# Sustainability

The original recommended practice was developed by the Government Finance Officers Association (GFOA). Some aspects of the practice have been revised by the Financial Management Capacity Building Committee (FMCBC) for use by Nova Scotia municipal governments. The original GFOA recommended practice is *Sustainability*, approved by the Executive Board in June 2002. Other sources used are footnoted in the text.

#### Recommendation

The GFOA recommends that sustainability be considered a core value in setting organizational policy and establishing business practices in all areas of public finance. The GFOA recommends that municipal governments focus on three general areas: public policy, budget and management, and sustainable business practices. The GFOA also recognizes the importance of a balance among the economy, the community, and the environment.

# Purpose

Municipalities should consider implementing sustainable policies and practices to ensure a future for its community. Developing policies that look beyond immediate results can benefit a municipality's citizens. Municipalities should also consider developing sustainable policies that recognize the community's limited natural resources, and that pollution and waste are a drain on the economy. Municipal governments have the opportunity to play a critical role in the development of sustainable practices, which can benefit communities substantially.

# **Background**

In the past, many policies and practices have focused on the short-term benefits with little regard of the future consequences. More recently, governments have begun to develop policies and practices that consider the future implications of their actions. This is the concept of sustainable practices. Sustainability is the notion that current economic and consumption patterns should not reduce opportunities for future generations by impairing or depleting existing resources. Other municipalities have implemented sustainable programs such as programs to reduce air pollution, and projects to clean up rivers, harbours, and landfills.

# **Considerations for Policy Development**

There are three different areas that municipalities may want to consider when developing sustainable policies and practices. In order to benefit their citizens to the greatest potential, they should consider financial and economic, community, and environmental sustainability.

Before implementing any sustainability policies, municipalities should first develop a strategic plan. In this scenario, strategic planning involves the legislation and regulations that municipalities need to follow when developing sustainable policies. When municipalities are looking to develop sustainable practices for drinking water, flood risk areas, agricultural land, infrastructure, and housing, they must consult Schedule B of the Statements of Provincial Interests found in the Municipal Government Act. Schedule B does not provide rigid standards, but rather sets the direction and provides a framework for dealing with the particular issue. Municipalities can also consult the Local Government Resource Handbook for information on strategic planning.

 $\underline{http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandbook\_6.1.pdf}$ 

Sustainable policies should be introduced to financial and economic decisions surrounding a municipality. Municipalities may consider making changes to property taxes, user fees, and consumption-based rates. Municipalities may also wish to consider examining municipal indicators to help a municipality develop financial sustainability. Furthermore, the Debt Affordability Model is a mechanism available for municipalities to more effectively plan and forecast their financial position, and thus increasing their financial sustainability. For more details on these topics, please see *Appendix I*.

The community and members within communities throughout a municipality are crucial to the development of sustainability. Sustainable communities are essential to the future strength and prosperity of municipalities, and municipalities should be supportive of community development. For a further discussion on making communities more sustainable, see *Appendix II*.

Another important component of ensuring sustainability is supporting environmental sustainability. This is essential to the preservation of a municipality's natural resources, water, and waste disposal methods. Municipalities should consider the preservation and sustainable maintenance of their water systems and water supply. The Province of Nova Scotia has mandated the following standards: drinking water strategy, the solid wastethe resource management strategy, and sewage treatment (http://www.gov.ns.ca/enla/airlandwater/) that must be adapted or adopted by municipalities. Municipalities can enhance their environmental sustainability through the preservation of their water systems, water supply, waste disposal systems, landfills, and sewage treatment facilities. For example, the Town of Wolfville has begun developing The Natural Step framework, which focuses on environmental sustainability. For more information on these topics, please see Appendix III.

# **Appendices**

Appendix I: Financial and Economic Sustainability

Appendix II: Community Sustainability Appendix III: Environmental Sustainability

Appendix IV: Legislations, Regulations, and References that Should be Consulted when

Implementing Sustainable Practices

# Appendix I: Financial and Economic Sustainability

There are various mechanisms and tools available for municipalities that are considering the implementation of sustainable financial and economic policies. Some of the most common tools are adjusting taxes, but municipalities can also examine their internal revenues and expenditures to determine their overall financial health. Furthermore, municipalities may consider the Debt Affordability Model when planning their municipality's financial future.

#### **User Fees**

User fees are designed to better manage the availability of a resource that the municipality has to offer. If a municipality decides to implement user fees, they can be established to provide a clear link between services received and fees paid. User fees are often successful on such services as water and sewers, public transit, public recreation, and waste collection and disposal. User fees can be designed to better manage the resource, and create an incentive to use less or more of the particular resource. Fees for services may also vary based on the amount available, the quantity that is conventionally used, capacity constraints, and peak or non-peak periods. However, user fees have been criticized for being inefficient and unaccountable. If user fees are not set properly, they may result in improper redistribution, thus acting as a regressive tax. For example, a flat tax on water would be regressive, since lower income consumers would be paying proportionally more for their water service. <sup>1</sup>

# **Municipal Financial Indicators**

Municipal indicators are designed to provide municipalities with a guide for a healthy community. There are various different types of municipal financial indicators, which include revenue indicators, expenditure indicators, operating position indicators, debt indicators, and capital indicators (<a href="http://www.gov.ns.ca/snsmr/muns/indicators/public/default.asp">http://www.gov.ns.ca/snsmr/muns/indicators/public/default.asp</a>). Any one financial indicator may not provide a clear indication of a municipality's financial condition, however, a clear illustration of a municipality's financial sustainability can be achieved when all of the indicators are examined together.

#### Revenue Indicators

The level of municipal revenues significantly affects the ability of a municipality to provide services. Under ideal circumstances, revenues grow at a rate equal to or greater than the rate of expenditure growth. These rates are based on the taxes as a percentage of total revenue, transfers from other governments, the residential tax burden rate, and the uniform assessment per dwelling unit rate.<sup>2</sup>

<sup>1</sup> Kitchen, Harry. "Canadian Municipalities: Fiscal Trends and Sustainability". <u>Canadian Tax Journal</u>. Toronto, ON. 50.1, 2002. <a href="http://www.ctf.ca/pdf/ctjpdf/2002ctj1">http://www.ctf.ca/pdf/ctjpdf/2002ctj1</a> kitchen.pdf.

<sup>&</sup>lt;sup>2</sup> Service Nova Scotia and Municipal Relations. <u>Municipal Indicators</u>. Halifax, NS: Province of Nova Scotia, August 2002.

#### **Expenditure Indicators**

Expenditures are a less accurate indicator of the output of a municipality's services. Generally, the more a municipality spends, the more services it provides. However, the level of expenditure does not indicate the effectiveness of efficiency of a municipality's service delivery performance. Expenditure indicators use two measures to identify the output of a municipality's services. Mandatory expenditures show the amount of expenditures that council has little or no control over as a part of total expenditures. Another expenditure indicator is the rate of expenditures per dwelling unit. This describes the amount that is spent on municipal services per dwelling unit. Further examination should be conducted if the expenditures per dwelling unit are unusually high or low.<sup>3</sup>

#### **Operating Position Indicators**

There are three indicators that determine the operating position of a municipality.

- **Liquidity ratio** measures the short-term ability of a municipality to meet its current obligations.
- Uncollected taxes measures the ability of taxpayers to pay taxes on time and may indicate the strength of collection policies in place, and the economic strength of a municipality.
- Reserves as a percentage of expenditures can indicate the relative health of a municipality and the council's willingness to save expenditures for emergencies. A municipality is generally more financially healthy if it has a high level of reserves.<sup>4</sup>

#### **Debt Indicators**

The level of debt of a municipality is an indication of its financial health and sustainability. There are typically two methods used to measure a municipality's level of debt, the debt service ratio and its debt outstanding per uniform assessment. The debt service ratio indicates the amount of the current operating expenditures incurred for debt servicing (not other services). A high debt service ratio may indicate a municipality has taken on too much debt, but it may also indicate that the municipality has taken an aggressive approach to debt repayment. A low debt service ratio could also indicate that a municipality is financially strong because it can finance its capital projects through its operating budget or reserves. However, it can also indicate that the municipality is financially weak and has deferred its capital projects. Furthermore, the second debt indicator is a municipality's debt outstanding assessment. This assessment indicates the level of a municipality's ability to pay down their debt as a percentage of its ability to pay.<sup>5</sup>

# Capital Indicators

Some municipalities may refrain from capital expenditures to reduce overall expenditures and ease financial strain. To continually do so can cause serious problems. The level of a

<sup>&</sup>lt;sup>3</sup> Service Nova Scotia and Municipal Relations. <u>Municipal Indicators</u>. Halifax, NS: Province of Nova Scotia, August 2002.

<sup>&</sup>lt;sup>4</sup> Ibid.

<sup>&</sup>lt;sup>5</sup> Ibid.

municipality's capital expenditures can help determine the level of a municipality's financial sustainability. There are two indicators by which to measure a municipality's capital expenditures and financial sustainability. Capital from revenue percentage indicates a municipality's investment in capital infrastructure through the operating fund. Furthermore, the total capital from operating ratio indicates the total amount of operating budget funds dedicated to past, present, or future infrastructure of the municipality through past capital (debt charges), current capital (capital from revenue), and future capital (transfers to capital reserves).

For more information on municipal indicators please visit, http://www.gov.ns.ca/snsmr/muns/indicators/public/default.asp.

#### **Debt Affordability Model**

The Debt Affordability Model offered by the Municipal Finance Corporation is one tool available for municipalities to determine and potentially enhance sustainability. The debt affordability model can assist councils in determining the appropriate level of debt for its municipality when deciding if and when they should undertake a capital project. This model can help councils determine how much debt they could acquire as a result of the capital project; this is done by the use of trend analysis, projections of economic and revenue growth, and future capital improvement needs.

The debt affordability model can also help municipalities forecast their future expenditures beyond capital expenditures, and the revenues required to pay for these expenditures. The debt affordability model considers the municipality's future health by assisting municipal councils to make long-term financial decisions using current information, past trends, and future projections. The debt affordability model can also determine a municipality's future spending capacity by looking at various sources of revenue. The model examines a municipality's fixed expenditures over a ten-year horizon, other than debt or capital expenditures, to determine if its finances are sustainable. The debt affordability model has the capability to examine and forecast beyond debt and capital expenditures, and can help determine a municipality's future financial sustainability. For more information on the debt affordability model, please contact the Nova Scotia Municipal Finance Corporation (902-424-4590 / http://www.gov.ns.ca/nsmfc).

Municipal Finance Corporation. <u>Municipal Debt Affordability Model - AMA 2005 Annual Spring Workshop</u>. Halifax, NS: Nova Scotia Municipal Finance Corporation, 2005.

<sup>&</sup>lt;sup>6</sup> Service Nova Scotia and Municipal Relations. <u>Municipal Indicators</u>. Halifax, NS: Province of Nova Scotia, August 2002.

# Appendix II: Community Sustainability

Sustainable communities are fundamental to the future strength and prosperity of municipalities. Community development is a mechanism that can be used in order to promote sustainability and build a stronger community. There are various areas that can enhance community development and sustainability:

- Local Leadership
  - The community plays the leadership role in its own development.
- Government Support
  - Municipalities should actively facilitate and support community development through the provision of information, expertise, guidance, and other resources.
- Collaborative Approach
  - Community development builds on cooperation, coordination, and collaboration between the municipal government and communities.
- Balance
- Community development builds on a balanced approach that addresses and integrates economic, social, environmental, and cultural considerations.
- Respect for Local Values
  - Municipalities should strive to respect and understand the community values.
- Social Inclusion
  - All community members, regardless of gender, age, ability, race, culture, language, or social and economic status have the opportunity to become engaged in the community development process and are able to access its social and economic benefits.
- Transparency and Accountability
  - Municipal involvement in its community's development encourages transparency, accountability, participation, and evidence-based decision making.
- Partnerships and Shared Interests
  - Community development engages the necessary partners at the community and municipal levels.
- Common Vision

 Community members and council should define a common vision for the future.

- Focus on Community Assets
  - Community development is built on existing community capacity assets.
- Volunteerism

Community development values, respects, nurtures, and encourages volunteerism.

<sup>&</sup>lt;sup>8</sup> Service Nova Scotia and Municipal Relations. <u>Nova Scotia Community Development Policy</u>. Halifax, NS: Province of Nova Scotia.

Community development can be enhanced through the support of the municipality. A municipality's decisions, activities, and outcomes should be compatible with the principles of sustainable community development. Community sustainability is enhanced through communication. This can be done through:

- Clarifying the municipality's and the community's roles in community development.
- Increasing cooperation, coordination, and collaboration between the municipality and the community.
- Increasing municipality's and the community's capacity to understand and advance community development.
- Developing an accountability framework to report on progress, ensuring both transparency and enabling evidence-based decision making in community development.<sup>9</sup>

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<sup>&</sup>lt;sup>9</sup> Service Nova Scotia and Municipal Relations. <u>Nova Scotia Community Development Policy</u>. Halifax, NS: Province of Nova Scotia.

# Appendix III: Environmental Sustainability

Environmental sustainability is one of the most important factors when designing sustainable policies. Municipalities should consider developing environmental policies to help preserve its natural resources for future generations. As a minimum, a municipality shall follow the Provincial strategies for a drinking water strategy, a solid waste-resource management system, and an on-site sewage disposal system.

### Priorities that can Strengthen Economic Prosperity and a Healthy Environment

- Promote innovation and trade within the environmental industries sector and model cost effective solutions to environmental changes.
- Promote sustainable practices within the tourism industry by increasing the awareness
  of operators and visitors, developing 'codes of conduct' and sustainable management
  principles, and recognizing operators who implement sound environmental practices.
- Create a regulatory climate that encourages the development of a renewable energy industry within the municipality.
- Continue to work towards a comprehensive system of protected areas.
- Develop a climate change impacts and adaptations action plan for the municipality (for example, promotion of public transit, prohibit developing farm land, or not allowing development on dykes or floodways).

The municipality should also lead by example, and develop sustainable practices.

- Work towards ensuring that all municipally funded buildings exceed targets for the Model National Energy Code (provide link).
- Improve the energy efficiency of existing municipal buildings.
- Purchase green power.
- Adopt environmentally responsible or green procurement standards and consider opportunities to reduce and/or recover waste materials.
- Develop a 'green' website that highlights achievements, model best practices, and links with environmental organizations.

#### **Drinking Water Strategy**

The Province of Nova Scotia has established a drinking water strategy to help protect the existing drinking water, as well as provide drinking water for future generations. The strategy is also focused on developing the knowledge and skills necessary to achieve excellence in water quality. If a municipality has or decides to implement a drinking water strategy, they must follow the provincial Drinking Water Strategy.

The Province of Nova Scotia has established four steps for developing a comprehensive drinking water strategy and protecting water sources.

- Appropriate inventory and characterization of the water source.
- Development of an up to date inventory of all sources of pollution affecting the water source.

- Identify the type of pollutant discharged into each watershed, and quantify the amount of pollution.
- There should be goals and implementation strategies for protecting and evaluating each watershed. 10

Municipalities with water utilities must receive URAB approval for capital expenditures above \$25,000.

Drinking Water Key Strategies:

#### Clear Roles and Responsibilities

It is important that all stakeholders involved with maintaining clean drinking water have a clear impression of what is expected of them to manage and maintain the water supplies. The municipalities and small public systems, the private well owners, and the provincial government all play roles in the distribution of drinking water. These three stakeholders should know their roles and responsibilities to avoid overlap and inefficiencies.

- Municipalities and small public systems are responsible for the delivery of water in accordance with provincial standards and for meeting their requirements to ensure that the water that is delivered is properly managed and protected.
- Private well owners are responsible for ensuring that their wells are constructed to
  provincial standards and for testing their water regularly to confirm it is free of
  impurities.
- Provincial government is responsible for setting standards, approving the designation of protected water areas, issuing terms and conditions for the construction and operation of water treatment and distribution facilities, and auditing compliance with provincial standards.

#### Multiple-Barrier Management

The multiple-barrier system combines management and engineering strategies to enhance public health protection in Nova Scotia. Management strategies include such things as education, training, and certification, while engineering strategies include construction standards and new treatment systems. Nova Scotia has three main lines of defense: Keeping Clean Water Clean, Making it Safe, and Proving it's Safe.

- Keeping Clean Water Clean
  - Programs to prevent contaminants from entering drinking water sources.
- Making it Safe
  - Steps to remove natural or man-made impurities.
  - This involves determining what impurities are present in the water supply, and installing adequate treatment methods to remove the impurities.

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Nova Scotia Department of Environment and Labour. <u>Drinking Water Strategy for Nova Scotia: A Comprehensive Approach to the Management of Drinking Water</u>. Halifax, NS: Province of Nova Scotia.

<sup>11</sup> Ibid.

- Proving it's Safe
  - Developing stronger monitoring programs and taking fast corrective action when problems arise. 12

When implementing the Drinking Water Strategy, municipalities must consult the Statement of Provincial Interest Regarding Drinking Water found in subsections 194 (2) and (5) of the Municipal Government Act.

http://www.gov.ns.ca/just/regulations/regs/mgstmt.htm

Furthermore, municipalities should also examine an in depth version of Schedule B when implementing its Drinking Water Strategy. If a municipality is deciding to develop drinking water, flood risk areas, agricultural land, infrastructure, and housing strategies, this document can be extremely helpful.

http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandboo k 5.1.pdf

When municipalities are looking to introduce a water supply and watershed model, they should consult the Local Government Resource Handbook. Section 5.7 focuses on water supply and watershed model planning, and can be found at:

http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandboo k\_5.7.pdf.

Municipalities should also consider examining the Municipal Planning Strategy and Land-Use By-law (MPS and LUB) preparation when implementing new sustainable by-laws and strategies. The MPS and LUB provide municipalities with planning, guidelines, and regulations for when they decide to adopt provincial strategies. The MPS and LUB play a supportive role to environmental planning. It provides municipalities with the various regulations and guidelines to protect the environment and maintain provincial interests in municipality's strategies. For more information on the MPS and LUB, visit:

http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandboo <u>k\_5.2.pdf</u>.

# **Solid Waste-Resource Management**

Waste Diversion

There are five key components of waste diversion: source reduction, material reuse, recycling, composting, and business development.

- Source Reduction
  - It is important to reduce the amount of waste at the source.
  - Source reduction can be achieved through elimination of excess packaging, production of more durable goods, and promotion of responsible consumer packaging.

<sup>&</sup>lt;sup>12</sup> Nova Scotia Department of Environment and Labour. <u>Drinking Water Strategy for Nova Scotia: A</u> Comprehensive Approach to the Management of Drinking Water. Halifax, NS: Province of Nova Scotia.

- Material Reuse
  - Post-industrial and post-consumer reuse of materials in their original form can reduce the need for new production. For example, refillable beverage containers and rechargeable batteries.
- Recycling
- Recycling or reprocessing of post-industrial and post-consumer products can replace the need for the production of new consumer and industrial goods. For example, plastics, metals, and glass.
- Composting
  - Most organic material, including fruit and vegetable wastes and many non-recyclable paper products can be decomposed.
- Business Development
  - Waste diversion has the potential to generate an increased demand for innovative and efficient approaches to achieving waste diversion.<sup>13</sup>

#### Public Education and Awareness

Education is an important component in ensuring successful solid waste-resource management. The public needs to be aware of the importance of being responsible in their waste disposal. Municipal waste educators can provide community education through newsletters, events, and other initiatives. The Resource Recovery Fund Board Inc. (RRFB) of Nova Scotia has also helped the Solid Waste-Resource Management Strategy in educating the community on responsible waste disposal. <sup>14</sup>

### Potential Solid Waste Management Measures

Municipalities can also implement various measures that have been introduced by the Solid Waste-Resource Management Strategy. The most applicable measures are the bans on certain disposals, industry stewardship, curbside recycling, composting, and household hazardous waste.

- Disposal Bans
  - There are various resources that can be recycled or composted, and should not be disposed.
  - For example, food waste, newsprint, waste paint, and selected plastics.
- Industry Stewardship
  - Approach businesses to change their current environmental practices.
- Curbside Recycling
  - Allows taxpayer's to recycle various accepted materials.
- Composting

 Compostable organic materials can be collected and composted at a central composting facility.

Household Hazardous Waste

<sup>13</sup> Nova Scotia Department of Environment. <u>Solid Waste-Resource Management: A Strategy for Nova Scotia</u>. Halifax, NS: Province of Nova Scotia, 1995.

<sup>&</sup>lt;sup>14</sup> Nova Scotia Department of Environment. <u>Solid Waste-Resource Management: A Strategy for Nova Scotia</u>. Halifax, NS: Province of Nova Scotia, 1995.

 Municipalities can provide Household Hazardous Waste Depots for recycling or safe disposal of waste paint, batteries, and other household hazardous wastes.<sup>15</sup>

#### Regulations to follow:

When municipalities are considering implementing solid waste-resource management initiatives, they should consult Part XIII of Solid-Waste Resource Management section of the Municipal Government Act:

### By-law regarding solid waste

The council may make by-laws respecting solid waste, including, but not limited to,

- (a) prohibiting persons from depositing solid waste except at a solid-waste management facility;
- (b) regulating the disposal, collection and removal of solid waste;
- (c) regulating the use of containers for solid waste;
- (d) licensing persons engaged in the business of removing or collecting solid waste, regulation the operation of the business and prohibiting, in whole or in part, the operation of such a business by a person not holding a license;
- (e) prescribing the material that may or may not be deposited at a solid-waste management facility of the municipality or in which the municipality participates;
- (f) prescribing the terms and conditions under which a deposit may be made at a solid-waste management facility of the municipality or in which the municipality participates, including the amount and manner of payment of any fees and charges to be paid for the deposit;
- (g) requiring the separation of solid waste prior to collection;
- (h) setting fees or charges for removal of solid waste;
- (i) requiring compliance with a waste resource diversion strategy;
- (j) respecting anything required to implement the integrated solid-waste resource management strategy of the municipality. <sup>16</sup>

### Solid-waste management

- (1) A municipality may provide compensation to an area, to the property owners in an area or to the residents of an area in which a solid-waste management facility is located in amounts, and under the conditions, determined by the council.
- (2) A municipality may contract with other municipalities or persons for the use of any component of its solid-waste management program. <sup>17</sup>

For an electronic version of this section of the Municipal Government Act, please visit: <a href="http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mga13.pdf">http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mga13.pdf</a>

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Nova Scotia Department of Environment. Nova Scotia: Too Good to Waste: A Summary of the Nova Scotia Solid Waste-Resource Management Strategy. http://www.gov.ns.ca/nse/waste/strategysummary.asp.

<sup>&</sup>lt;sup>16</sup> Municipal Government Act. <u>Solid-Waste Resource Management Part 13 (XIII)</u>. February 1999. http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mga13.pdf.

<sup>&</sup>lt;sup>17</sup> Ibid.

#### **On-Site Sewage Disposal System**

Another environmentally sustainable initiative provided by the Province of Nova Scotia is the On-Site Sewage Disposal System. Many municipalities dispose of its wastewater through an on-site sewage disposal system, which involves the treatment and disposal of wastewater. The on-site sewage disposal system is selected by the On-site Sewage Disposal System Technical Guidelines, which is issued by the Nova Scotia Department of Environment and Labour. Also, a municipality and homeowners must receive approval from the Department of Environment and Labour when installing an on-site sewage disposal system. For more information on the requirements associated with the On-Site Sewage Disposal System, please consult the Department of Environment's document "Before you Construct an On-site Sewage System". This document can be found electronically at:

http://www.gov.ns.ca/nse/water/docs/OnSiteSewageConstruction.pdf

Municipalities with on-site sewage disposal are mandated to follow various regulations established by the Department of Environment and Labour, as well as the Municipal Government Act. Municipalities should consult the On-site Sewage Disposal System Regulations, Sections 66, 102, and 110 of the Environment Act. Municipalities should also consult the Water and Waste Water Facility Regulations, Sections 66 and 110 of the Environment Act (<a href="http://www.gov.ns.ca/legislature/legc/statutes/envromnt.htm">http://www.gov.ns.ca/legislature/legc/statutes/envromnt.htm</a>). Municipalities should also consult Part XIV of the Municipal Government Act relating to Sewers (<a href="http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mga14.pdf">http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mga14.pdf</a>).

# The Natural Step

The Town of Wolfville, NS has embarked upon a unique initiative focusing on sustainability. Guided by the principle of The Natural Step (TNS) framework, the Town of Wolfville management team has worked with the Centre for Rural Sustainability to understand the issues of sustainability. TNS Canada is part of an international non-profit research, education, and advisory organization that uses a science-based, systems framework to help organizations, individuals, and communities take meaningful steps toward sustainability. TNS works to help bring about systemic change by making fundamental principles of sustainability easier to understand and effective sustainability initiatives easier to implement.

Town of Wolfville's Adoption of The Natural Step

The Town of Wolfville has made a commitment to improve its municipality's sustainability. The following are the Town of Wolfville's policy objectives that can be considered by other municipalities when making policy decisions:

Political Leadership and Accountability

- Sustainability requires strong political support and leadership.
- The municipal government should make a commitment to be accountable by adopting policy, budgets, and legislative action that addresses long-term sustainability issues.

Department of Environment. <u>Design and Selection by Qualified Persons</u>. Province of Nova Scotia. <a href="http://www.gov.ns.ca/enla/water/onsitesewage.asp">http://www.gov.ns.ca/enla/water/onsitesewage.asp</a>.

#### Knowledge

- Municipal employees should be informed of sustainability principles and the municipal government's commitment to sustainability.
- Employees should base their decisions that steers the community towards sustainability.

## Measuring Performance

 Municipalities should maintain informative and accurate measurements of the sustainability performance of the community, and use the indicators to guide progress in improving its sustainability record.

## Operations

 Municipalities should minimize the ecological impacts of its corporate operations, and make infrastructure decisions that maximize long-term sustainability.

#### **Town Planning**

- Municipalities should plan in the future based on success conditions for sustainability, and the well being of the community is maximized.
- Sustainability planning often extends beyond municipal borders, and neighbouring communities should be involved in the process.

### Inclusively

• Municipalities should use effective communication techniques to engage all community stakeholders to work towards building a sustainable community.

#### Dialogue

- Municipalities should consider implementing effective and transparent sustainability communication mechanisms to community stakeholders.
- Communication and collaboration beyond municipal borders around sustainability should also be considered.<sup>19</sup>

#### The Natural Step Framework

TNS framework addresses the need for a systematic way of understanding and planning towards sustainability. TNS framework includes the funnel as a metaphor, the system conditions for a sustainable society, backcasting from conditions of success, and the "ABCD" strategic planning process.

Funnel as a Metaphor

■ The funnel represents the continuous decline of supply of natural resources and the increase in demand of natural resources. <sup>20</sup>

<sup>20</sup> The Natural Step. The Natural Step Introductory Workshop. Wolfville, NS. December 8, 2004.

<sup>&</sup>lt;sup>19</sup> Centre for Rural Sustainability and the Town of Wolfville. <u>The Town of Wolfville Sustainability</u> Initiative Strategic Action Plan. December 10, 2004.

- The System Conditions for a Sustainable Society
  - In a sustainable society, nature is not subject to systematically increasing:
    - Concentrations of substances from the earth's crust.
    - Concentrations of substances produced by society.
    - Degradation of nature by physical means.
    - In society, people are not subject to conditions that systematically undermine their capacity to meet their needs.<sup>21</sup>
- **Backcasting from Conditions of Success** 
  - Backcasting is a methodology for planning that involves starting from a description of a successful outcome, and then deciding what must be done once the outcome is successful.
  - This step in the framework involves eliminating society's contribution to the four systems of conditions for a sustainable society.<sup>22</sup>
- "ABCD" Strategic Planning Process
  - (A)wareness: Understanding sustainability and TNS framework as a shared mental model.
  - (B)aseline: An assessment of the present and the practices that are contributed to the violations of the system conditions.
  - (C)ompelling Vision Opportunities for Innovation: Possible solutions and innovations for the future are generated and listed by applying the constraints of the system conditions to trigger creativity and scrutinize the suggested solutions.
  - (**D**)own to Action: Priorities from the C-list are made, and smart early moves and concrete programs for change are launched.<sup>23</sup>

For more information on The Natural Step program, please visit: http://www.naturalstep.ca/about.html.

<sup>23</sup> Ibid.

<sup>&</sup>lt;sup>21</sup> The Natural Step. <u>The Natural Step Introductory Workshop</u>. Wolfville, NS. December 8, 2004.

<sup>&</sup>lt;sup>22</sup> Ibid.

# Appendix IV: Legislations and Regulations that Should be Consulted when Implementing Sustainable Practices

Throughout the document there have been various legislations, regulations, and documents listed. The following is a concise list of all of the documents municipalities should consider when implementing sustainable practices.

Municipal financial indicators, including revenue indicators, expenditure indicators, operating position indicators, debt indicators, and capital indicators:

http://www.gov.ns.ca/snsmr/muns/indicators/public/default.asp

Statement of Provincial Interest Regarding Drinking Water found in subsections 194 (2) and (5) of the Municipal Government Act.

http://www.gov.ns.ca/just/regulations/regs/mgstmt.htm

Schedule B, Statements of Provincial Interest, which discuses drinking water, flood risk areas, agricultural land, infrastructure, and housing strategies:

 $\underline{http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandboo}\\ \underline{k\_5.1.pdf}$ 

Section 5.7 of the Local Government Resource Handbook focuses on water supply and watershed model planning:

 $\underline{\text{http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandbooks}_{L}.5.7.pdf.}$ 

Municipal Planning Strategy and Land-Use By-law (MPS and LUB) can help prepare implementing new sustainable by-laws and strategies. For more information on the MPS and LUB, visit:

 $\underline{\text{http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandbooks.2.pdf}.$ 

Solid-Waste Resource Manage, Part XIII of the Municipal Government Act: <a href="http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mga13.pdf">http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mga13.pdf</a>

For more information on Qualified Persons for On-Site Sewage Disposal Systems,, please visit: <a href="http://www.gov.ns.ca/enla/water/onsitesewage.asp">http://www.gov.ns.ca/enla/water/onsitesewage.asp</a>

The On-site Sewage Disposal System Regulations, Sections 66, 102, and 110 of the Environment Act: http://www.gov.ns.ca/just/regulations/regs/envsewag.htm

The Water and Waste Water Facility Regulations, Sections 66 and 110 of the Environment Act: <a href="http://www.gov.ns.ca/legislature/legc/statutes/envromnt.htm">http://www.gov.ns.ca/legislature/legc/statutes/envromnt.htm</a>

Sewers, Part XIV of the Municipal Government Act: <a href="http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mga14.pdf">http://www.gov.ns.ca/snsmr/muns/manuals/pdf/mga/mga14.pdf</a>

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