Moving Forward

Newfoundland Labrador

ENERGY EFFICIENCY ACTION PLAN 2011

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LETTER FROM THE PREMIER

Energy efficiency presents a tremendous opportunity for economic development and environmental progress in Newfoundland and Labrador. That is why the 2007 Energy Plan placed energy efficiency at the heart of our government's vision for a sustainable energy future.

Energy efficiency can generate important economic benefits, such as decreased costs to consumers, stronger business competitiveness and greater energy security. At the same time, it can reduce air pollutants harmful to human health, and contribute to efforts to tackle climate change. In recognition of these benefits, jurisdictions throughout the world are stepping up their efforts to promote energy efficiency. The same is true of Newfoundland and Labrador.

The release of *Moving Forward: Energy Efficiency Action Plan 2011* marks an important milestone. It is the province's first strategy wholly dedicated to energy efficiency. It underlines our government's commitment to build on existing policies and partnerships to increase energy efficiency. It also speaks to the recognition that, to be successful, our efforts need to be far-reaching, long-term and transformative.

Globally, energy efficiency could result in savings of hundreds of billions of dollars for organizations and individuals. Here in our province, financial savings are already being realized. Homeowners who improved the energy efficiency of their homes with support from the EnerGuide and Residential Energy Efficiency Programs saved, on average, $800 per year on energy costs as a result.

The purpose of this action plan is to generate momentum into our province's collective efforts to increase energy efficiency. Using every unit of energy as efficiently as possible is the ultimate target. This plan sets a clear vision and goals to guide us moving forward.

Sincerely,

Kathy Dunderdale

Kathy Dunderdale
Premier of Newfoundland and Labrador

LETTER FROM THE MINISTERS

The Provincial Government is committed to action on energy efficiency to realize the benefits it offers Newfoundland and Labrador. Energy efficiency has been improving steadily over the years but there is considerable untapped potential for the province. Opportunities, such as the use of new materials and techniques in building construction, more energy-efficient processes by industry, and the adoption of more energy-efficient appliances by householders, can all have positive impacts in our province.

Huge opportunities exist to improve energy efficiency in a cost-effective way, yet they are not being taken up at the rate we need. The key barriers to action include low awareness of the most cost-effective options, as well as the time needed to gather and act on information. The Provincial Government recognizes that it has a key role to play in addressing such barriers by promoting action on energy efficiency and working to ensure all sectors make it a priority.

Moving Forward: Energy Efficiency Action Plan 2011 articulates the government's vision for energy efficiency in our province. In this plan, government recognizes the importance of leading by example in its own operations as well as providing a strong and sustained focus that reaches out to all sectors of the economy. This plan is being released in conjunction with *Charting our Course: Climate Change Action Plan 2011* in recognition of how energy efficiency can contribute efforts to tackle climate change.

The development of both action plans was informed by consultations undertaken in 2010. Stakeholder feedback was instrumental in shaping the government's approach and priorities. Looking to the future, success will require working in close partnership with others and the engagement of all parts of society. Government welcomes the opportunity to deepen collaboration and strengthen its leadership role as we move forward together.

The scale of government's ambition is considerable, but so are the potential rewards for Newfoundland and Labrador. Energy efficiency is a powerful tool and this plan marks an important step towards using energy efficiency to deliver positive economic, social and environmental outcomes.

Sincerely,

Shawn Skinner
Minister of Natural Resources

Ross Wiseman
Minister of Environment and Conservation

Petty Harbour
Image Source: briancareyphotography.com

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INTRODUCTION

Moving Forward

1.0 INTRODUCTION – MOVING FORWARD

The Government of Newfoundland and Labrador is committed to strengthening energy conservation and efficiency efforts in this province, recognizing that these efforts are fundamental to long-term economic growth and environmental sustainability.

Newfoundland and Labrador is an energy warehouse, and economic and employment growth is facilitated by an abundance of energy from hydroelectric, oil, wind and other sources. The 2007 Energy Plan set out the Provincial Government's plan to develop these resources in an economically and environmentally sustainable manner, and it clearly identified the importance of energy conservation and efficiency to the provincial economy and its environment.

The release of Moving Forward: Energy Efficiency Action Plan 2011 fulfills a commitment from the Energy Plan. It builds on existing initiatives and establishes new directions to capture the benefits of energy efficiency. Benefits include reducing energy bills, enhancing business competitiveness, improving energy security, freeing up more electricity to export to other jurisdictions, and reducing local air pollutants and greenhouse gas (GHG) emissions where energy efficiency lowers reliance on fossil fuels. The outcomes from this five-year plan will allow the province to make progress toward achieving its longer term intergovernmental commitments to improve energy efficiency and reduce energy consumption in the province by the year 2020.

This plan has been released alongside the Charting Our Course: Climate Change Action Plan 2011. A major shift in the uptake of energy efficiency can make a fundamental contribution to the global battle against climate change where it reduces dependency on carbon-intensive fuels. However energy efficiency has a much wider set of benefits as articulated above. As a result, even if all the province's energy was generated from clean energy sources there would still be a strong economic rationale for promoting greater energy efficiency. For these reasons, the Provincial Government has developed this separate but complementary plan to outline its approach to energy efficiency. Figure 1 illustrates the distinct characteristics of, and synergies between, climate change and energy efficiency.

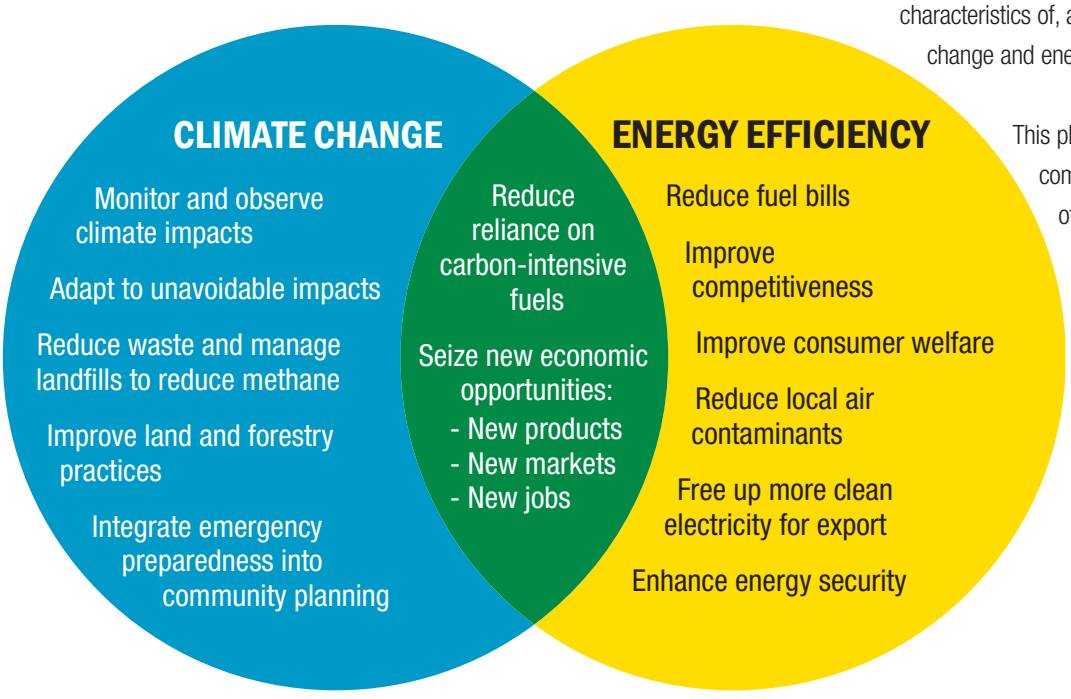

Figure 1: Climate Change and Energy Efficiency

This plan aims to provide a comprehensive picture for the province of energy consumption, energy efficiency efforts to date, and new directions for the future. The plan and its commitments will be guided by a strategic framework comprising an overarching vision, principles, goals and objectives.

Vision

A province where businesses, households, consumers and governments incorporate energy efficiency and conservation considerations into decision-making to maximize economic, social and environmental benefits.

Guiding Principles

Policy and programming actions in this plan will reflect the following guiding principles:

- ***Maximize benefits for homeowners and businesses*** - While the primary objective of energy efficiency is to reduce energy consumption, it also lowers energy costs to homeowners and business owners and offers other benefits such as improving levels of comfort.

- ***Encourage economic development*** - The promotion of, and investment in, energy efficiency can create new employment and economic opportunities.

- ***Support collaboration and partnerships*** - The experience and expertise that is readily available in the public, private, academic, and voluntary and not-for-profit sectors in Newfoundland and Labrador can enhance action on energy efficiency.

- ***Take a long-term view*** - Generating a major shift in the uptake of energy efficiency requires permanent long-term structural changes to markets which will necessitate government taking a strategic approach to deliver results.

- ***Maximize returns from Lower Churchill*** - Reduced energy consumption in the province will maximize available power for export.

- ***Contribute to provincial GHG reductions*** - Energy efficiency is an important way to reduce GHG emissions and support government's efforts on climate change.

Goals

The goals and objectives of this Energy Efficiency Action Plan outline the overarching priorities of the Provincial Government on energy efficiency. The actions the government pursues through this plan are directed at achieving one or more of these goals.

Goal 1: Support a major shift in the uptake of energy efficiency

Objective: Pursue the Conference of New England Governors and Eastern Canadian Premiers target of reducing energy consumption by 20 per cent by 2020 from business-as-usual projections.

Goal 2: Demonstrate Provincial Government leadership on energy efficiency

Objective: Promote economy-wide action on energy efficiency through policies and measures designed to facilitate widespread engagement and action; and manage government's own operations in a manner consistent with this plan.

Goal 3: Advance action on energy efficiency through collaboration with other jurisdictions

Objective: Proactively engage other governments to identify opportunities for collaboration on energy efficiency.

The following pages will describe the government's strategic approach to promoting energy efficiency and its relevance to Newfoundland and Labrador, and set out the actions government will take to meet the goals and objectives established in this plan.

Change Islands, NL

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WHY ENERGY EFFICIENCY MATTERS TO NEWFOUNDLAND AND LABRADOR

2.0 WHY ENERGY EFFICIENCY MATTERS TO NEWFOUNDLAND AND LABRADOR

2.1 Defining the Challenge

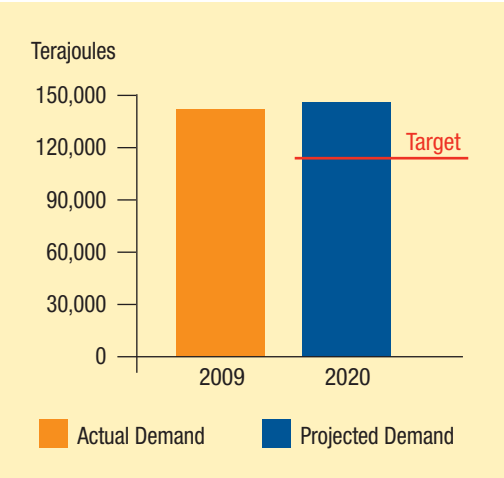
Energy efficiency is frequently referred to as the "fuel of first choice" for meeting future energy needs, as it is often regarded as the cheapest, cleanest and safest way of ensuring society has secure, affordable and clean power. The financial benefits of improvements in energy efficiency are clear. It can lower household energy bills and improve business competitiveness by lowering costs, but its benefits go beyond this. In the 2007 Energy Plan, government acknowledged the multiple advantages of energy conservation and efficiency and committed to promote and facilitate it going forward.

Newfoundland and Labrador's energy consumption, including households, the commercial sector, public administration, industrial and manufacturing facilities, and transportation[1] increased from 148,600 terajoules (TJ) in 1990 to a peak of 153,200 TJ in 2003. Provincial energy consumption has since declined to 144,800 TJ in 2009, driven in large part by reduced industrial demand.[2] In 2009, approximately 41 per cent of energy was consumed in transportation, 31 per cent in the industrial and manufacturing sector, 14 per cent by the residential sector, and 12 per cent by commercial businesses and institutions, as illustrated in Figure 2.

Energy efficiency has featured prominently in intergovernmental discussions. At the Council of the Federation (COF) meeting in 2007, all provinces committed to achieve a 20 per cent increase in energy efficiency by 2020 and, at the Conference of New England Governors and Eastern Canadian Premiers (NEG-ECP) meeting in 2010, all jurisdictions committed to reduce energy consumption in, but not limited to, homes, buildings and industry by 20 per cent by 2020 from business-as-usual projections.

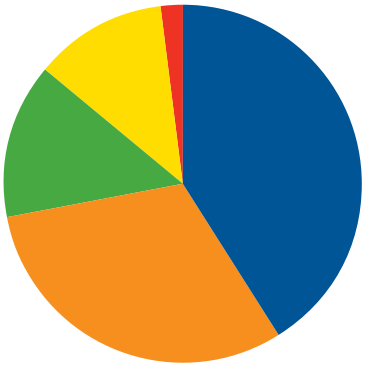
Current projections by the Provincial Government indicate that, in the absence of any additional measures, energy consumption is expected to show a modest increase by 2020, as illustrated in Figure 3. There have been shifts in the type of energy consumed since 1990 with an increased share from electricity. Electricity consumption is expected to continue to grow, while consumption from refined petroleum products and other sources is expected to remain stable or decline.

Figure 3: Newfoundland and Labrador Actual and Predicted Energy Consumption, 2009 and 2020



The intergovernmental targets are intended to be challenging and they are designed to motivate action and raise levels of ambition on energy efficiency. As a result, the Provincial Government's commitment to pursue these targets will help to stimulate a major shift in the uptake of energy efficiency, so that the province can realize the significant environmental and economic benefits that energy efficiency can offer. Government is committed to providing the leadership

Figure 2: Newfoundland and Labrador Energy Consumption by Sector, 2009



Transportation	41%
Industrial & Manufacturing	31%
Residential	14%
Commercial & Institutional	12%
Non-Energy Use	2%

Non-energy use includes asphalt, lubricating oils and greases and products such as petrochemical feedstocks. Sources: Adapted from Statistics Canada CANSIM database http://cansim2.statcan.gc.ca, Table 128-0002 and Table 128-0009, April 2009 and Catalogue no. 57-003-x. Ottawa. Released February 2010; Government of Newfoundland and Labrador; Office of Energy Efficiency, Natural Resources Canada; Canada-Newfoundland and Labrador Offshore Petroleum Board; Harvest Operations Corporation

[1] These data exclude offshore natural gas consumption.

[2] Energy consumption is shown on a terajoule (TJ) basis to allow for a comparative overview of different forms of energy that are expressed in different natural units such as tonnes (coal), GWh (electricity) and litres (petroleum products). One TJ, for example, is the equivalent of approximately 163 barrels of crude oil or 0.277 GWh of electricity.

necessary to move the province forward in partnership with all parts of society. The publication of this plan, and the commitments within it, represent an important milestone on that path.

2.2 What is Energy Efficiency?

Energy efficiency refers to using less energy to provide the same or better level of service. In the residential sector, increasing the amount or quality of insulation in homes can allow households to reduce their energy consumption and thereby save money while maintaining the same level of comfort. In the industrial sector, new technology investments and processes may mean that a company can use less energy to generate the same or greater levels of production. In the transportation sector, aerodynamic devices can reduce fuel consumption and thereby improve business competitiveness.

Energy efficiency differs from energy *conservation*. Conservation measures, broadly speaking, seek to alter the behaviour of individuals, companies and governments by encouraging them to reduce energy consumption. Conservation could include measures as simple as switching off lights when leaving a room, turning off televisions or computers when not in use, or lowering thermostat settings at night. For simplicity, energy efficiency is used in this plan as inclusive of both conservation and efficiency.

There are four main ways to improve energy efficiency:

- New homes and buildings can be built to more energy-efficient standards, thereby reducing the amount of energy needed to heat and cool them. This can be done by installing energy-efficient windows, more efficient heating systems and better insulation.
- Existing homes and buildings can be retrofitted to require less energy by, for example, reducing drafts and increasing the overall coverage of insulation.
- Machinery, equipment, appliances and vehicles used by businesses, households and individuals can be built to use less energy. For example, it takes less energy to keep a high-efficiency refrigerator chilled to the desired temperature compared to less efficient models. Similarly, industrial processes can be made more efficient so that they require less energy to produce a unit of output.
- Better information and advice can be made available to help businesses, households and individuals understand how small changes in behaviour can save both energy and money.

Image Source: ACAN Windows Inc., Paradise, NL

Examples of Energy Efficiency

When a household or business replaces an older window with an energy-efficient one, the window prevents heat from escaping during the winter. This means that the furnace or electric heater does not have to generate so much heat, thereby reducing the amount of energy consumed and saving money. In summer, efficient windows can also keep the heat out, reducing the need for air conditioning and thereby saving electricity.

When a business has to replace office equipment, such as computers, printers or photocopiers, and households have to replace appliances, such as a washing machine, refrigerator or freezer, buying more energy-efficient models will save energy and therefore money. The new equipment provides the same service, but uses less energy to do so.

2.3 Benefits of Energy Efficiency

Taking action on energy efficiency offers Newfoundland and Labrador a broad spectrum of positive impacts, and it deserves increased efforts by all parts of society. The key benefits of energy efficiency include:

- ***Lowering Household Energy Bills*** – Energy efficiency is the easiest, most affordable and most effective way for families to use energy more wisely and save money on both household and transportation expenses.

- ***Improving Business Competitiveness*** – Energy costs affect a business's bottom line. Businesses that control their energy consumption enjoy lower heating, electricity and transportation costs. Energy consumption and commodity prices are rising around the world and the uncertainty and volatility associated with these trends can negatively impact economic activity. Businesses that use energy wisely will be better positioned, over time, as they will be less vulnerable to these impacts.

- ***Increasing energy available for export*** – Energy exports are an important pillar of economic activity and employment in Newfoundland and Labrador. By using energy more wisely, energy exporters like this province will have additional power to sell into global markets.

- ***Increasing Consumer Welfare*** – Energy efficiency can help jurisdictions achieve social as well as economic and energy goals. Lower income households tend to spend a higher share of income on energy costs and may not be able to afford to heat their homes to an adequate level of comfort in winter. Inadequately heated homes can make occupants more susceptible to a range of health problems.

- ***Reducing Local Air Pollutants*** – Energy efficiency can reduce the amount of local air pollutants emitted. These pollutants, which include fine particulate matter and other chemicals such as sulphur dioxide, can be harmful to human health and are distinct from GHG emissions which are the principle cause of climate change.

- ***Reducing GHG Emissions*** – Climate change is being caused by the release of growing quantities of GHG emissions into the atmosphere, such as carbon dioxide, methane and nitrous oxide. The largest source of these emissions is the combustion of fossil fuels such as coal, oil and natural gas, to generate heat and electricity and fuel vehicles. Energy efficiency can reduce GHG emissions by reducing reliance on fossil fuels.

2.4 Barriers to Action

While there are clear benefits to taking action on energy efficiency, there are a number of potential barriers that can prevent higher levels of investment. Given this, there is strong rationale for government to help overcome these barriers and reduce the difficulties that consumers face in acquiring and acting on information about the value of energy efficiency. The main barriers to action include:

- ***Lack of Information and Awareness*** – Taking action on energy efficiency can involve a diverse spectrum of potential initiatives ranging from buying energy-efficient light bulbs to designing high-efficiency buildings. However, consumers, contractors, households, and businesses may not be aware of the opportunities or know where to access reliable and timely information.

- ***Hassle Factor*** – Gathering information and acting on it may require time and persistence. In view of this, consumers may think that the end result does not justify the effort. For example, insulating a basement may necessitate clearing it out first and installing energy-efficient products or systems may require finding a suitably skilled contractor to do the work.

- ***Up-front Costs*** – Investments to improve energy efficiency, such as buying higher-grade products or heating systems, may have greater up-front costs. This may be a barrier to action even though the resulting energy savings may save enough money to pay for the additional cost within a few years.

- ***Availability of High-Efficiency Technologies*** – Individuals and businesses may not always have ready access to high-efficiency building materials, appliances and machinery, or the expert advisers to support installation and maintenance.

- ***Split Incentives*** – Progress on energy efficiency can be hampered by a lack of alignment of incentives on energy efficiency. For example, developers may have little incentive to construct energy-efficient buildings where future tenants and owners will pay the heat and light bills.

- ***Long Payback Periods*** – Some energy efficiency investments can have long payback periods. A payback period refers to the period of time required for the return on an investment to "repay" the sum of the original investment. For example, the length of time it takes for the energy and cost savings derived from installing an efficient heating system to amount to the cost of the initial investment. This can be a barrier to action, especially when it is combined with high up-front costs.

St. John's, NL
Image Source: Glenn Mitchell Photography

3

GOVERNMENT'S STRATEGIC APPROACH

3.0 GOVERNMENT'S STRATEGIC APPROACH

Government wants to generate a major shift in the uptake of energy efficiency in the province as this makes sound economic, social and environmental sense. Progress will build on work underway; increase the profile, intensity and momentum of government's efforts; strengthen partnerships to ensure effective delivery; and raise awareness, participation and engagement of all members of society. In order to guide its approach, government has identified five key strategic directions that will underpin its efforts going forward:

- Providing High-Level Government Leadership
- A Comprehensive Approach
- A Serious and Sustained Commitment
- Efficient and Effective Delivery of Information and Programs
- Government Engagement in Market Transformation

3.1 Providing High-Level Government Leadership

In 2009, the Government of Newfoundland and Labrador established the Office of Climate Change, Energy Efficiency and Emissions Trading. This Office, located in Executive Council and reporting to the Premier, serves as the lead within the Provincial Government for strategy and policy development on climate change and energy efficiency.

It was established to raise the profile of the issues, boost government's capacity to act in this growing and important area, and to be a broker across government departments given the cross cutting nature of the energy efficiency and climate change challenges. This Office implements the priorities of the government and supports actions by government departments to better integrate action on energy efficiency and climate change into their operations. It led the development of this Energy Efficiency Action Plan and the accompanying Climate Change Action Plan, in consultation with other key departments such as Natural Resources and Environment and Conservation.

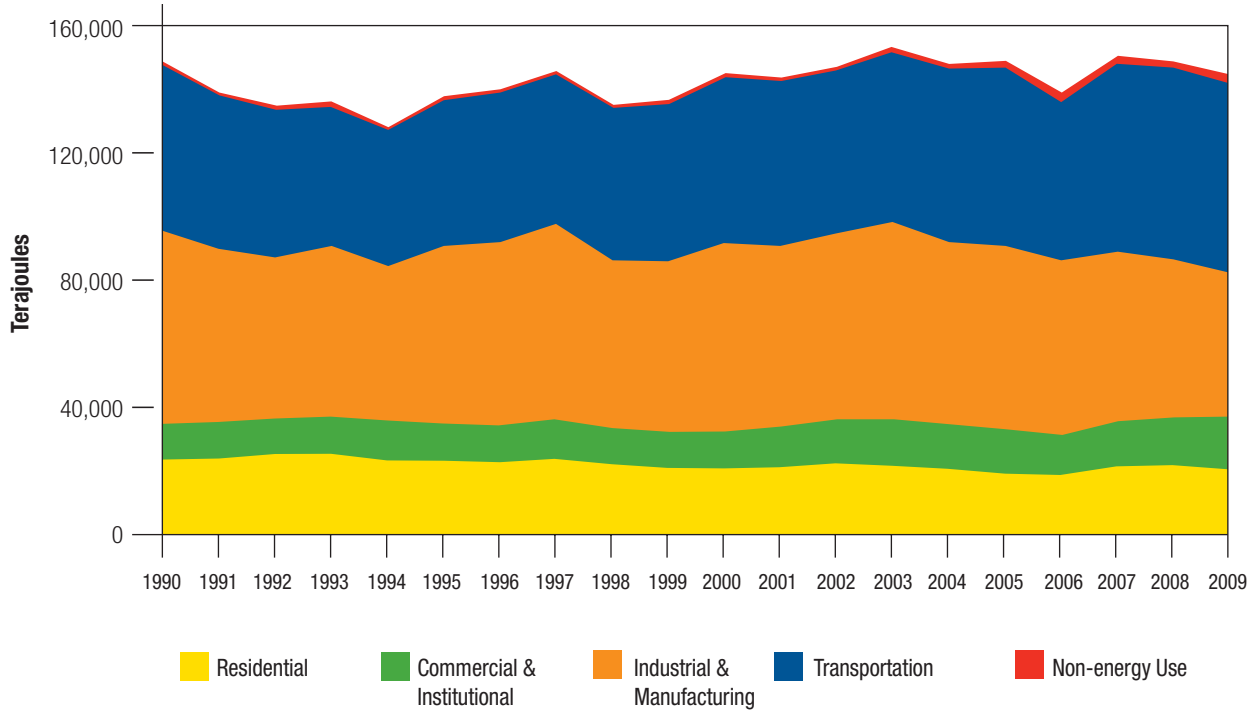
3.2 A Comprehensive Approach

Government recognizes the importance of a comprehensive approach towards energy efficiency and will seek to embrace all four of the elements outlined below.

All Sectors - Given the multiple benefits, all sectors of society can benefit from energy efficiency. Government's efforts to promote energy efficiency need to be economy-wide, as illustrated by Figure 4. Given the diverse characteristics and requirements of sectors, government recognizes that a "one-size fits all" approach is not appropriate and different instruments may be needed in different sectors.

St. Anthony, NL

Figure 4: Energy Consumption by Sector in Newfoundland and Labrador, 1990-2009

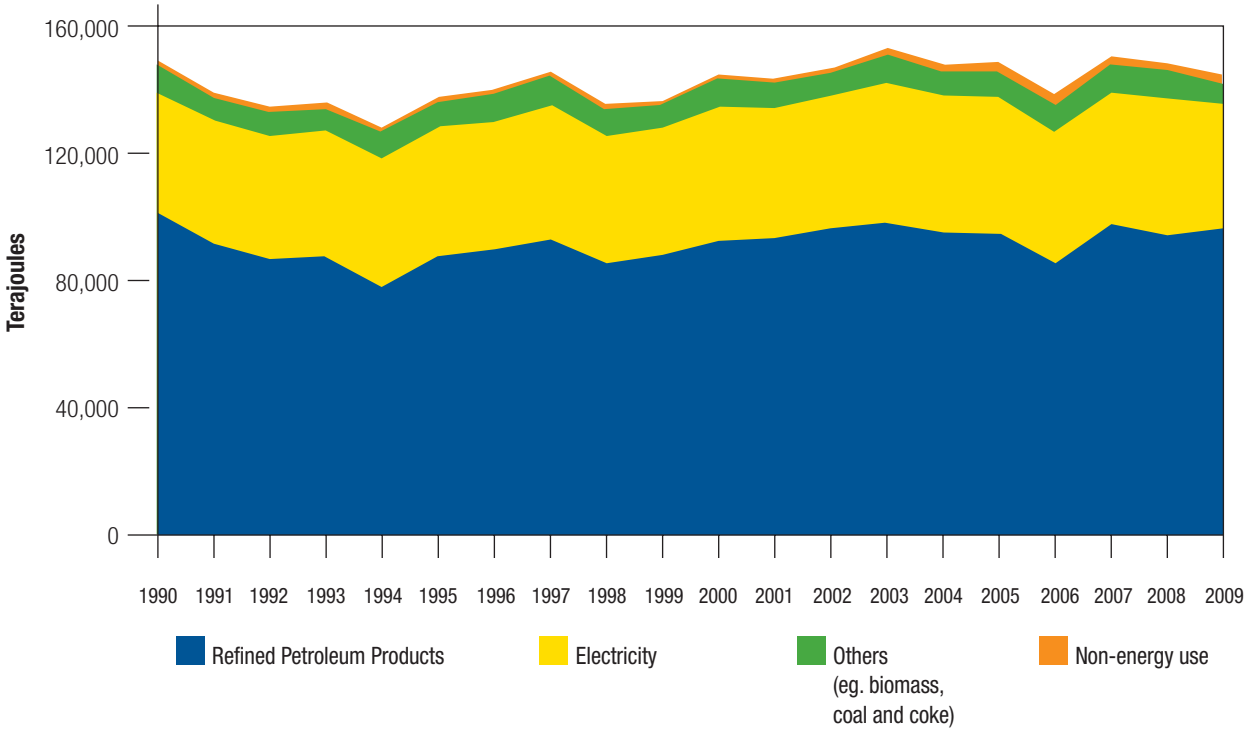


Non-energy use includes asphalt, lubricating oils and greases and products such as petrochemical feedstocks. Sources: Adapted from Statistics Canada CANSIM database http://cansim2.statcan.gc.ca, Table 128-0002 and Table 128-0009, April 2009 and Catalogue no. 57-003-x. Ottawa. Released February 2010; Government of Newfoundland and Labrador; Office of Energy Efficiency, Natural Resources Canada; Canada-Newfoundland and Labrador Offshore Petroleum Board; Harvest Operations Corporation

All Fuels – Although efforts to improve energy efficiency in the electricity sector often enjoy a high profile, there is equal merit in energy efficiency for other fuel types such as refined petroleum products (RPPs). As Figure 5 illustrates, approximately one quarter of the province's energy in 2009 was derived from electricity sales and almost three quarters is from the consumption of RPPs. RPPs are used by industry, in homes and buildings for space and hot water heating, and in the transportation sector.

Energy Conservation and Efficiency – The strategic approach of government embraces both energy conservation and efficiency. The former concerns encouraging greater awareness and, as a result, behavioural changes that save energy. For example, laptop and cell phone chargers are power units which, when left plugged in, continue to draw power from an outlet even if the laptop or phone is not attached to the charger. In contrast, the term 'energy efficiency' often refers to the deployment of new and existing

Figure 5: Energy Consumption by Fuel Type in Newfoundland and Labrador, 1990-2009



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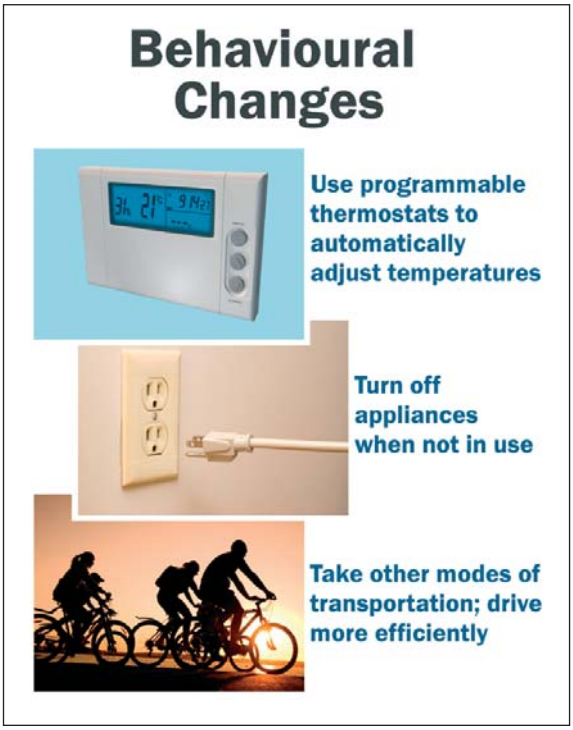
technologies to reduce the amount of energy used to deliver the same amount of service. Many of the technologies that can help deliver a major change in efficiency already exist, such as insulation, but new technologies are also emerging and being more widely deployed. For example, the amount of electricity needed to run a current model dishwasher compared to a 1990 model is down by 70 per cent.

Blend of Instruments - Government is taking a long-term, coordinated and integrated approach to energy efficiency focusing on programs and services as well as regulatory development. This approach is needed to accelerate the development, deployment and utilization of technologies, materials, appliances and processes to reduce energy consumption. To succeed, a comprehensive approach is required under which a blend of policy instruments is deployed, ranging from those on the 'softer' side of the spectrum, such as information provision, grants and subsidies, and research and development, to more mandatory approaches, such as the use of government procurement to transform markets, product standards and regulations. The use of a broad mix of instruments is the approach taken in those jurisdictions leading the way on energy efficiency.



3.3 A Serious and Sustained Commitment

Generating a major shift in energy efficiency requires a sustained long-term commitment going forward that has two key facets: (1) it is appropriately resourced to make progress toward achieving broad policy objectives, and (2) there is a high level of certainty about future funding levels over a multi-year period. Recent analysis by the Provincial Government has shown that, taken together, the benefits of energy efficiency can drive economic activity. For each $1 million spent on energy efficiency programming, gross domestic product increases by approximately $815,000 and labour income by $555,000 in the same year. Futhermore, because energy savings are enjoyed for many years after the year in which upgrades are made, additional longer-term benefits are also felt. Over a 10-year return period, each $1 million spending is estimated to further increase gross domestic product by about $270,000 and labour income by $148,000 as consumers and businesses increase spending elsewhere in the economy.

It is understood that uncertainty on future funding levels can impede effective planning and program delivery on energy efficiency. Equally, 'stop-go' approaches to program delivery, where a program runs for a few years then is cut back only to be reinstated after a gap, can fail to build momentum, develop local expertise and sustain employment opportunities. Government is aware of these challenges and will examine ways to enhance its delivery of programs going forward with a view to avoiding these problems. Key stakeholders such as the utilities, non-governmental organizations and business groups will be consulted.

3.4 Efficient and Effective Delivery of Information and Programs

Although improvements in energy efficiency have multiple benefits and make good economic sense, high levels of investment in energy efficiency do not occur if left to the market. This could be, in part, because households, businesses and individuals may not appreciate what the benefits of energy efficiency are; they may not always have access to reliable information and, even if they do, may not have the time or inclination to go through the trouble of acting on it. For businesses, this issue is particularly acute as "time is money".

As set out below, there are currently a range of energy efficiency programs from departments and crown corporations which provide advice and other support to promote action on energy efficiency.

The Provincial Government is committed to ensuring that individuals and businesses have access to the right information and tools they need to move forward on energy efficiency, and will explore the best way to achieve this.

Entity	Energy Efficiency Programs
Department of Fisheries and Aquaculture	• Fishing Vessel Energy Audit Project for the fish harvesting sector.
Departments of Education, and Natural Resources	• Save It Forward program to encourage school children to spearhead initiatives to promote energy efficiency.
Department of Environment and Conservation	• Green Fund which has supported a range of energy efficiency projects worth over $11.9 million over the last four financial years.
Department of Innovation, Trade and Rural Development	• Assistance for manufacturers to adopt "lean and green" processes which are intended to improve quality and reduce energy use, costs, waste and processing time.
Department of Natural Resources	• EnerGuide program to support energy efficiency upgrades to homes.
Newfoundland Labrador Housing Corporation	• Residential Energy Efficiency Program to support energy efficiency retrofits in low income households.
Newfoundland and Labrador Hydro	• Industrial Energy Efficiency Program, which supports energy efficiency improvements for its transmission-level customers. • takeCHARGE, in partnership with Newfoundland Power, which provides rebates for a selection of energy-efficient products for residential and commercial applications.

3.5 Government Engagement in Market Transformation

Market transformation is an approach used to achieve a permanent shift towards energy-efficient products by removing market barriers. Governments have a key role to play in transforming markets through the deployment of multiple policy instruments such as information, grants, subsidies, tax policy, procurement, and regulation.

The Provincial Government recognizes that it has a role in transforming markets by "pushing" and "pulling". Policies to "push" markets involve promotional activities, such as:

- Using information and incentives to encourage people to purchase the most efficient products;
- Providing clear signals about the level and timing of future changes to regulations; and
- Bringing in legislation to ensure that the market does not slip back once there is evidence that a market has been transformed.

Efforts to "pull" markets may be done by demonstrating best practices in government operations (e.g. procuring only ENERGY STAR electronic products), or exceeding minimum standards (e.g. seeking to achieve Leadership in Energy and Enivronmental Design (LEED) certification for new buildings). The Provincial Government recognizes that a more comprehensive approach to market transformation can pay dividends and, as such, commits to develop an action plan setting out its approach to market transformation for more energy-efficient and low GHG-emitting goods and services. The plan will articulate what government is currently doing and how it aims to build on this.

Five A's of Market Transformation – The achievement of market transformation can be measured on the basis of the 'Five A's':

- **Availability** - Is the product or technology easily available in the market? Are the energy benefits/savings adequately documented and demonstrated? Is information on the product or technology (e.g. case studies, testing standards, etc.) easily available?
- **Awareness** - Is the market aware of the product/technology/information? Have the energy benefits/savings been adequately promoted and demonstrated? Is there information on the product's packaging to raise awareness of its quality and performance? Is the market being made aware of practices governing the product/technology (e.g. standards, guidelines, policies)?
- **Accessibility** - Is the product/technology/information easily accessible to the end-user? What marketing tools and distribution channels are being used to distribute the product/technology/information widely and meet sales objectives?
- **Affordability** - Is the product/technology affordable to the end-user? Are consumers satisfied with its benefits/savings? Is the product or technology cost-competitive with similar products on the market?
- **Acceptability** - Is the product/technology popular among consumers? Did the organization do anything special to achieve consumer acceptance or buy-in?

Source: Office of Energy Efficiency, Natural Resources Canada, 2010.

Francois, NL
Image Source: Rural Secretariat

4

EXTERNAL ENGAGEMENT AND CONSULTATION

4.0 EXTERNAL ENGAGEMENT AND CONSULTATION

The development of the Provincial Government's direction on energy efficiency was informed by significant collaboration with other entities and the input of the general public. This collaboration remains important as government moves forward with the implementation of this plan.

In the 2007 Energy Plan, Government committed to establish an Energy Conservation and Efficiency Partnership (ECEP). Through 2008 and 2009, the Department of Natural Resources chaired several ECEP meetings that included government officials and representatives from Newfoundland and Labrador Hydro and Newfoundland Power. These meetings ensured that there was a strong and active dialogue between government and the utilities.

In the 2009 Speech from the Throne, government decided to supplement ongoing discussions on future direction with a process to solicit broader input. In the spring and summer of 2010, the Provincial Government undertook consultations on energy efficiency and climate change. In May 2010, the Provincial Government released a discussion document and submissions received to this document were complemented by input from 13 targeted consultation sessions.

These sessions, held across Newfoundland and Labrador in June 2010 (Labrador City, Happy Valley - Goose Bay, St. Anthony, Corner Brook, Stephenville, Grand Falls - Windsor, Gander, Marystown, Clarenville and St. John's), were attended by a broad range of representatives from industry, academia, municipalities, labour organizations, and the voluntary and not-for-profit sectors.

Participants emphasized the importance of energy efficiency, in particular the four points described below.

1. Government needs to lead by example – Government should invest in energy-efficient technologies and engage its own employees in efforts to save energy. In addition, government should promote and facilitate greater uptake of energy efficiency across all sectors.

> ***Government's Response:*** Government is committed to leading by example. This plan establishes an appropriate policy framework for all sectors of the province, with a view to supporting measures that will promote a major shift in the uptake of energy efficiency. Government will also identify how it can improve performance in its own buildings and activities, and produce an action plan setting out its commitments going forward.

2. Raising awareness is important to move forward – All sectors need to understand the benefits of energy efficiency and be encouraged to take appropriate action.

> ***Government's Response:*** Government is committed to augment its efforts to date. To this end, it will develop a new awareness campaign on climate change and energy

efficiency. This will be in addition to ongoing initiatives such as the Save It Forward program aimed at engaging school children and the outreach activities of the Multi-Materials Stewardship Board and Newfoundland and Labrador Hydro.

3. A variety of policy instruments are needed to make progress – There are a variety of policy instruments at government's disposal ranging from information provision and financial support, to research and development and regulation. Different instruments may need to be deployed in different sectors of the economy depending on the challenges and opportunities faced in each.

> ***Government's Response:*** Government agrees that the appropriate mix of policies may differ from sector to sector given their different characteristics and circumstances. This insight informed the development of this plan.

4. Maximize economic and social synergies where possible – As the previous pages have articulated, energy efficiency offers multiple benefits including enhanced business competitiveness and improved consumer welfare. The consultations made clear that government should seek to maximize the broad potential of energy efficiency across the economy and all parts of society.

> ***Government's Response:*** Government will seek to promote policies that result in "win-wins", namely, policies that not only save energy but also deliver key benefits such as lowering household and business fuel bills.

The consultation process, combined with bilateral meetings with various stakeholders and participation in federal, provincial and territorial discussions, has served to ensure government is well informed about external stakeholders' views and priorities. Government officials from Natural Resources, the Office of Climate Change, Energy Efficiency and Emissions Trading, and both electrical utilities - Newfoundland and Labrador Hydro and Newfoundland Power - continue to work closely together on energy efficiency issues, meeting regularly to share information and discuss issues of mutual interest.

The implementation of this plan will require ongoing collaboration with stakeholders. Government is committed to continuing to work with external stakeholders and further strengthening its networks. In addition to the electrical utilities, other key stakeholders will be consulted as appropriate, such as fuel oil service providers who service residential, commercial and industrial users, industry associations such as the Canadian Association of Manufacturers and Exporters, the Eastern and Western Home Builders Association, the Building Owners Managers Association, and not-for-profit organizations such as the Newfoundland and Labrador Conservation Corps.

Cartwright, NL
Image Source: Shirley Walsh

Jerseyside, NL
Image Source: Rural Secretariat

5

SUPPORTING ECONOMY-WIDE ACTION ON ENERGY EFFICIENCY

5.0 SUPPORTING ECONOMY-WIDE ACTION ON ENERGY EFFICIENCY

The Provincial Government is committed to move forward with efforts across economic sectors to help drive greater energy efficiency while promoting economic competitiveness. Since all sectors are responsible for energy consumption, all sectors can take action to promote energy efficiency and realize the benefits.

5.1 Leading by Example - Provincial Government Action

The Provincial Government has an important role to play in moving Newfoundland and Labrador forward on energy efficiency. First, it must establish the broader strategic framework to guide and promote actions by all sectors of the economy. The 2007 Energy Plan established energy efficiency as a priority for government and set in motion a number of new directions. This Energy Efficiency Action Plan builds on that momentum and outlines government's broader approach to energy efficiency and the actions it will take to move all sectors of the economy forward.

Second, the Provincial Government must lead by example in its own operations. There are significant opportunities to do so. For example, the buildings that government owns, and leases from other owners, have an immense potential for energy efficiency. Government owns approximately 840 buildings with over 600,000 m² of floor space, and has 300 leases utilizing approximately 90,000 m² throughout the province. Government also builds large new buildings and provides funding for municipalities to do the same.

In addition to buildings, other opportunities for leadership on energy efficiency include:

- *Procurement* – The Provincial Government is one of the largest consumers of goods and services in the province. This level of activity presents opportunities to reduce energy use through smart purchases, as well as influence markets to supply high-efficiency goods and services. In 2009-2010, the Provincial Government, including its agencies, boards and commissions, purchased over $1 billion in goods and services.
- *Vehicle Fleet* – There are over 3,000 vehicles in the Provincial Government's inventory, ranging from heavy-duty equipment to passenger and utility vehicles. The purchase and operation of these vehicles presents opportunity for energy and cost savings. Also, given that these vehicles typically rely on fuels such as diesel or gasoline,

Government-owned heavy truck, the Grace Sparkes and Hazel Mclsaac ferries, and a government-owned water bomber
Images Source: Department of Transportation and Works

there is a parallel opportunity to reduce GHG emissions and thereby help tackle climate change.

- *Employee Awareness and Engagement* – The Government of Newfoundland and Labrador, including its agencies, boards and commissions, employs approximately 45,000 individuals. Every day, the decisions of these employees offer a unique and wide-reaching opportunity to impact the operations of government and help reduce energy consumption. This includes turning off lights and appliances when not in use, car-pooling with co-workers, using active modes of transportation, and using web conferencing in place of travel.

Leadership to Date:

The Provincial Government has made a concerted effort to improve the energy efficiency of its own operations. In the 2007 Energy Plan, government committed that its new buildings, and those receiving public funding, would be built to high standards as it relates to energy efficiency and overall environmental performance. The Build Better Buildings Policy requires that all new government-owned or government-funded buildings and major renovations exceed the 1997 Model National Energy Code for Buildings by 25 per cent and, where practical, qualify for Leadership in Energy and Environmental Design (LEED) Silver status. A number of new government buildings have been built to LEED standards and are awaiting certification, including new schools in Torbay and Paradise and the long-term care facility in Corner Brook.

K-6 School in Paradise, Elizabeth Park

In 2007, government announced that two new schools would be built in Paradise. This significant investment came as a result of the community's growing population and its need for new, healthy educational institutes. The K-6 school is a $12.7 million two-storey structure that is located in Elizabeth Park. The building will include administrative spaces, classrooms, a gymnasium, student and staff lunch rooms, a modern learning resource centre, and a challenging needs suite. The school was designed to exceed the energy efficiency standards of the Model National Energy Code for Buildings (1997), as well as achieve a LEED Silver Rating. The building has been registered with LEED but not yet certified.

Key features of the building include:

- Low-flow faucets (3.6 litres/min) and showers (6 litres/min);
- Lighting power density of 8.1 watts/m^2 and "no occupancy" sensors throughout classrooms and administrative spaces;
- Heating, ventilating and air conditioning system using an earth energy-based system.

The benefits include (relative to a building constructed to traditional standards):

Anticipated Annual Reduction in Energy Use:	**61.8%**
Anticipated Annual Energy Cost Savings:	**59.6%**
Anticipated Annual Energy Cost Savings:	**$101,404**

Construction at Confederation Building, St. John's, NL
Image Source: Office of Climate Change, Energy Efficiency and Emissions Trading

Newfoundland and Labrador Green Fund –
Support for Provincial Government and Other Public Projects

The Newfoundland and Labrador Green Fund, delivered by the Department of Environment and Conservation, is a five-year $25 million program cost-shared with the Federal Government. It supports a wide range of projects aimed at improving energy efficiency and reducing greenhouse gas emissions to take action on climate change. Building projects have included:

- Funding to support the new Corner Brook City Hall construction. The building design incorporates environmental features such as a green roof and a "Window on the World" building performance system, which publicly displays the building's energy performance. Government estimates that these features could result in annual energy cost savings of $60,000.
- Funding for several new schools including the Torbay K-6 School. With energy savings measures, particularly the use of a Ground Source Heat Pump System, government estimates that these features could result in annual energy cost savings of $90,000.
- Support for the Town of Carbonear pool heat recovery project. The Town has replaced the oil-fired boiler at the local pool with a new electric boiler and implemented a dehumidification system which will recover heat from the pool area to supply heat to other areas of the building. The Town expects to save over 84,000 litres of diesel oil and government estimates that this could result in annual energy cost savings of $45,000.

The Provincial Government has recently completed energy audits and engineering studies for several of its larger buildings in the Avalon region, including the Confederation Building, and is now completing identified energy efficiency upgrades, in some cases with support through the Newfoundland and Labrador Green Fund.

The commitment to build to higher standards has been complemented by additional efforts to improve overall building operation and management. The Department of Transportation and Works recently received official recognition for the first "BOMA BESt" certified Provincial Government building.

The Department achieved a "Level 3" certification on the Natural Resources Building in St. John's – the only building to have ever reached this standard in the province. The Department was awarded with the Earth Award on May 17, 2011, which is given to the building that achieves the highest level of certification for the year.

Major efforts on improving overall government management have also included the use of new technologies. For example, government has recently invested in new web-conferencing facilities for several boardrooms and is currently rolling out additional conferencing abilities on employee computers. Further, the Provincial Government procures only ENERGY STAR computers, laptops, printers and monitors to help reduce energy use.

BOMA BESt – The Building Owners and Managers Association (BOMA) Building Environmental Standards (BESt) program is a national initiative launched in 2005 by BOMA Canada. It was created to address an industry need for realistic standards for energy and environmental performance of existing buildings based on accurate, independently verified information. Today, BOMA BESt has evolved from simply identifying key best practices to providing (i) common standards; (ii) an array of educational and online assessment tools; (iii) independent data audits; and (iv) a performance certification program.

Fleet management is also a priority of government. In the 2007 Energy Plan, the Provincial Government set a target that 25 per cent of all new car and SUV purchases would be energy-efficient or hybrid vehicles. Since April 2008, 41 per cent of new car or SUV purchases have been hybrid vehicles. These vehicles, 31 since April 2008 (38 in total), are spread out in the province across eight government departments.

Finally, the Provincial Government has taken a number of measures to increase awareness of energy efficiency. For example, within the school system through the Save It Forward program, teachers and their students can design and implement initiatives that promote greater energy efficiency. This program is intended to increase awareness and positive attitudes towards conserving and using energy more efficiently.

The Department of Environment and Conservation has also implemented anti-idling zones around public buildings, which help reduce fuel costs as well as local air pollutants.

Government-owned Ford Escape Hybrid
Image Source: Office of Climate Change, Energy Efficiency and Emissions Trading

Save It Forward – The Save It Forward program, a joint initiative between the departments of Natural Resources and Education, is designed to increase awareness and positive attitudes towards energy efficiency among youth. The program targets students from kindergarten to Grade 12, and provides financial support for innovative, school-driven energy efficiency projects. Some projects that been funded include:

- At Stephenville Primary School, students established a "Lights-Out" project which included the installation of 13 light sensors to automatically shut off lights when not required, thereby saving energy and raising awareness of students about energy conservation.
- At St. Mary's All-Grade school, students engaged in an "Eco-Friendly Week" to reduce their ecological footprint. This included presentations on issues such as high-efficiency lighting and activities such as making re-usable cloth bags to reduce reliance on plastic bags.
- At Mount Pearl Intermediate, students are running a project whereby individual students and classes track the steps they take to save energy over a designated period, with points being awarded based on the measures taken. Winning students and classes will receive prizes to recognize their efforts.
- At Amalgamated Academy in Bay Roberts, students ran a project to raise awareness by having students complete activity sheets examining their energy use at home, creating posters, bringing lunches to school that did not need to be heated, and holding a "black-out" class each day in which a class was taught with reduced lighting.

Action Going Forward – Provincial Government Leadership:

The Provincial Government is committed to establishing the broader framework under which the province can move forward on energy efficiency, as well as capitalizing on the opportunities it has within its own operations. Through this Energy Efficiency Action Plan, the Government of Newfoundland and Labrador will pursue a number of measures including:

Framework for Action

- Develop a public awareness campaign on climate change and energy efficiency with initial funding of $250,000 from Budget 2011. This campaign will promote a better understanding of climate change and energy efficiency, including the actions that people in all sectors of the economy can take.
- Develop an action plan setting out the practical steps government plans to take to green government going forward.
- Explore the potential to utilize the government's procurement power to promote greater energy efficiency, lower GHG emissions and reduce waste.
- Explore the best way to ensure that individuals and businesses have access to the right information and tools to move forward on energy efficiency.
- Develop an action plan outlining government's role in transforming markets for more energy-efficient and low GHG-emitting goods and services.
- Continue to implement the Green Fund in 2011-12 and conduct an evaluation of its impact and effectiveness.
- Examine ways to enhance the delivery of energy efficiency programs across government.

Buildings

- Continue to implement the Build Better Buildings Policy.
- Conduct energy audits on government buildings in 2011-12, and complete energy audits on all remaining buildings over 1,000 square meters that have not previously been audited within the next five years.
- Develop retrofit plans for cost-effective energy efficiency upgrades that were identified in the energy audits.
- Roll out the BOMA BESt building management certification process to other government office buildings, following the successful application to the Natural Resources Building.
- Explore the potential for green leasing requirements for space that the Provincial Government leases from other building owners.
- Continue to implement the Save It Forward program in the province's schools.

Transportation

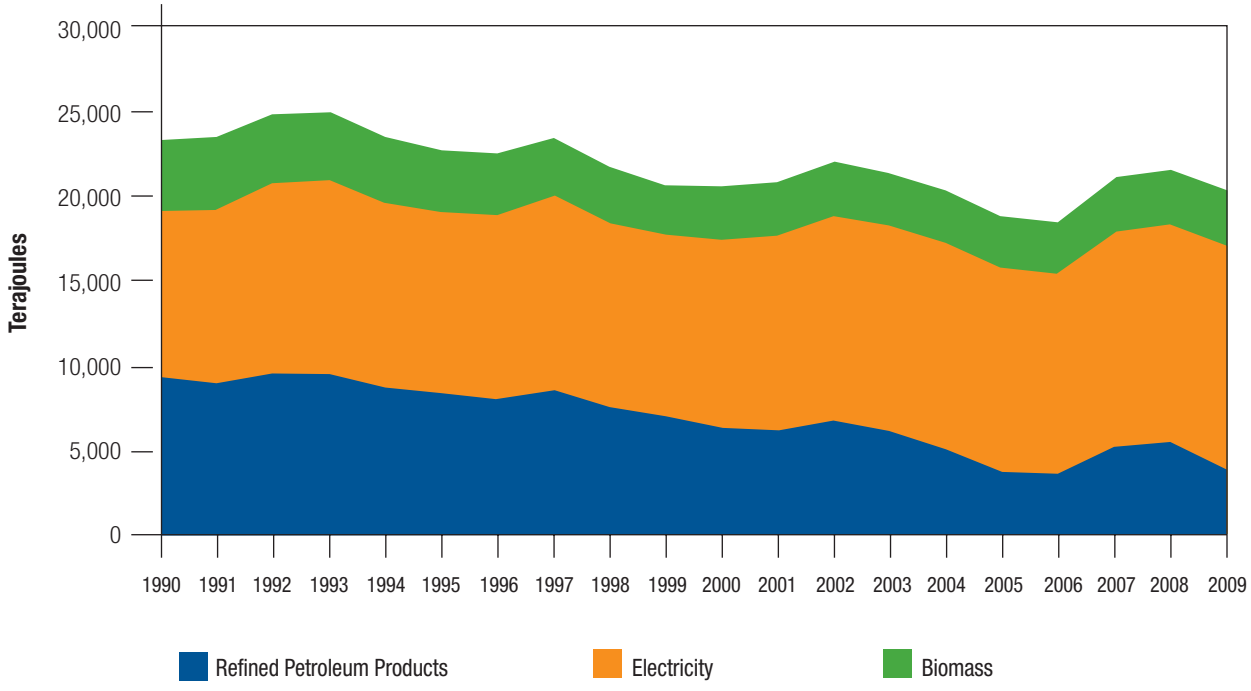
- Establish a target that 35 per cent of all new car and SUV purchases be energy-efficient or hybrid vehicles for departments, agencies, boards and commissions. This builds on the 25 per cent target from the Energy Plan.

5.2 Households

Households are responsible for approximately 14 per cent of energy consumption in the province (excluding energy consumed for transportation purposes). This is a function of the energy needed for space and hot water heating, lighting and appliances. For most households, paying for this energy is a significant share of total expenses - the Statistics Canada Survey on Household Spending reports that energy accounted for approximately 30 per cent of an average household's annual spending on shelter in this province.

A review of household energy consumption in the province shows that, between 1990 and 2009, the share of electricity increased from 92 per cent to 66 per cent, while refined petroleum products declined from 40 per cent to 18 per cent. In additon, the energy efficiency of an average home has increased. Between 1990 and 2008, the number of homes in Newfoundland and Labrador increased by 19 per cent, while the total energy consumption has declined by approximately 17 per cent.

Figure 6: Residential Energy Consumption by Fuel Type in Newfoundland and Labrador, 1990-2009



Sources: Adapted from Statistics Canada CANSIM database http://cansim2.statcan.gc.ca, Table 128-0002 and Table 128-0009, April 2009 and Catalogue no. 57-003-x. Ottawa. Released February 2010; Energy Economics Division, Department of Natural Resources.

Despite this there continues to be significant opportunities for households to be more energy efficient. One of these opportunities relates to the construction of new homes in light of the robust housing market throughout Newfoundland and Labrador. In recent years, over 3,000 new homes were constructed annually in the province.

At current rates of construction, over 25,000 new homes will be built in the province between today and 2020. Most of these houses will be in place for decades, yet evidence suggests that not all cost-effective approaches to enhancing energy efficiency are being incorporated at the planning and construction stages.

St. John's, NL

New building techniques and materials can offer significant energy and cost savings to consumers. Currently, federal, provincial and territorial governments are collaborating to update the 1997 Model National Energy Codes for Houses. Based on independent analysis, the incremental cost to build above conventional construction practices (EnerGuide 70) to the anticipated new standard (EnerGuide 80) is in the order of $5,775. At current energy prices in Newfoundland and Labrador, the savings from the new codes would provide a payback period of under six years.

Explaining the Payback Period
EnerGuide 70 vs EnerGuide 80
New house construction, bungalow

Upgrade	Incremental Cost
Insulation	$3,050
Ventilation, heating and air leakage	$750
Electrical	$750
Windows	$475
Trusses	$350
Administration (e.g. energy audit)	$400
Total	**$5,775**
Annual Energy Savings	**$988**
Simple Payback Period	**5.85 years**

Source: City of St. John's, 2011.

EnerGuide Rating System

The Canadian EnerGuide Rating System provides a standard measure of a house's energy performance. Using the EnerGuide Rating System, an energy advisor can determine the efficiency of a house based on factors such as its size, space and water heating systems, insulation, windows and doors, and ventilation and air exchange measurements. The rating is calculated based on standard operating assumptions so that users can compare the energy performance of one house against another.

A house's energy efficiency level is rated on a scale of 0 (very poor energy efficiency) to 100 (very energy efficient). In Canada today, a newly built house would probably have an EnerGuide rating ranging from the mid 60s to mid 70s. The EnerGuide rating for houses that were upgraded through either the EnerGuide for Houses Program or Residential Energy Efficiency Program increased by 10 points. This translates into significant energy and cost savings for homeowners.

ENERGUIDE

The new Model National Energy Code for Houses will be incorporated into the National Building Code when it is updated in 2012. Under the Newfoundland and Labrador *Municipalities Act, 1999,* municipalities are required to adopt the National Building Code. As such, municipalities will have to include the Model National Energy Code for Houses in their municipal provisions when the code is updated. The Government of Newfoundland and Labrador welcomes the update to the Model National Energy Code for Houses, and will work with municipalities to ensure residential developments take full advantage of the energy efficiency opportunities.

While residential energy codes and building practices offer one of the easiest and most cost-effective ways to promote energy efficiency, these only apply to new buildings. There are also opportunities to improve the efficiency of the existing housing stock. Cost-effective retrofits that increase the air tightness of homes and augment insulation can reduce energy consumption and household fuel bills. Government has been actively supporting such retrofits and more details on this are provided below.

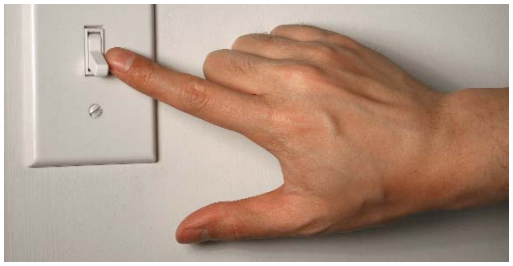
Rose Blanche, NL
Image Source: Economics and Statistics Branch, Department of Finance

Aside from improving the building envelope, decisions about the type of energy-using appliances in homes and how they are used can also impact energy consumption. Advances in the efficiency of household appliances can offer energy and cost savings for households. In Canada, consumers can utilize standard rating systems such as ENERGY STAR. An ENERGY STAR refrigerator built in 2008, for example, consumes 60 per cent less energy than a similar refrigerator built in 1990. Similarly, a chest freezer consumes 50 per cent less energy and a range consumes 30 per cent less energy relative to 1990 (Office of Energy Efficiency, Natural Resources Canada, 2010).

ENERGY STAR and EnerGuide Product Ratings – Introduced in Canada in 2001, the ENERGY STAR symbol was first used in 1992 in the United States as an indicator of energy efficiency for computers and monitors. Today, Canada promotes the symbol on almost 40 types of products, including clothes and dish washers, freezers, refrigerators and electronics. The international ENERGY STAR symbol identifies major electrical appliances that meet or exceed technical specifications designed to ensure that they are among the most energy efficient in their class, without compromising performance.

The ENERGY STAR label is, at times, also displayed with EnerGuide rating system for products. This is a Government of Canada initiative which requires that all new electrical appliances made in or imported to Canada indicate the annual amount of electricity used by that appliance. Taken together, they provide consumers with an indication of superior products where energy efficiency is concerned, and the ability to consider annual cost savings.

Ensuring that individuals are well informed as to how their choices and behaviour can affect energy consumption represents another opportunity to reduce energy bills. The size of an average household in Canada continues to increase, and there is a larger number of lights, appliances and electronics in households today (see text box below). As a result, simple and zero-cost actions such as turning off lights and televisions when they are not in use, unplugging phone and computer chargers which continue to draw power from the outlet even if the phone or computer is not attached to the charger, and reducing heat and air conditioning use when the home is not occupied can also offer energy and cost savings. Another major source of energy consumption and costs for individuals and households is personal transportation. A detailed discussion of this sector is outlined in section 5.4.



Typical Household Energy Appliances and Products 1970s vs 2000s

	1970s	2000s	
Kitchen and Major Appliances	Refrigerator Stove Washing machine Toaster Electric kettle Electric frying pan Hot water boiler Baseboard heaters	Refrigerator Stove Washing machine Toaster Electric kettle Electric frying pan Hot water boiler Baseboard heaters Coffeemaker	Clothes dryer Dishwasher Food freezer Microwave Countertop ovens Food processors and mixers Wine chillers Electric range hood Air exchanger / conditioner
Home Electronics	Television Cassette player Stereo system Radio	Multiple Televisions DVD player Stereo system Radios Computer Computer monitor Computer printer	Laptop computer Portable music players TV set top boxes Mobile phones Wireless house phones Video game units Digital cameras
Other Appliances and Products	Vacuum cleaner Sewing machine Hairdryer Iron Electric blanket Occasional lamps	Vacuum cleaner Sewing machine Hairdryers and hair irons Iron Electric blanket Occasional lamps	Electric lawnmower Portable fan Electric shaver Power carpentry tools Garage door opener

Source: Adapted from various sources including Office of Energy Efficiency - Natural Resources Canada; U.K. Energy Saving Trust; and U.S. Department of Energy

Promoting Energy Efficiency in Households:
The Provincial Government has taken a multi-pronged approach to energy efficiency, with a number of programming efforts aimed at supporting home retrofits and providing better information.

The EnerGuide for Houses program, delivered through the Department of Natural Resources, offers grants to homeowners to complete home energy retrofits to improve energy efficiency. EnerGuide contributes up to $1,500 to participating homeowners and partially offsets the cost of the home audit required to enter the program. Through Federal Budget 2011, the Government of Canada is investing $400 million in a one-year renewal of its ecoEnergy Retro-Fit Homes Program. This program had previously concluded on March 31, 2010. The program provides residential grants of up to $5,000 per household against the cost of energy-efficient materials and upgrades that were incurred after June 6, 2011. To date, over 4,000 homeowners in the province have participated in home energy evaluations and received over $3 million in financial assistance. Those who have completed the process of undertaking retrofits and a follow-up audit have received an average provincial household grant of $1,200 and lowered their energy bills by up to 30 per cent. The Provincial Government has also had a booth at the Home Show in St. John's for the last three years to provide people with information on how they can save energy.

The Newfoundland and Labrador Housing Corporation delivers the Residential Energy Efficiency Program which provides funding to increase energy efficiency for low income homeowners. The initiative is aimed at assisting households with an annual income of up to $32,500 by providing an incentive of up to $3,000 per house on the island and up to $4,000 per house in Labrador. The program invested $6.9 million over the previous two years to support 2,000 retrofits, generating approximately $800 in annual energy savings for homeowners. This program is having a clear impact on energy consumption and it is indirectly helping address social policy goals including poverty reduction as monthly costs decline and living environments improve.

The Provincial Government has implemented a targeted initiative in coastal Labrador. In 2009, the Department of Natural Resources, in partnership with Newfoundland and Labrador Hydro, delivered Phase One of the Coastal Labrador Energy Efficiency Pilot Project in Hopedale and Port Hope Simpson. The aim of the program was to engage the local community to raise residents' awareness of energy efficiency and provide them with information and a kit of low-cost energy-efficient technologies to help them become more energy efficient. In addition to the actions of the Provincial Government, the takeCHARGE program by Newfoundland and Labrador Hydro and Newfoundland Power supports residential energy efficiency through rebates for insulation, programmable or high-efficiency thermostats and ENERGY STAR windows. The Provincial Government has worked with the electrical utilities on initiatives such as the Holiday LightSwitch Program and SAVE Energy program, a joint initiative under the Council of Atlantic Premiers which saw 97,000 compact fluorescent light bulbs distributed free of charge in the four Atlantic provinces.

Actions Going Forward – Households:
The Provincial Government is committed to moving forward to promote energy efficiency and help households identify ways to reduce energy use and monthly costs. Moving forward, the Provincial Government will:

- Renew the Residential Energy Efficiency Program with an investment of $12 million over three years through Budget 2011.
- Continue to support the implementation of the EnerGuide for Homes Program.
- Work with other provinces and territories to encourage the Federal Government to develop long-term federal funding arrangements for residential energy efficiency retrofits.
- Launch Phase Two of the Coastal Labrador Energy Efficiency Pilot Program in two new Labrador communities and evolve the delivery model work to increase the uptake of available energy efficiency programs in these communities and those visited in Phase One.
- Pilot a Building Construction Plan Energy Efficiency Advice Service for housing contractors and homeowners seeking to improve the energy efficiency of their building designs during the planning stage.
- Collaborate with other provinces, territories and the Federal Government on the development of new energy codes, energy-efficient product standards and more informative labelling.
- Work with municipalities to ensure that they are aware that the new Model National Energy Code for Houses will be incorporated into the National Building Code in 2012 and assist them to prepare for this change.

5.3 Businesses

Around the globe, businesses are embracing the need to take action on energy efficiency to improve their competitive position. Taking action can lower costs, enhance reputation, and improve competitiveness. In addition, there are new market opportunities as businesses seek to "green" their operations and demand that their suppliers follow suit.

Preparing for an increasingly carbon-constrained global economy is becoming a fundamental component of long-term risk management, as energy use can be a significant share of total costs and source of GHG emissions. By taking action on energy efficiency, businesses can better insulate themselves from changes in energy prices on global markets.

Currently, businesses account for approximately 40 per cent of the total energy consumption in Newfoundland and Labrador. The energy used by the business community varies and includes a range of fuels such as electricity and refined petroleum products. New equipment, processes and technology

can offer significant energy savings to businesses, while driving forward greater employee awareness and engagement can help augment energy efficiency while improving the working environment.

New building practices for the business community are a major opportunity for energy and cost savings. The 1997 Model National Energy Code for Buildings (which applies to residential buildings over three stories, and other buildings over 600 m^2) is expected to be updated by the fall of 2011. Analysis has shown that a building constructed against the new standard would be approximately 27 per cent more efficient than under the 1997 version. The Government of Newfoundland and Labrador does not currently require that builders abide by the Model National Energy Code for Buildings, but it views the new codes as an opportunity for the province and will work with business owners, municipalities, and the design consulting and construction industries to explore the potential application of the code in the province.

While there are opportunities for the business community to increase their energy efficiency and lower operating costs, competing demands for capital, lack of awareness and information and lack of senior management attention can present barriers to action. To increase energy efficiency among businesses, a variety of measures can be pursued to ensure they have access to the right information and decision-making tools and they are aware of programs and other supports that exist from government or elsewhere. Moving forward, the Provincial Government is committed to working with businesses to ensure they have access to the right supports to increase their energy efficiency.

Promoting Energy Efficiency in Businesses:
The Provincial Government has supported a number of initiatives to promote energy efficiency in the business sector. For example, the Newfoundland and Labrador Green Fund has supported a number of energy efficiency projects in the business sector.

Newfoundland and Labrador Green Fund – Support for Private Sector Projects

- Browning Harvey, the province's only soft drink manufacturer, installed an integrated management system to help reduce energy requirements in its manufacturing process. The project captures waste energy to heat the interior of its bottling plant, thereby reducing the energy costs for space heating. Government estimates that this could result in annual energy cost savings of $95,000.
- Icewater Seafoods, a seafood processing company located in Arnold's Cove, received support to recover waste heat from its current refrigeration system. Through a heat pump system, waste heat generated from refrigeration equipment is captured, upgraded to a higher temperature, and used to heat the facility and supplement fish thawing processes. Government estimates that this could result in annual energy cost savings of $175,000.
- Corner Brook Pulp and Paper reduced the consumption of fossil fuels through the implementation of mill control systems, utilization of waste heat streams and the modification of existing heat exchanger systems. Government estimates that this could result in annual energy cost savings of $1.9 million.

The Department of Innovation, Trade and Rural Development is helping businesses to adopt "lean and green" manufacturing processes which are intended to improve quality while at the same time reduce energy, costs, waste and processing time. This has included training, workshops and hands-on advice, and has been undertaken with, or led by, a variety of partners including the Newfoundland and Labrador Environmental Industries Association and the Canadian Manufacturers and Exporters – Newfoundland and Labrador.

The Provincial Government has undertaken a study to identify how best to position the provincial economy and its businesses to take advantage of opportunities in the global "green economy", estimated to be worth approximately $5.2 trillion U.S. (GLOBE Advisors, 2010).

Image Source: Choices for Youth

Creating Jobs – Choices for Youth is a not-for-profit organization in St. John's that provides housing and lifestyle development supports to at-risk youth. In 2009, the organization received $400,000 from the Green Fund to incorporate energy-efficient measures in its Lily Building renovation project, including increased insulation in the walls, ceiling and floors and the installation of heat pumps, high-efficiency windows, appliances and light fixtures. The project is estimated to reduce energy costs by 50 per cent per year and reduce annual provincial GHG emissions by 53 tonnes.

The project engaged 10 at-risk youth from the organization's "Train for Trades" program. Primarily funded by Eastern Health, the Department of Human Resources, Labour and Employment, and the Newfoundland and Labrador Housing Corporation, this initiative demonstrates how investments in energy efficiency can support both economic and social objectives, simultaneously contributing to achievement of the Poverty Reduction Strategy and Social Housing Plan and assisting in meeting future labour market needs. The program, which commenced in 2008, initially provided 10 at-risk youth with basic safety and construction training to allow them to participate on the Lily Building renovation project. To date, 20 at-risk youth have completed the program and most are now working, completing academic upgrading or pursuing skilled trades apprenticeship programs. The Newfoundland and Labrador Housing Corporation is employing program graduates to complete retrofits on 40 housing retrofits in the St. John's area. A further 10 at-risk youth are expected to be employed on Choices for Youth's pending Duckworth Street office building project in St. John's.

The Department of Fisheries and Aquaculture has developed a suite of measures to promote energy efficiency in the fish harvesting and processing sectors, and in doing so, reduce costs and improve industry competitiveness. For harvesters, this has included fact-sheets on energy efficiency, energy-efficient shrimp trawl designs, and a three-year energy audit program on vessels. For processors, the department has delivered workshops on energy efficiency, supported energy audits in fish processing plants, and prepared a handbook to help engineers and technical staff improve the energy efficiency of their plants.

Fishing Vessel Energy Audit Project

The energy audit project, part of government's fishing vessel energy efficiency initiative, is studying the fuel consumption on a variety of different fishing vessels in various operating conditions, including weather and sea states. The project is being supported by a $200,000 contribution from the Provincial Government, and is being conducted in partnership with a number of other entities including the Canadian Centre for Fisheries Innovation, the Fish, Food and Allied Workers Union, Memorial University, the Newfoundland and Labrador Research and Development Corporation, and federal departments and research centres.

Harbour Breton, NL
Image Source: Department of Tourism, Culture and Recreation

The actions of the Provincial Government have been complemented by the additional measures of Newfoundland and Labrador Hydro and Newfoundland Power. For example, Newfoundland and Labrador Hydro is implementing an Industrial Energy Efficiency Program to help their large industrial customers identify opportunities for energy efficiency. Through this program, industrial firms receive financial support for an energy audit, the preparation of feasibility studies for upgrades, and up to $500,000 towards the implementation of energy-saving measures.

Also, the takeCHARGE program by Newfoundland and Labrador Hydro and Newfoundland Power supports commercial energy efficiency by providing lighting rebates through retailers and wholesalers.

Actions Going Forward – Supporting Energy Efficiency in Businesses:

The Provincial Government is committed to building on its progress to date and will move forward a series of new initiatives including:

- Develop a road map for businesses to help them navigate programs that could promote energy efficiency and/or action on climate change.
- Review how current business diagnostic tools support businesses in their efforts to improve energy management and understand the carbon footprints of their products and services.
- Explore the development of incentives to increase action on energy efficiency and climate change in the private sector.
- Pilot a Building Construction Plan Energy Efficiency Advice Service for businesses seeking to improve the energy efficiency of a new building during its planning phase.
- Examine the case for adopting new national energy codes for buildings in Newfoundland and Labrador, in collaboration with key stakeholders including Municipalities Newfoundland and Labrador, the construction industry, and the design consulting and business communities.

- Collaborate with other provinces, territories and the Federal Government on the development of new energy codes, energy-efficient product standards and more informative labelling.
- Consider the findings of the Study on the Green Economy and develop a government action plan on next steps.
- Strengthen the dialogue with business on the economic development opportunities and risks associated with climate change and energy efficiency.
- Continue to implement the fishing vessel energy efficiency initiative, including the industry-wide promotion of fuel-saving opportunities that are being identified through the energy audit program.
- Explore opportunities for partnerships with industry that could promote the adoption of fuel-saving technologies in the fishery and/or reduce overall waste through the identification of new commercial products.
- Continue to support the expert advisory committee on energy efficiency in the harvesting sector.
- Engage the Federal Government on promoting fuel-efficient vessel designs that also maintain superior safety and stability for operators.
- Engage the fish processing sector on the merits of establishing an expert advisory committee on energy efficiency, as has been established for the harvesting sector.

5.4 Transportation

The transportation sector is responsible for 41 per cent of the total energy consumption in Newfoundland and Labrador. Road transportation, including passenger vehicles and light and heavy-duty trucks, is largely responsible for this energy consumption, followed by marine and air transportation.

Image Source: Economics and Statistics Branch, Department of Finance

In recent years, there has been significant technological progress in improving the fuel-efficiency of vehicles. For example, an average vehicle built today is approximately 7 per cent more fuel-efficient than the mid 1990s. Provinces and territories have worked with the Federal Government to continue to build on this trend. The Federal Government recently harmonized vehicle regulations with the U.S. that will, effective with the 2011 model year, improve the average fuel-efficiency of passenger vehicles by 25 per cent by 2016. The Canadian and U.S. Federal Governments have also agreed to harmonize regulations to improve the energy efficiency of heavy trucks, and these are expected to be finalized between 2014 and 2018.

One of the most promising trends in vehicle fuel-efficiency is the development of hybrid vehicles. Hybrid vehicles are, on average, approximately 25 per cent more fuel-efficient than a traditional vehicle. However, the widespread uptake of such technology can take time. Consumers may question the usefulness and reliability of the technology, up-front costs may be initially high, and there may be uncertainties about access to servicing in all locations, especially in rural areas. In Newfoundland and Labrador, the sale of these vehicles has been limited and the Provincial Government has worked to support market transformation through its commitment to hybrid vehicles mentioned previously.

The development of new technology is a fundamental component to reducing energy from the transportation sector, however, there are other opportunities to reduce energy consumption including improved driving habits, taking public transit where available, using alternate modes of transportation, and taking proper care and maintenance of vehicles.

Energy-Efficient Driving Habits

Speed Limits – Driving the legal speed limit uses 20 per cent less fuel than speeding at 120 km/hour.

Cruise Control - Keeping speed constant reduces fuel consumption.

Aggressive Driving - Driving smoothly uses less gas. Abrupt starts and stops reduce travel time by only 4 per cent while fuel consumption increases by 25 per cent and emissions of air pollutants are more than five times higher.

Excess Weight - Vehicles weighed down with excess items increase fuel consumption. Bicycle and roof racks not only add weight but also affect the aerodynamics of the vehicle causing fuel consumption to increase.

Idling - 10 seconds of idling uses more fuel than restarting an engine.

Air Conditioning/Windows - Air conditioning can increase fuel consumption by 20 per cent and opening windows at high speeds increases drag which causes the engine to work harder. Air vents are an efficient alternative to both.

Source: Natural Resources Canada. November 2009. *Personal Transportation, auto$mart thinking – fuel-efficient driving tips.*

Improving energy efficiency in the transportation sector in Newfoundland and Labrador is not without its challenges. The province has a large percentage of its population living in rural areas, and many residents travel significant distances between work and home on the province's highways. Further, the province's population is too small to support public transit in most locations or develop unique vehicle efficiency standards beyond those which the Federal Government has pursued. Moving forward, energy efficiency in the transportation sector will largely be based on decisions by individuals and businesses on modes of transportation, vehicle choice, driving habits and distances traveled.

Energy Efficiency in the Trucking Industry

In recent years there has been a renewed emphasis on strengthening energy efficiency in the trucking industry as a result of rising fuel prices and the losses in energy efficiency that resulted from the adoption of lower sulpher fuels and technologies to reduce local air pollutants. Estimates have shown that if the entire fleet of Class-8 trucks in Canada were to adopt a full package of energy-efficient technologies, truck owners would save 4.1 billion litres of fuel and reduce GHG emissions by 11.5 million tonnes per year. The Canadian Trucking Alliance estimates that aerodynamic devices can reduce fuel usage by 2 to 6 per cent, auxiliary power units for anti-idling (which allow the operator to turn the main engine off and still have power) can save over 7,000 litres per year for a long-distance truck, and single wide tires can save 4 to 5 per cent of fuel relative to conventional dual tires.

Source: Canadian Trucking Alliance - http://www.ontruck.org/envirotruck/envirotruck.pdf

Promoting Energy Efficiency in Transportation:

The Provincial Government has supported a number of initiatives targeted at road transportation through the Newfoundland and Labrador Green Fund. They include:

- $1.57 million for the St. John's Cycling Master Plan, which comprises a series of measures to promote cycling and reduce car use in the city.
- $85,400 for Metrobus public transit in St. John's in their installation of hybrid devices on six buses. The devices will provide electric power to various engine components.
- $28,000 to support an awareness campaign by Metrobus public transit in St. John's.

These initiatives have been complemented through additional actions by the Provincial Government to improve its own operations, such as buying hybrid vehicles and high-efficiency ferries. In addition, government has promoted energy efficiency in fishing vessels. These initiatives are outlined in previous sections.

Action Going Forward – Transportation:

The Provincial Government will pursue a number of measures to continue to improve energy efficiency in the transportation sector. These include:

- Collaborate with the Federal Government and other provinces and territories on the development and implementation of strengthened efficiency standards for light and heavy-duty vehicles, and better energy efficiency labelling on vehicles for consumers.
- Collaborate with industry to explore opportunities to improve the energy efficiency of heavy trucks.
- Engage the Federal Government to ensure its funding programs for fuel-efficient technology on heavy trucks can support small trucking operations like those often found in Newfoundland and Labrador.
- Review new driver training material and examinations for opportunities to strengthen driver knowledge on fuel-saving opportunities.
- Continue to support the implementation of the federal, provincial and territorial agreement on vehicle weights and dimensions, which sets the underlying framework for the adoption of many fuel-saving practices for heavy trucks.
- Examine the state of technology, infrastructure requirements and market developments for electric vehicles.

Image Source: Intergovernmental Affairs Secretariat

6

LEVERAGING INTERGOVERNMENTAL PARTNERSHIPS

6.0 LEVERAGING INTERGOVERNMENTAL PARTNERSHIPS

The Government of Newfoundland and Labrador has worked actively with the Federal Government and other jurisdictions to advance action on energy efficiency. Through these efforts, government is able to advance the province's interests, leverage the expertise of other jurisdictions, and identify areas where national or regional action is the optimal way forward.

Canadian Premiers have sought to drive forward collaborative action on energy efficiency, in some cases in partnership with U.S. Governors and the Federal Government. The Council of the Federation, Conference of New England Governors and Eastern Canadian Premiers and various Ministerial forums, including the Canadian Energy Ministers, have worked together on initiatives to move forward on energy efficiency.

Cartwright, NL
Image Source: ©Barrett & MacKay Photo, courtesy of the Department of Tourism, Culture and Recreation

The Federal Government is an important partner in taking action on energy efficiency as it has jurisdiction over a number of key policy areas and has the resources to support nationally focused initiatives. For example, the Federal Government establishes energy use standards for appliances and sets fuel-efficiency standards for passenger vehicles and heavy trucks. It also supports a national program for home retrofits.

One of the goals established by the Provincial Government in this plan is the need to collaborate with other governments to drive forward action on energy efficiency. As the previous pages have illustrated, a number of commitments have been made which support the achievement of that goal such as collaborative actions in the household, business and transportation sectors. These are summarized in the Strategic Framework found in section 8.0.

Moving forward, the Provincial Government will continue to proactively engage other governments to identify opportunities for collaboration on energy efficiency.

Trinity, NL

7

MEASURING PROGRESS

7.0 MEASURING PROGRESS

Generating a major shift in the uptake of energy efficiency is a challenging endeavour and, as the preceding pages make clear, it will require the use of a blend of policy instruments ranging from information campaigns and incentives to regulations and intergovernmental collaboration.

This Energy Efficiency Action Plan is a government-wide initiative; however the specific action items are the responsibility of individual departments, offices, and agencies. The goals, objectives and action items outlined in this plan are the current priorities for action, but this plan is designed to be flexible so that it may incorporate additional actions in the future.

As this Energy Efficiency Action Plan is implemented, several efforts will be utilized to track and report on progress:

- The Office of Climate Change, Energy Efficiency and Emissions Trading will develop an Accountability Framework to support the internal performance measurement process in consultation with interested departments. The Accountability Framework will confirm the departments' roles and responsibilities under this Energy Efficiency Action Plan, establish annual performance measures and targets, determine the performance monitoring reporting requirements and assess the need for and timing of any program evaluations.
- The Premier will table a written statement each year in the House of Assembly outlining progress to date.
- A report will be published halfway through the five-year plan and again at the end outlining progress on the commitments in this plan.
- Established processes, such as the regular monitoring and periodic evaluation of programs, will be utilized to document the impact of departmental initiatives.

Croque, NL
Image Source: Rural Secretariat

8

STRATEGIC FRAMEWORK

Energy Efficiency Action Plan

8.0 STRATEGIC FRAMEWORK – ENERGY EFFICIENCY ACTION PLAN

Vision	*A province where businesses, households, consumers and governments incorporate energy efficiency and conservation considerations into decision-making to maximize economic, social and environmental benefits.*
Guiding Principles	• *Maximize benefits for homeowners and businesses* - While the primary objective of energy efficiency is to reduce energy consumption, it also lowers energy costs to homeowners and business owners and offers other benefits such as improving levels of comfort. • *Encourage economic development* - The promotion of, and investment in, energy efficiency can create new employment and economic opportunities. • *Support collaboration and partnerships* - The experience and expertise that is readily available in the public, private, academic, and voluntary and not-for-profit sectors in Newfoundland and Labrador can enhance action on energy efficiency. • *Take a long-term view* - Generating a major shift in the uptake of energy efficiency requires permanent long-term structural changes to markets which will necessitate government taking a strategic approach to deliver results. • *Maximize returns from Lower Churchill* - Reduced energy consumption in the province will maximize available power for export. • *Contribute to provincial GHG reductions.* Energy efficiency is an important way to reduce GHG emissions and support government's efforts on climate change.

Goal 1	Support a major shift in the uptake of energy efficiency
Objective 1.1	Pursue the Conference of New England Governors and Eastern Canadian Premiers target of reducing energy consumption by 20 per cent by 2020 from business-as-usual projections.
Action Items	**Provincial Government** The actions to be taken by the Provincial Government that will contribute to this objective are outlined under Goal 2. **Households** • Renew the Residential Energy Efficiency Program with an investment of $12 million over three years through Budget 2011. • Continue to support the implementation of the EnerGuide for Homes Program. • Work with other provinces and territories to encourage the Federal Government to develop long-term federal funding arrangements for residential energy efficiency retrofits. • Launch Phase Two of the Coastal Labrador Energy Efficiency Pilot Program in two new Labrador communities and evolve the delivery model work to increase the uptake of available energy efficiency programs in these communities and those visited in Phase One. • Pilot a Building Construction Plan Energy Efficiency Advice Service for housing contractors and homeowners seeking to improve the energy efficiency of their building designs during the planning stage. • Collaborate with other provinces, territories and the Federal Government on the development of new energy codes, energy-efficient product standards and more informative labelling. • Work with municipalities to ensure that they are aware that the new Model National Energy Code for Houses will be incorporated into the National Building Code in 2012 and assist them to prepare for this change. **Businesses** • Develop a road map for businesses to help them navigate programs that could promote energy efficiency and/or action on climate change. • Review how current business diagnostic tools support businesses in their efforts to improve energy management and understand the carbon footprints of their products and services.

- Explore the development of incentives to increase action on energy efficiency and climate change in the private sector.
- Pilot a Building Construction Plan Energy Efficiency Advice Service for businesses seeking to improve the energy efficiency of a new building during its planning phase.
- Examine the case for adopting new national energy codes for buildings in Newfoundland and Labrador, in collaboration with key stakeholders including Municipalities Newfoundland and Labrador, the construction industry, and the design consulting and business communities.
- Collaborate with other provinces, territories and the Federal Government on the development of new energy codes, energy-efficient product standards and more informative labelling.
- Consider the findings of the Study on the Green Economy and develop a government action plan on next steps.
- Strengthen the dialogue with business on the economic development opportunities and risks associated with climate change and energy efficiency.
- Continue to implement the fishing vessel energy efficiency initiative, including the industry-wide promotion of fuel-saving opportunities that are being identified through the energy audit initiative.
- Explore opportunities for partnerships with industry that could promote the adoption of fuel-saving technologies in the fishery and/or reduce overall waste through the identification of new commercial products.
- Continue to support the expert advisory committee on energy efficiency in the harvesting sector.
- Engage the Federal Government on promoting fuel-efficient vessel designs that also maintain superior safety and stability for operators.
- Engage the fish processing sector on the merits of establishing an expert advisory committee on energy efficiency, as has been established for the harvesting sector.

Transportation

- Collaborate with the Federal Government and other provinces and territories on the development and implementation of strengthened efficiency standards for light and heavy-duty vehicles, and better energy efficiency labelling on vehicles for consumers.
- Collaborate with industry to explore opportunities to improve the energy efficiency of heavy trucks.

	• Engage the Federal Government to ensure its funding programs for fuel-efficient technology on heavy trucks can support small trucking operations like those often found in Newfoundland and Labrador. • Review new driver training material and examinations for opportunities to strengthen driver knowledge on fuel-saving opportunities. • Continue to support the implementation of the federal, provincial and territorial agreement on vehicle weights and dimensions, which sets the underlying framework for the adoption of many fuel-saving practices for heavy trucks. • Examine the state of technology, infrastructure requirements and market developments for electric vehicles.
Goal 2	**Demonstrate Provincial Government leadership on energy efficiency**
Objective 2.1	Promote economy-wide action on energy efficiency through policies and measures designed to facilitate widespread engagement and action; and managing government's own operations in a manner consistent with this plan.
	Framework for Action • Develop a public awareness campaign on climate change and energy efficiency with initial funding of $250,000 from Budget 2011. This campaign will promote better understanding of climate change and energy efficiency, including the actions that people in all sectors of the economy can take. • Develop an action plan setting out the practical steps government plans to take to green government going forward. • Explore the potential to utilize the government's procurement power to promote greater energy efficiency, lower GHG emissions and reduce waste. • Explore the best way to ensure that individuals and businesses have access to the right information and tools to move forward on energy efficiency. • Develop an action plan outlining government's role in transforming markets for more energy efficient and low GHG-emitting goods and services. • Continue to implement the Green Fund in 2011-12 and conduct an evaluation of its impact and effectiveness. • Examine ways to enhance the delivery of energy efficiency programs across government.

	Buildings • Continue to implement the Build Better Buildings Policy. • Conduct energy audits on government buildings in 2011-12, and complete energy audits on all remaining buildings over 1,000 square • Develop retrofit plans for cost-effective energy efficiency upgrades that were identified in the energy audits. • Roll out the BOMA BESt building management certification process to other government office buildings, following the successful application to the Natural Resources Building. • Explore the potential for green leasing requirements for space that the Provincial Government leases from other building owners. • Continue to implement the Save It Forward program in the province's schools. **Transportation** • Establish a target that 35 per cent of all new car and SUV purchases be energy-efficient or hybrid vehicles for departments, agencies, boards and commissions. This builds on the 25 per cent target from the Energy Plan.
Goal 3	**Advance action on energy efficiency through collaboration with other governments**
Objective 3.1	Proactively engage other governments to identify opportunities for collaboration on energy efficiency
	The following commitments have been highlighted previously in their respective section, but are repeated here to bring focus to the need to work with other levels of government on energy efficiency. **Households** • Collaborate with other provinces, territories and the Federal Government on the development of new energy codes, energy-efficient product standards and more informative labelling. • Work with municipalities to ensure that they are aware that the new Model National Energy Code for Houses will be incorporated into the National Building Code in 2012 and assist them to prepare for this change. • Work with other provinces and territories to encourage the Federal Government to develop long-term federal funding arrangements for residential energy efficiency retrofits.

Businesses

- Examine the case for adopting new national energy codes for buildings in Newfoundland and Labrador, in collaboration with key stakeholders including Municipalities Newfoundland and Labrador, the construction industry, and the design consulting and business communities.
- Collaborate with other provinces, territories and the Federal Government on the development of new energy codes, energy-efficient product standards and more informative labelling.
- Engage the Federal Government on promoting fuel-efficient vessel designs that also maintain superior safety and stability for operators.

Transportation

- Collaborate with the Federal Government and other provinces and territories on the development and implementation of strengthened efficiency standards for light and heavy-duty vehicles, and better energy efficiency labelling on vehicles for consumers.
- Engage the Federal Government to ensure its funding programs for fuel-efficient technology on heavy trucks can support small trucking operations like those often found in Newfoundland and Labrador.
- Continue to support the implementation of the federal, provincial and territorial agreement on vehicle weights and dimensions, which sets the underlying framework for the adoption of many fuel-saving practices for heavy trucks.

ANNEX 1: Acronyms and Glossary

Acronyms

BOMA BESt	Building Owners and Managers Association Building Environment Standards
ECEP	Energy Conservation and Efficiency Partnership
GHG	Greenhouse Gas
LEED	Leadership in Energy and Environmental Design
RPPs	Refined Petroleum Products
TJ	Terajoules
NEG-ECP	Conference of New England Governors and Eastern Canadian Premiers
CAP	Council of Atlantic Premiers
COF	Council of the Federation

Glossary

Conference of New England Governors and Eastern Canadian Premiers – This is a forum of Premiers from Newfoundland and Labrador, Quebec, Nova Scotia, New Brunswick and Prince Edward Island, and Governors from Massachusetts, Maine, New Hampshire, Rhode Island, Vermont and Connecticut. Premiers and Governors meet annually to address various cross-border issues including energy and transmission, climate change and air quality, trade and export development and border security.

Council of Atlantic Premiers – This is a forum of Premiers from Newfoundland and Labrador, Nova Scotia, New Brunswick and Prince Edward Island. Premiers meet regularly and discuss issues of mutual concern, including energy development, transportation and infrastructure, health and wellness and the environment. Premiers have also undertaken several trade and export development missions within North America.

Council of the Federation – This is a forum of all Canadian Premiers. It meets annually to address key issues in Canada including the economy, energy, transportation, international and intra-provincial trade, health and emergency preparedness and climate change.

Energy Conservation – Refers to measures that seek to alter the behaviour of individuals by encouraging them to reduce energy consumption, including switching off lights when leaving a room, turning off televisions or computers when not in use, or lowering thermostat settings at night.

Energy Efficiency – Refers to using less energy to provide the same level of energy service. In residential homes, increasing insulation or buying high-efficiency appliances can allow householders to reduce their energy consumption and thereby save money while maintaining the same level of comfort. In the industrial sector, new technology investments and processes may save energy while maintaining or increasing the level of production.

Greenhouse Gases – Gases that are responsible for climate change. The six gases covered by the Kyoto Protocol are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Newfoundland Labrador

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