and (b) less need to shop for packaged foods, instead get it from the garden; therefore local food production produces extra levels of greenhouse gas reduction.

(3) transportation will soon solve itself as petroleum is about to become VERY expensive due to supply disruptions (Libya, etc.) and that economic mechanism will do far more than governmental exhortations to meet the targets.

(4) Food is at the centre of community survival and its local production ties the community together in the most practical common purpose.

As for transportation, No more studies and information and outside consultants and paid organizers to "tell us what everybody already knows". Focus exclusively on specific practical steps for which the government can take action (bike lanes, rideshare programs, public transport).

The most effective single step to reduce greenhouse gas emissions was ignored in this report: over-population (not that exhortation by the government would do any good) – but we could cut emissions by two-thirds each and cancel that out by having so many children and grandchildren.

- Promote use of scooters and motorcycles. 50-200 mpg.
- Very important: Farmland Trust, and more transit routes, and Electric car options.
- Increase bus service and increase bike carrying capacity (always full). Build bike paths. Too dangerous as is.

- Start a cooperative farm with a paid manager who will involve community members as labour in exchange for food. Makes it easy to grow lots of food collectively.
- Dairy free vegetarianism? If the rise in sea level hinges on this we should all buy life jackets.
- I'm putting my vegetable garden back into production and inviting neighbours to participate.
- I carpool and ride share. Potatoes, and other veg. e.g. snow peas, greens, tomatoes and more will grow in 5 gal buckets of garden soil put in a sunny place, kept watered and drained, even on a balcony or porch.
- Become creative with food ideas. Share meals with others more often.
- car stops – cards for drivers windshields if willing to pick-up; bicycle lanes or wider shoulders on all roads; coop-neighbourhood gardening projects.
- Privately funded incremental bus service.
- I'd use the bus but it doesn't come to my area (end of Beddis), tho' the school bus does! Air travel is really the big culprit and relates to both these areas as so much food is flown in. Maybe a boycott of fruits and veggies not grown in BC that can be e.g. apples, lettuce would help.
- Grow food not grass.
- Campaign for carbon taxes. Increase taxation on gas guzzlers, give rebates on fuel efficient vehicles. Campaign against over-packaging. Grow more locally.
- expand bus routes. Bike lanes on major routes. More pathways around village centre (safer for walkers).
- year found farmers market would help.
- encourage grass/local grain feed beef. Encourage use of incorporating offal to farming use.
- Reduce speed limit –have sign(s) explaining we can't afford proper bike paths/roads so limit is being lowered to save fuel.

2. Are you willing to take the 15% by 2015 Pledge?

- Yes [fifteen respondents].
- YES, of course I am, and everybody in the room today has probably done that and will do 40% or 80% by 2015 anyway. This whole effort is a waste of OUR taxpayer money. I could cut 95% of my emissions, but if my neighbours have three kids, that's all the energy-savings down the drain.
- I want to go further if I can.
- I already do much of this.
- Where is the science? Yes.
- I'm doing as much as I can already.

3. What ways to reduce greenhouse gases strike you as particularly important and achievable?

- Expand bus service – very important.
- Transit, greater reliance on local agriculture, true cost accounting.
- Consume less. Teach children that they can make a difference. Reduce air travel.
- Not flying & reduce driving.
- Promotion of electric bikes.
- Publicizing what institutions are doing helps encourage the 'skeptics' to get involved.
- Concentrate future development in village areas.
- Expand the bus system.

- Encourage people to eat local, organic and more veggie meals.
- One difference the government could do is RAISE TAXES HUGELY on petroleum, on “large” homes and cars, and for every child after the first child in a family. Fat chance of any of those things happening. Another difference the government could make would be to allow cob and straw-bale housing, and composting toilets to replace regular ones, by relaxing needless building code requirements. In killing off green building practices, making them prohibitively expensive, govt. becomes a chief factor in GHG emissions.
- Continue preserve and protect. Support Islands Trust.
- Organic food production, local food production, reduced energy use, reduced driving, travelling off island.
- Create a campaign to make SSI a zero-waste island. Community kitchen, bulk food buying groups, reuse centre, etc.
- Use less long distance airplane flights.
- more bus service/ride sharing site.
- Drive to the store like islanders not like townies.
- Stop so much mindless driving. I've already started to do more walking but I live in town. More people should be encouraged (allowed?) to live in town.
- Use a clothes line and dry laundry outdoors and/or on clothes racks indoors.
- Ridesharing, walking, buying more local and less from Mexico, California, south America and China.
- Ride share pathways.
- more walking, biking, car sharing; maybe an electric car rental service? Eat locally. Info in stores re mileage travelled, of food stuffs.
- Improving public transit and bike lanes. Encouraging gardening and local agriculture. Helping people raise more food locally and promoting vegetarian recipes etc.
- Stop the highways department and private owners from burning their slash.
- Increased LEED building. Consume less industrial products. Fewer flights. Fewer kids. Carrots and sticks always.
- awareness of vehicle use / overuse. Promoting local food choices – have info @ Sat/Tues farmers markets.
- Legalizing secondary suites and allowing them throughout the island (with few exceptions, e.g. drinking water watersheds setbacks) is a very effective way to add housing for working people that does not lead to additional tree loss and other environmental impacts of development. Provided of course water supply and wastewater disposal are addressed.
- Non-use of vehicles mainly.
- Reduced ferry service – save \$ and fuel/signs in stores about environmental effects of things like pesticides, factory farm meat, non-local/overpackaged food – eventually withdrawing from stores. Less lighting in stores? (Monbiot suggested this.)

4. Other comments regarding the ideas presented today?

- I think financial constraints play a big role in limiting implementation for many households. Need to explore lower-tech / less expensive options, e.g. financial incentives were provided for \$6,000-\$8,000 solar hot water systems – need to encourage / fund (e.g.) lower-tech passive black-pipe systems that could be installed less expensively and be attainable for more households.
- Great work!
- Thank you.

- I think they are very well thought out and useful. Please have printed copies of the plan available – not everyone has a computer. They could be sold - \$5? At Salt Spring Books.
- Expand the bus system – increase hours and range.
- Connect people by their local farmers. Print a guide of island farms offering farm-gate sales.
- Make roads safe for cyclists.
- Engage community leaders from ‘non-traditional sectors (i.e. the ones that will reach the skeptics), e.g. business community, grocery stores, car dealers.
- I see it as a feel-good exercise to give the impression that the government is listening to the people. (Well, it IS listening, I do compliment all of our current local officials on that point). But get a clue, INFORMATION like that presented today is USELESS. Fund pilot projects at a grass-roots level – cob housing, composting toilets, bike-sharing and bike trails. WISE ACTION, not academic studies. GRASS ROOTS, not top-down.
- Great job – so much work. Thank you.
- I have heard about several serious climate change activists who say that the main energy should be focused on making gov’t change and regulate businesses.
- Just one comment from others – that many of the ideas are pie in the sky. My reply was that’s ok as long as we create dialogue which can create the do-able ideas that were sparked by the pies in the skies.
- We need more action projects! People have been told to turn down the thermostat for 15 years – we need to be more ambitious and collective action oriented.
- Consider this: every person exhales CO2. How much CO2 is created for every million additional people?
- I agree that we should do what we can locally, but I am disappointed that there is not a more comprehensive view taken, e.g. the fundamental problem is world overpopulation and nobody seems prepared to acknowledge that. Beware also of solutions that involve buying something, hybrid cars, save fuel but how much energy and resources are consumed in building one?
- thank you for all your good work. I like and support the idea of a central place to convert property waste/slash into mulch to resell.
- Chickens eat household waste (weeds, lawn clippings, veg., fruit and left over food), they lay eggs and produce excellent fertilizer to grow organic veg.
- Shift to passenger ferry (R9) and increase bus service.
- The ideas sound good, but I think a concerted effort to influence senior levels of government and achieve more wide-spread change is as also desperately needed. I’m happy to my part but am frustrated that many wealthy, powerful people aren’t doing theirs and making the problem worse.
- Someone at the gravel pit between Sleggs and Lees Hill burn their slash tires – let’s stop
- Well done.
- excellent presentations
- Have a seasonal creek on property – is it legal to use? If so, how?

From General Comments board:

- To increase bicycle use, add bike lanes to medium and major roads, to Vesuvius, to Beddis.
- Outlaw titanium bike frames.
- Actions on transportation are too weak. Promote electric conversion. Park & ride.
- BC Hydro will give energy star grants to multi-plex/social housing to upgrade appliances.
- Discounts on outdoor folding/umbrella-type clothes lines. A big one from Home Hardware costs around \$200.

- Walk the talk – be a role model.
- Need a pollution probe in Ganges area: 1) air. 2) noise.
- MOT (Ministry of Transport) reduce speed limits, village speed through Ganges up to Atkins.
- Establish buffer zones for pedestrians. Rammed earth walls, tree walls.
- CRD – enforce anti-idling bylaws.
- Reduce speed limit on Fulford-Ganges Road to 50-60 km/hour.
- Demonstration gardens for unusual legumes, like lentils.
- Stir fry cooking classes for those who wish to use less meat.
- When increasing transit routes add Beddis to Cusheon Lake loop.
- Methane tax on cows.
- Add handidart to transit to provide customized pick-ups for seniors and handicapped.
- Pay for transit out of taxes, add another route and make buses free.
- We do need to consider the fuel cost of air travel to exotic places and stay home more.
- Our water is critically affected by the changing climate. How can we protect it for our 'needs' not 'wants'?
- BC Ferries as part of a coordinated public transportation system whose bottom line is community oriented – green solutions.
- A re-established south end convenience and gas outlet with viable parking.

From Sticky Notes:

- The examples of single-day emissions saving are very good. Graphic and accessible.
- What can we do – homes. Display says replace oil furnaces with electric furnaces. Why not heat pumps? (including ductless?)
- Provide package deals on energy-efficient products (buy in bulk):
 - Folding 'umbrella clotheslines
 - LED lights
 - Coldframes
 - Greenhouses
 - Solar chargers for computers, etc.
 - Who? Gekko? Climate council? Transitions SSI? Etc.
- Support local farmers and protect farm land, wetlands and watersheds. Once destroyed they can't be replaced in less than many decades, if ever.
- Wool from local sheep largely goes to waste as people use synthetics made from ?? and transported here. Wood can be used instead of moss in hanging baskets.
- We should be able to use our gray water to irrigate/water fruit trees and ornamentals and some other crops.

From 2015 Vision flipchart:

- More accessible bus times
- Ride share/car stops are working well
- Action group dealing with Canada's military expansion (and its impact on global warming)
- Fewer off-island trips – people are driving less
- Lots more local produce to buy
- Occasional buses along Beddis Road
- Buses along the Beaver point Road
- Lots of pathways on the island and people walking everywhere
- Better, more bike lanes (Vesuvius & Ganges, Portlock)
- Year-round local food market
- Beginnings of cross island bike paths
- Ministry of Highways – allows rural character roads = less tree cutting, hedgerows protected

- A 'round the island' continuous bus loop with some sort of tracking that can be accessed by cell phone etc, stopping at beaches, trail heads, etc. 'in the season'
- Decrease in float plane traffic
- Tourists – be a tourist here instead of leaving. Enjoy our beautiful island. We can avoid air travel.
- More rural life agricultural land and use in multi-farm productions
- More parks for trees, trails and habitat
- Island wide network of paved cycling paths
- Rental space in green houses to start seeds, so people don't have to have their own green houses.
- Small store outlets in each major area so people don't have to drive to town to get milk.
- SS citizens lobbying government for immediate reduction of military industrial complex
- SS vocal about clean-up of military dump site off west coast
- Grocery stores will have started labelling food items with 'food miles'
- Bus along Rainbow Road
- Community garden spaces in all local neighbourhoods

From 2020 Vision flipchart:

- Permaculture is a way of life – 3 or 4 permaculture settlements on the island with co-housing]
- Not so much buzzing up and down the island to do things
- Most peoples' activities and entertainments are focused on neighbourhood hubs and connections
- All products in grocery stores are 'carbon-labelled'
- Our pool will have solar not water installed, and if ice rink, geothermal energy (check)
- More farmers
- All produce will be labelled with 'food miles' and list of ingredients and whether GMO or not
- More walking trails that don't run beside roads
- More bike lanes
- Cross island bike path!
- Our kids playgrounds and golf courses will be organic turfs
- Traffic circles/roundabouts at all major road intersections
- Draft animals instead of tractors on farms
- Island wide network of hiking trails

From 2050 Vision flipchart:

- Every house and housing with solar hot water system
- 70-80% of food consumed on SSI is locally produced
- A more independent and resilient community – 70% of materials and supplies are supplied locally
- Bike lanes and walking paths will crisscross the island
- Sunnier
- Community land available for community gardens
- Lots of small outdoor play spaces for kids to play street hockey
- Full grocer in Vesuvius (avoid trips to town)

COMMENTS RECEIVED BY EMAIL

- Perhaps scooters and motorcycles could be mentioned. Even though few of them are electric yet, they do get 50-100mpg, even the faster ones. I use mine instead of the car for light shopping trips whenever I can, and it sure cuts down on the gas per year and is easy to park and saves room and money on ferries. Pedal bikes are even better, but they're a hard sell for many folk with all our hills, distances, and aging population.

- Potentially important actions regarding lawns (e.g., replacing gas with electric mowers; letting lawn grow longer; replacing lawn with garden; etc.), could be put in several sections.
- A philosophical thought – the executive summary speaks of the carbon footprints of families and individuals and I notice that later in the report there is mention of replacing vehicles with newer ones (lighter or EVs). It makes me think of the difference between considering our 'local' GHGe's and our 'global' GHGe's and how easy it is for the average consumer to get caught up in buying their way out of this mess so to speak by focusing on the local only. For example, if I buy a new car, no matter what type, it's manufactured and transport to me from, say, Asia, and this means a whole lot of GHG's have been generated, as does the removal and dismantling of my old vehicle. All so that my continued driving emits fewer GHGs locally. In the meantime I am not sure if the planet is better off or not! All this to say that the concept of footprinting does typically attempt to measure out-of-boundary impacts of my lifestyle and purchasing choices whereas when we measure GHGe for a municipality, province or even a country, does not. I know many Salt Spring Islanders are more savvy about embodied energy etc. than the average BC resident but I am just wondering aloud about reflecting the local vs global question. I do notice in "Other Individual Actions" the report ventures into this area somewhat.
- Under Household Recycling—Add "Encourage adoption of white paper recycling program in which used white paper becomes feedstock to manufacture new white paper."

Under Potable water & Community ideas—Under this category, you have included a few specific strategies that come under the general heading of what is known as "demand management" strategies. A more comprehensive statement would read thus: "Encourage each water districts to adopt a comprehensive demand management program".

Under Land use and Conservation—Use regulatory tools to manage tree-cutting and land clearing
Add "Strengthen existing DPAs so that they can be enforced and contain wording making them more effective at reducing land clearing and negative effects associated with land clearing."

- I would like you to withdraw the wording neighbourhood pods off this report on page 21. This is confusing. This is an emergency program for the island and the report has it attached to climate action groups. At this point we have had no serious discussion on how these programs do work together. Also the program is known as the POD - emergency neighbourhood preparedness program.
- "What an impressive draft! One thought is that the POD name perhaps should be called the EPP, Emergency Preparedness Program. (page 19)" Maybe we can get rid of the obscure POD term and just use a simple EPP which stands for something.
- The most important issue in my view is recognizing climate change isn't a local issue. Decisions we make on island have regional and global consequences. Best example, the coffee company's proposal would have very substantially improved their efficiency by capturing a great deal of waste heat for reuse in both heating the buildings and greenhouses and for growing organic food and accelerating organic compost production. None of this was given any recognition by trustees. We need intelligent policies and strategies that do more than simply reduce co2 production on island. This is particularly so if we simply punt the problem to the regional or global level by forcing green industry off island. Although the statistics will improve at the local level if we act this way, that counts for nought if we aggravate the situation regionally or locally as the Trust have with the coffee company.

Some of the other decisions made on island recently fly in the face of climate mitigation policies. A notable example is the location of the library, for example, is perverse. The building needs heated. The location originally intended for it on Rainbow Road would have allowed the geothermal system under the school playing fields to substantially heat the building. As I understand it, this was one of the reasons for installing such a system. Clearly, someone isn't joining up the dots.

- Can you please add Green Shores program to page 19 re. shorelines/flooding?

COMMENTS RECEIVED ON WEBSITE

- Re: Densification of Ganges Village
I support the draft Climate Action Plan, and commend you on your efforts.
My hope is that densification will lessen the growth impact of non-built up areas. What efforts are being made to ensure this?
With the aging population, densification is more likely. As I live in the Village (because I want to lessen my personal carbon foot print), I wish to share several observations:
–walking paths into the downtown core need to be improved. Roads, such as Park Drive, are preferred by pedestrians, but there are no places specifically for pedestrians. With the advent of the ambulance service, pedestrians will be further adversely impacted.
–industrial use must be limited in order for people and industry to get along in the Village. Noise pollution, air pollution, water use are among issues that may need to be addressed.
–The downtown core needs to be an attractive and healthful place to live. Air pollution is one area that must be addressed, in order to improve the Village for human densification. There are many sources of air contaminants because of industry. For example, at present, some industries contaminate the air by burning toxic refuse. Many days, the pollution is severe, and seriously detrimental to human health. There seems to be minimal control on this air pollution at present. Many people move to Salt Spring for respiratory reasons. Until there are more controls on air pollutants,, living in the Village will be relatively unattractive.
- calculations for emissions regarding transportation are not inclusive enough
if they were they would be much much higher
failure to encompass all the spinoffs from operations of vehicles
the overlap in all other areas from vehicle use is huge
i have data to show more of this
am submitting my observations to Dr Andrew Weaver for discussion

LETTERS RECEIVED (two)

Review of the Salt Spring Island Draft Climate Action Plan

**Comments by the Salt Spring Island Conservancy,
April 2011**

We commend the Salt Spring Island Climate Action Council for their draft action plan, released in February 2011. In general, we found their estimates of the island's carbon emissions to be believable, and their recommendations for initial reductions seemed feasible. We were much impressed by the technical detail and completeness. The urgency of global warming was clearly shown.

The present sources of greenhouse gases on Salt Spring seemed to be estimated in a complete manner. For example the plan included ferries and food as well as obvious items like vehicles. It was surprising to see the huge proportion generated by the food sector, but the report's rationale is convincing. We were glad to see the recommendations for switching towards local food. Many of the estimates involved assumptions or indirect methods, but they were necessary and seemed well thought out. The plan contains a wealth of information on the carbon footprint of various everyday activities, and on methods of reducing those footprints.

The plan calls for a reduction of 15% in emissions by the year 2015. The suggested methods for reaching that goal seem effective and relatively easy to accomplish. In fact, we were encouraged to see the progress which might be made with some rather simple steps. Most of the action items were laid out in tables which made them easy to see and grasp.

The difficult part will be to convince everyone on the island to actually make the changes that are needed. Selling the ideas will be a major task. In that respect it will be crucial to produce an easily-understood, convincing, and very short report for the general public.

We have few negative comments on the draft plan. Some topics were not covered, perhaps because they would be unpopular. Human population growth is a huge factor in carbon emission, but there was no consideration of how Salt Spring should address that. (The impact of local forest-clearing for more houses was estimated, but no policy was put forward.) We commend the plan for not mentioning the common idea of "take an airplane ride, plant a tree", but some explanation could have been offered, why that is fallacious. We point out that it is not true, from a broad ecological viewpoint, that burning of firewood is emission-neutral.

In style and format, the report is long (some 39 pages). However its many sections were necessary and the wording was economical. The appendices were not well organized and references to them in the main text were not very effective. Citation of information sources (earlier reports, web-sites, etc.) was clumsy because several systems were used, and there were some missing references.

We close by again by commending the authors of the report. The rest of us must not just let it lie on a shelf.

ISLAND PATHWAYS
P.O. BOX 684 GANGES.
SALT SPRING ISLAND B.C. V8K 2W3
www.islandpathways.ca

April 12, 2011

Dear Climate Action Council:

The board of Island Pathways think the Climate Action Plan is detailed and comprehensive. Thank you for all your hard work. We know the many volunteer hours it takes to do this kind of research, writing, and community engagement work. You are to be commended.

Island Pathways has been supporting non-motorize methods of transportation (walking and cycling) for many years on the island. We were especially interested in the section of the Climate Action Plan about On-Island Transportation (section 4.1). We are the group on the island working for more bicycle lanes and pedestrian pathways. We know the biggest challenge is getting the necessary funding for our projects. We have learned by experience "if you build them, they will come." We know having more pathways and bike lane will get people out of cars.

- We would like to recommend and encourage the Climate Action Council to lobby our Provincial Government (especially – as they are the ones who mandated that every community must have Green House Gas Emission reduction targets and a plan for reaching those targets) and Federal Government asking for funding for infrastructure. We would like you to also encourage the Islands Trust to do the same. If local governments do not have funding for infrastructure it will be very difficult, probably impossible to reach our targets. There is everything to lose if we do not collectively reach our targets.
- We have done a survey of all bike racks on the island. We think, for the time being, we have enough bike racks in Ganges.
- The plan mentions "Construct Ganges Hill pathway." We think, sooner than later, the Transportation Commission should be encouraged to do the design plans for a pathway on Ganges Hill and be in a position to apply for grants. You can not apply for some grants for infrastructure until you have the design plans in place. This is a high priority on Salt Spring Island for safety as well.

We think there is no more important place to put our tax dollars than on solving the Climate Change Crisis we are now experiencing. Island Pathways is pleased to play our crucial part in being a part of the solution.

Thanks you

Margaretha Nordine (president) Island Pathways

