

Acknowledgments

Many individuals and organizations played a central role in the work that led to the completion of this report and deserve special recognition for their efforts. Representatives of Conserve Nova Scotia and the Eco-Efficiency Centre, Dalhousie University have provided technical support for the design and implementation of this initiative. The staff associated with the Town of Annapolis Royal has made many contribution to the success of this project. The staff diligently reviewed financial records to determine their energy consumption. Nova Scotia Power Inc. developed electrical consumption data for all electrical users in the geographic area of Annapolis Royal, a very challenging task in view of recent changes to routing of the meter readers. Several of the Institutional/Commercial/Industrial users freely shared data on their consumption of energy. Residential and small business property owners took to the time to carefully complete and return surveys on their energy consumption. Various staff at the Clean Annapolis River Project were most generous in sharing their considerable expertise in the delivery of this project.

The Annapolis Energy Conservation Pilot Project would not have been possible without the financial assistance of the EcoAction Community Program, Environment Canada and the Town of Annapolis Royal.

Table on Contents

Background	Page 1
Community Profile	Page 1
Methodology	Page 2
Summary of Greenhouse Gas Emissions	Page 4
Corporate Town of Annapolis Royal Greenhouse Emissions	Page 5
Institutional, Commercial, Industrial Greenhouse Gas Emissions	Page 8
Residential and Small Business Greenhouse Gas Emissions	Page 10
Summary and Conclusions	Page 12
References	Page 15
Appendix I	Page 16

Executive Summary

Early in 2006, staff with the Town of Annapolis Royal approached the Clean Annapolis River Project (CARP) seeking their assistance in developing an energy conservation plan. For a regional organization like CARP, this invitation presented an opportunity to develop a pilot project that could become a model that other towns and villages in the Annapolis Watershed might adopt. Hence, the objective of the *Annapolis Energy Conservation Pilot Project* is to use the Town of Annapolis Royal as a test bed to develop community-based energy conservation plans for other communities.

The base year of 2006 was originally selected as the most recent full 12 month period because Nova Scotia Power indicated that they could provide electrical consumption data for a three-year period, 2005, 2006 and 2007 and this could be averaged for the period, minimizing the influence of seasonal variance. Due to changes in the routing for meter reading, this proved to be much more difficult than initially anticipated. For the purposes of this baseline survey, energy consumption has been broken into several components. Energy consumption in its various forms was then used to estimate greenhouse gas (GHG) emissions for each of the following sectors: Corporate Town of Annapolis Royal (CTAR); Industrial, Commercial and Institutional (ICI) and Residential/Small Business (RSB). This research does *not* include emissions arising from private transportation.

When fossil fuels are burned several greenhouse gases are released, depending upon the fuel and other factors. To manage these diverse gases, all emissions are converted into equivalent units of carbon dioxide, shown as eCO₂. For the purposes of this report, the conversion factors developed by the Union of Nova Scotia Municipalities were used.

Using a variety of research techniques, the total greenhouse gas emissions from energy users within the geographic boundaries of the Town of Annapolis Royal were estimated at just over 12 million kilograms in a 12 month period as expressed in equivalent units of carbon dioxide. The larger commercial and institutional users including schools, large businesses and others accounts for over 62 %, followed by small business/residential and Corporate entity of the Town of Annapolis Royal at 34 % and 4 %, respectively.

The majority of greenhouse gas emissions from all users in the geographic boundaries of the municipality originated from the use of furnace oil for space heating and electrical energy for various uses. Electrical consumption accounts for slightly more than 78 % followed by furnace oil for space heating at just under 22 %. The largest source of GHG emissions from the Corporate Town of Annapolis Royal arose from electrical consumption which represented 77 % of the total emissions. This would seem to be an area in which the Town administration might wish to focus. In the ICI sector, 91 % of the GHG emissions was from the consumption of electricity followed

by space heating at only 8 %. This would imply that there should be areas for very substantial reductions in electrical consumption by this sector. With respect to small business and residential, the split between GHG emissions from electrical and space heating at 46 % and 54 %, respectively. This would imply that homeowners might wish to target both energy sources.

The price of space heating fuel could be as much as 30 to 50 % higher in the coming season as compared to last year. Increases in future years are anticipated. While electrical costs may not, in the immediate term, rise as quickly as oil prices, one should expect them to meet and likely exceed oil prices as electrical energy in Nova Scotia is primarily generated from burning fossil fuels. Economics is a very powerful incentive for conservation. There are federal, provincial and private sector incentive programs that encourage conservation. Utilization of these initiatives provide the bridges necessary to make the transition into the emerging world of high energy costs.