OCP Background Paper #6:
Greenhouse Gas Emissions and the OCP

In 2007 the Province, the Union of BC Municipalities (UBCM) and local governments agreed that that taking action on reducing greenhouse gases is essential. Over 170 local governments have signed onto the "Climate Action Charter", which confirms this understanding. Bowen Island is one of the signatories. As a Charter signatory, Bowen Island has committed to become carbon neutral by 2012.

BC's Greenhouse Gas Reduction Targets Act, enacted in 2007, sets a province-wide 33% reduction target from 2007 levels by 2020. Local governments have an important role to play in achieving this reduction. An amendment to the *Local Government Act* in 2008 — usually referred to as Bill 27 — requires an Official Community Plan (OCP), by May 31, 2010, to include targets for the reduction of greenhouse gas emissions (GHG), along with policies and actions about achieving the targets.

Bowen Island is very well positioned to meet the requirements of the legislation. Shortly after its incorporation in 1999, Bowen Island Municipality became a signatory of the Federation of Canadian Municipalities, Partners for Climate Protection (PCP) program. Following this initiative, Council created the Bowen Island Sustainable Community Advisory Committee to explore ways to reduce greenhouse gases (GHG), and other aspects of sustainability. In the intervening years, a number of studies and initiatives have demonstrated Bowen Island's commitment to GHG reduction:

- Bowen Island Community Energy Use Profile, Pembina Institute, 2002 (see page 3)
- Bowen Island Community Energy Planning Options Report, Pembina Institute and Community Energy Association, 2003
- Bowen Island Greenhouse Gas Action Plan. Pembina Institute, 2007. Building on their earlier work the Institute recommends targets and actions to reduce GHGs in the short, medium and long term.
- Green Building Standards for Residential Rezoning / BIM Policy #01-07, 2007.

What is needed in the OCP be compliant with Bill 27?

Bill 27 was intended to prompt all local governments to commit to reducing GHGs. Since the legislation was adopted, the Ministry of Community and Rural Development has prepared materials that help clarify the intent of target-setting and give guidance to local governments for developing relevant statements in their plans. The following is excerpted from the Ministry's materials:

- The legislation does not specify what type of target is needed or how many targets are needed, so it is up to each municipality to decide what is most useful and relevant.
- Local governments are encouraged to set targets that are ambitious but achievable. Targets establish a desired level of performance, **not** as a regulatory standard. However, at least one target should be defined as a measurable emissions reduction target, such as a percentage reduction, or a number of tonnes reduction. Other targets may be included that address the "how" more than the "what".
    - *Policy targets* are linked to indicators and activity-related outcomes instead of GHG emissions themselves. Policy targets provide an objective that is more directly related to things that planners and governments do. Ministry examples:
        - "No net loss of farmland over the next five years"
        - "80% of all new housing units to be located within a specific growth node"
        - "Convert 10% of all public parking spaces to accommodate only smart cars or electric vehicles"
    - *Process targets* are concerned with the inclusion of policies in plans, or the completion of studies directly needed to inform the development of new plan policies (e.g., study identifying opportunities for future infill in a community), which could ultimately play a key role in enabling the community to reduce its GHG emissions. Ministry examples:
        - "By 2012 complete an agriculture plan to promote more opportunities for locally-grown food".
        - "By 2011, complete a study of infill opportunities within a 1 km radius of the town centre as a means of increasing opportunities for residents to make sustainable transportation choices and to reduce pressures on deforestation".
    - *Corporate targets*. Municipalities that have signed onto the Climate Action Charter are encouraged to add a target statement regarding their corporate commitment to a carbon neutral future.
- A municipality should select a data indicator that is available, regularly updated, easily and affordably measured, and understandable before setting a measurable target.

Source of Indicator Data: BC Ministry of Environment

To assist local governments with regard to measuring emissions, BC's Ministry of Environment has prepared an inventory for every regional district and municipality. The baseline year is 2007, to be updated periodically. This inventory, known as CEEI (Community Energy and Emissions Inventory) reports how much electricity, natural gas and other fuels are used in each community and what GHGs and other emissions are being generated. These report are the first of their kind in North America. The BC government supports this inventory tracking system.

The CEEI report is a baseline for future comparisons over time and assists in monitoring progress towards achieving identified targets. The accompanying table shows Bowen Island in comparison for the average for West Vancouver and Whistler for three categories, expressed in carbon dioxide (CO_2e) tonnes. For detailed tables, refer to the Ministry's web-based reports for each municipality (http://www.env.gov.bc.ca/epd/climate/ceei/reports.htm).

2007 – Annual CO_2e tonnes			
	Bowen	**West Vanc**	**Whistler**
Total residential and commercial emissions per capita per year	938	152,823	53,272
Average on-road transportation emissions per year	12,222	125,897	36,446
Solid waste	168	4,552	13,433
Total emissions captured by the CEEI inventory	13,328	283,272	103,151

Source of Indicator Data: Pembina Institute

In 2002 Bowen Island's Sustainability Task Force managed a project undertaken by the Pembina Institute, with funding from Bowen Island Municipality and BC Hydro. The first of two reports provided a baseline on GHG emissions, other air emissions that affect air quality and human health, energy consumption and energy expenditures of Island residents. The baseline provides actual energy consumption data from the year 1996 and 2000 where possible, and a forecast of data for the year 2010. The projections used to predict 2010 energy consumption and emissions is based on a "business as usual" case.

Pembina's indicator for GHG emissions are the same — CO_2eq tonnes — but the categories, while similar, are not exactly the same. (See table on following page)

Table 4.1 – Annual Greenhouse Gas Emissions

	1996 tonnes CO2 eq	2000 tonnes CO2 eq	2010 tonnes CO2 eq
Residential			
Fuel Oil	680	720	960
Electricity	350	1,200	2,700
Commercial / Municipal / Institutional			
Fuel Oil	140	150	200
Electricity	52	170	380
Industrial			
Construction	410	410	430
Transportation			
On-island	2,100	2,700	4,300
Off-island	7,900	10,300	16,300
Ferry	7,400	7,400	7,400
Bus	40	90	90
Landfills			
Port Mann	68	74	96
Cache Creek	150	170	220
Total	19,000	23,000	33,000
% increase from 1996		22%	72%

- Key conclusions from the report include:
  - Increased emissions on the Island from 1996 (forecast to 2010) are attributable to population growth, increase in number of vehicles per resident, increases in SUVs and light-duty trucks, and increased amount of electricity from fossil fuels.
  - Off-island operation of vehicles by Bowen residents is the largest source of GHG emissions; and ferry operation is the second largest source.

Next Steps

The planners and and Steering Committee who are tasked with the OCP update will be drafting “target statements” for inclusion in the plan. These will be based on the considerable work already undertaken by Bowen Island Municipality and its various task forces and committees, as well as guidance from the Ministry of Community and Rural Development.

OCP Planning Update Team, 02 February 2010