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## 20. Air Quality

### 20.1 ISSUES

1. How can SEFC address concerns about urban air quality, climate change and ozone depletion? How can harmful air emissions be minimized through the design of the development?
2. What airborne pollutants need to be addressed in both indoor and outdoor spaces?
3. How can SEFC address Canada's commitment to the Kyoto Protocol on greenhouse gas reduction?
4. What effects are Vancouver's air emissions having on the region?
5. How can SEFC address the use of ozone-depleting chemicals?

### 20.2 EXISTING POLICY

1. The *Clouds of Change* policies (1990) addressed many issues of local and regional air quality, making many recommendations relevant to SEFC. Subject to further studies and costing, the City should:
  - a) Take responsibility for the carbon dioxide emissions generated by its citizens, and by 2005, achieve a reduction of 20% from 1988 levels of carbon dioxide emissions;
  - b) Phase out ozone-depleting chemicals;
  - c) Promote a variety of measures to reduce transportation demand;
  - d) Promote and assist the planting of trees on public and private property; and
  - e) Promote public education and involvement in initiatives to reduce air emissions.
2. The *Central Area Plan* (1991) established the goal for the Central Area of maintaining and improving environmental quality.

3. *CityPlan* (1995) recommends that the City:
  - a) Consider environmental impacts when making decisions on land use, transportation and the City's provision of services; and
  - b) Participate in regional programs to improve drinking water quality, sewage treatment and air quality.
4. The *Transportation Plan* (1997) states that air pollution must be addressed on a regional and neighbourhood basis by focusing on alternatives to the automobile for transportation.
5. The regional *Air Quality Management Plan* calls for a 38% reduction of five major air contaminants by the year 2000.

### 20.3 OBJECTIVES AND INTENT

1. To develop SEFC in such a way as to minimize the emission of air pollutants, greenhouse gases and ozone-depleting chemicals, associated with the site's development and operation.

**Facts:** Greenhouse gases include nitrous oxide, methane and most importantly, carbon dioxide. CO<sub>2</sub> accounts for nearly 80% of Canada's greenhouse gas emissions and 80% of these CO<sub>2</sub> emissions come from burning fossil fuels. CO<sub>2</sub> sources in Vancouver are estimated to be:

- 36% from transportation use;
- 20% from residential use; and
- 20% from commercial and industrial use.

**Facts:** Chlorofluorocarbon (CFC) emissions damage the ozone layer which filters solar UV radiation. CFCs trap heat in the earth's atmosphere 20,000 times more effectively than carbon dioxide does. A CFC molecule takes about 25 to 30 years to reach the ozone layer and once there, destroys ozone molecules through repetitive chemical reactions for up to 60 years before the CFC molecule becomes inert.

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2. SEFC should demonstrate ways that community planning and design can help Canada achieve its commitments to reduce greenhouse gas emissions.

**Facts:** Under the Kyoto Protocol, Canada has agreed to reduce its average annual emissions of greenhouse gases to 6% below 1990 levels by 2012. The US Environmental Protection Agency estimates that carbon emissions must be cut by 50 to 80% by the middle of next century to stabilize climatic change processes.

3. To plan SEFC in such a way as to ensure that the interior air quality will also be healthy.

**Rationale:** Since Canadians spend nearly 90% of their lives indoors, interior air quality is an important health concern.

## 20.4 NEW POLICY

### *ODP Phase Policies*

1. The City should create a neighbourhood air quality strategy for SEFC to minimize its contributions to greenhouse gases and air pollution where feasible. The strategy may address issues such as:
  - a) Greenhouse gases and ozone-depleting chemicals;
  - b) Transportation;
  - c) Landscape design and maintenance; and
  - d) Education of stakeholders.



*Developing neighbourhoods that have a reduced dependence on the automobile increases local and regional air quality*