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Message from the Minister

In 2011, the Government of Newfoundland and Labrador established its strategic approach to taking action on climate and energy efficiency by releasing two complementary action plans – *Charting our Course: Climate Change Action Plan* and *Moving Forward: Energy Efficiency Action*



Plan. In developing these plans, the Provincial Government recognized the important role it could play in supporting change in the marketplace by utilizing a range of policy and program instruments to influence the behaviours of individuals and businesses in the province to take action on climate change and energy efficiency. As a result, a key commitment of both plans was to develop an approach to how the Provincial Government can help to transform markets for goods and services that are more energy-efficient or emit fewer greenhouse gas emissions which cause climate change.

Market transformation is an approach used to achieve a widespread and permanent change in the adoption of goods and services that are energy efficient or emit less greenhouse gases. The goal is to increase the market share of these goods and services by removing barriers to their availability in the marketplace and accelerating their acceptance and adoption by consumers. Supporting the transformation of markets in the province in this way can generate significant benefits. Businesses in Newfoundland and Labrador and throughout the world recognize consumers' increasing demand for more energy efficient and climate-friendly products and services and are increasingly aware of the export and expansion opportunities that responding to this demand presents. Consumers can also save money on energy costs which they can spend elsewhere for the benefit of the broader economy.

This Market Transformation Framework sets out the Provincial Government's vision for transforming markets for buildings, transportation and products and services in the province toward goods and services that are more energy efficient and have less impact on climate change. It builds on actions to date, such as the award-winning Turn Back the Tide public awareness campaign and the Provincial Government's Build Better Buildings policy, which has led to the construction of Leadership in Energy and Environmental Design (LEED) buildings in Newfoundland and Labrador. It also commits to working with business partners and stakeholders to ensure that the province is positioned to take advantage of the opportunities presented by taking action on climate change and energy efficiency.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Crummell".

Dan Crummell

Minister Responsible for the Office of Climate Change and Energy Efficiency

Introduction

In 2011, the Government of Newfoundland and Labrador released Climate Change and Energy Efficiency action plans. Recognizing that addressing climate change and promoting energy efficiency can present opportunities for long-term economic growth, innovation and environmental sustainability, government committed to undertake action to transform markets for goods and services that are more energy-efficient and emit less greenhouse gases. This framework builds on existing actions to advance progress.

Throughout the world, consumers are increasingly mindful of the impacts their purchasing decisions can have on the environment and are increasingly seeking environmentally responsible products and services. At the same time, progressive businesses are recognizing the opportunities this presents and are changing and adapting their product and service offerings, as well as their operations and processes, to meet this demand. There is significant potential environmental and economic benefit in promoting and supporting the penetration of more sustainable products and services in the marketplace, and there are strategic ways that government can support and facilitate this shift.

Market transformation refers to measures that support widespread and permanent change in the availability and adoption of products and services that are energy efficient or emit less greenhouse gases. The goal of market transformation is to increase the share of energy efficient, environmentally-preferable products and services within targeted markets, through strategic measures that change market behavior. This Market Transformation Framework outlines government's vision for how it can work to promote and support the sale and purchase of energy efficient and lower greenhouse gas (GHG) -emitting products and services in Newfoundland and Labrador through strategic measures and initiatives that increase awareness, availability, accessibility and affordability of such products and services so that they become common in the marketplace.

While this framework focuses primarily on the impact of goods and services at their point of consumption, it is important to bear in mind that the manner in which goods and services are manufactured or provided can also influence their impact on the environment. Goods and services that have a low carbon footprint will generally be better from a climate change perspective. A carbon

Case Study: Energy Star Window - Market Transformation in Action

Energy Star is a leading certification designated to products that meet strict technical specifications for energy performance.

In 2008, only 10-15 per cent of windows sold in Newfoundland and Labrador were Energy Star certified, and on average, Energy Star windows cost 10-15 per cent more than their non-Energy Star certified counterparts.

Since then, supported by awareness and information campaigns and rebates and incentives such as those offered by takeCHARGE, a transformation in the market for windows has occurred. In 2013, 67 per cent of windows sold in the marketplace are Energy Star certified, and, due to changes in manufacturing processes to respond to increased consumer demand, the cost of Energy Star windows is now on parity with their non-Energy Star counterparts.

footprint measures the total greenhouse gas emissions generated by a product, service or company and provides a fuller means of calculating the impact on the environment from a climate change perspective.

Why Market Transformation?

Supported by technological advancement, regulatory standards and competitiveness, productivity and profitability considerations, markets are continually responding to growing consumer demand for more energy efficient and lower GHG-emitting products and services. However, this rate of change is not constant everywhere and can be limited by a range of factors. For example, retailers may prefer products that maximize revenue rather than minimize consumers' energy use, and gaps may exist in consumers' awareness of energy efficient products and services which limits their ability to seek out those products in the marketplace. This can be perceived by businesses as a lack of interest or demand from consumers for energy efficient products and services. This perceived lower demand is met with lower supply from businesses, which, in turn, limits consumer awareness as those products and services are not visible in the marketplace.

Market transformation aims to break this cycle by addressing awareness, availability, accessibility and affordability gaps for energy efficient or lower GHG-emitting products and services in the marketplace. Through strategic measures aimed at increasing consumers' awareness of energy efficient products and services and businesses' propensity to supply them, energy efficient products and services can become the norm in the marketplace.

Market transformation benefits the economy in two ways:

- First, when consumers purchase energy efficient products and services, this creates demand which generates economic growth and creates jobs in the companies that supply energy efficient products and services or those that emit less greenhouse gas emissions. In turn, workers in these businesses spend their earnings in the economy, which results in additional economic growth and job creation.
- Second, when consumers and businesses spend their energy savings or when they expand their businesses, they create even more demand for products and services not directly involved in the manufacture and sale of more sustainable products and services, which supports growth across the economy.

Market Transformation Measures

Information and Awareness Raising

Raising awareness, accessibility and availability among consumers and businesses of the benefits of energy efficiency and options in the marketplace

Skills Development and Demonstration Projects

Improving industry capacity to provide energy efficient and low GHG-emitting alternatives; demonstrating benefits of adopting such products and services

Rebates and Incentives

Stimulating demand for energy efficient and low GHG-emitting options through enhanced affordability

Regulation and Policy

Supporting the implementation of regulations and policy measures that seek to enhance the development and deployment of energy efficient and low GHG-emitting products and services

Successful market transformation requires a range of measures and can consist of a blend of interventions and instruments, such as those outlined above. Some measures aim to influence actors in the market to make a voluntary choice for one product or service over another. This can include measures that provide information or raise awareness of a particular product or service's energy efficiency characteristics or that highlight the positive attributes of a particular product or service. Others can mandate a change in the marketplace, such as the adoption of more stringent energy efficiency regulations or standards governing the manufacture, sale or lease of a product or service. These measures can also be implemented over the short or longer term as required in order to achieve the desired change in the market.

In this framework, the Provincial Government has focused on three key areas:

- Buildings
- Transportation
- Products and Services

These have been selected because, together, they have a tremendous bearing on both the amount of energy Newfoundland and Labrador consumes and the quantity of GHG emissions it generates.

- Approximately 60 per cent of energy consumption in the province is used to heat and service our homes and buildings and to power our transportation system, and these two areas are responsible for approximately 45 per cent of our total GHGs. Positive outcomes with respect to increased energy efficiency and lower GHG emissions can be achieved through the adoption of new technologies and transitioning to cleaner sources of energy in these areas.
- Integral to the whole of our economy are the wide range of products and services purchased and sold in the marketplace. By selecting energy efficient goods and services where possible and considering the carbon footprint of purchases, it is possible to change markets. For example, the Provincial Government alone purchases over \$2 billion worth of goods and services each year and this presents significant opportunities to increase the availability of energy efficient and lower GHG-emitting products and services.



Government's Approach

The Provincial Government's approach to market transformation will be guided by a number of key principles. In its efforts to transform markets, government will:

1. Recognize that market transformation is a long-term process that requires sustained commitment and communication with all interested parties to allow external stakeholders time to prepare for any future changes.
2. Determine what measures are needed in the short and medium term to make progress, but remain flexible enough to adjust to new information, emerging needs or gaps.
3. Recognize that complementary measures may need to be deployed simultaneously or sequentially. For example, efforts to raise consumer awareness about the benefits of building energy efficient homes may need to proceed hand-in-hand with measures to train those in the construction industry on any new approaches and practices, which in turn, may be followed by the implementation of standards and regulations.
4. Collaborate with other governments to add value or generate momentum. Newfoundland and Labrador accounts for 1.5 per cent of the Canadian population and 1.7 per cent of national GDP. By itself the province may not have sufficient leverage to effect the type of change that working in concert with others may achieve.
5. Promote broad engagement and strong partnerships. Efforts to transform markets are most effective where organizations are aligned and coordinated, and share a common goal. The Provincial Government will seek opportunities to engage and partner with internal and external stakeholders to effect lasting change in the market.
6. Lead by example by demonstrating leadership in the way it conducts its operations. Provincial Government actions can result in significant energy and cost savings, and as well can have significant influence on the market through the sheer scale of its activities.

Legislation Shifting Markets

The Government of Canada, through the provisions of its *Energy Efficiency Act*, maintains product standards on a range of residential, commercial and transportation sector products and implements the EnerGuide and Energy Star programs which assist consumers in selecting energy efficient homes, vehicles and products.

Industry Certifications Shifting Markets

The Government of Canada, through the National Research Council of Canada, develops and maintains the National Building Code and Model National Energy Code for Buildings. The private and not-for-profit sectors also play a key role. For example, many private sector developers voluntarily design new buildings to achieve Leadership in Energy and Environmental Design (LEED) certification, which is an internationally renowned certification for green buildings administered in Canada by the Canada Green Building Council, a not-for-profit national organization working to advance green building and sustainable community development practices in Canada. Together, these measures have achieved success in moving markets toward energy efficiency and lower GHG emissions.

Buildings

Buildings consume approximately 22 per cent of all energy used in Newfoundland and Labrador, and are responsible for 13 per cent of total GHG emissions in the province. Over 60 per cent of the energy in buildings is used for space heating. The majority of the remaining 40 per cent is attributable to hot water heating and major appliances and equipment such as refrigerators and freezers. There is therefore significant opportunity to reduce energy consumption and GHG emissions through the application of measures and processes that focus on shifting the market for homes and buildings in Newfoundland and Labrador toward greater energy efficiency.

Vision

The Provincial Government's vision for this market is one in which:

- Consumers value and demand energy efficient homes and buildings that are comfortable to live, work and play in.
- The design and construction industry constructs energy efficient homes and buildings, is willing and able to respond to consumer demand for energy efficient homes and follows best practices where energy efficiency is concerned.
- Minimum code requirements for energy efficiency are in place and complied with for all types of homes and buildings.
- Buyers or renters seek and have access to information on the energy efficiency of new and existing residential and commercial properties, and factor this into any potential purchase/rental decisions.
- Government demonstrates leadership on energy efficiency in buildings in the manner in which it conducts its own operations.

Actions to Date

- Implemented the Build Better Buildings Policy, which requires government buildings to strive for Leadership in Energy and Environmental Design (LEED) certification. Six buildings have achieved LEED certification under the policy and 31 have been registered.
- Supported energy efficiency audits and retrofits to government buildings, including those owned by education and health boards and post-secondary institutes.
- Implementing the Residential Energy Efficiency Program through which approximately \$16 million has been spent on improving the energy efficiency of 5,500 homes of those on low-incomes by the end of March 2015.
- Following the amendment of the National Building Code in 2012 to include energy efficiency requirements for new homes and small buildings, municipalities must adopt the new energy efficiency standards. To help the construction industry and municipalities meet these new requirements, government developed and released a guide to explain the changes.

Buildings - Actions Going Forward

The Provincial Government has implemented a number of measures that support progress towards this vision, including those set out above. However, there are opportunities to further support a transformation toward enhanced energy efficiency in this market in the province to build on successes and address gaps:

Municipalities are responsible for adopting and overseeing application of the National Building Code. However, there are opportunities to enhance compliance with and enforcement of the code in Newfoundland and Labrador.

- The Provincial Government will work with key stakeholders to raise their awareness of the energy efficiency provisions in the code and provide training.
- To identify options for consideration, the Provincial Government will review how other jurisdictions with similar local circumstances approach enforcement of energy efficiency codes.

Training on energy efficiency is provided by industry associations. However, it is not routinely integrated into core training requirements for trades.

- The Provincial Government will work with industry associations to identify gaps in training and seek to address them.
- To increase knowledge of energy efficient building practices in the marketplace, the Provincial Government will review other jurisdictions' best practices on training.

Minimum energy efficiency standards were introduced for new homes in 2012, but there are no minimum standards for energy efficiency in larger buildings such as commercial properties or multi-unit residential buildings.

- The Provincial Government will establish a minimum standard for the energy efficiency of larger buildings.

There are no provincial requirements governing what skills building inspectors should possess to inspect the energy efficiency of new homes and commercial buildings. Enhancing skills in this area could create a professional opportunity and support improved compliance.

- To better understand how other jurisdictions with similar local circumstances approach increasing the energy efficiency knowledge and skills of building inspectors, the Provincial Government will review best practices to identify options for consideration.

Some jurisdictions require energy efficiency information on homes to be available to prospective buyers and renters.

- A review of practices in other jurisdictions will assist the Provincial Government to explore the scope for the potential implementation of similar measures in Newfoundland and Labrador.

Since 2010, government has applied its Build Better Buildings policy to the construction and major retrofits of buildings over 600 square metres.

- The Provincial Government will review this policy with a view to increasing its effectiveness.

Transportation

Personal and commercial road transportation is responsible for 39 per cent of energy consumption and about 25 per cent of all GHG emissions in the province. There is significant potential to reduce total GHG emissions in Newfoundland and Labrador in the transportation sector. Measures that seek to transform the market toward more energy efficient and lower GHG-emitting transportation options have an important role to play.

Vision

The Provincial Government's vision for this area is one in which:

- There is increased demand fuel efficiency in transportation options and increased access by consumers to vehicle lifecycle costing information to inform purchasing decisions.
- Plug-in hybrid and electric vehicles and the charging infrastructure to support them are more widely available and accessible to consumers.
- More technicians are skilled and trained to service and maintain plug-in hybrid and electric vehicles.
- Industry and businesses have access to fuel saving products, apparatuses and information that increase the fuel efficiency of large trucks.
- Government demonstrates leadership on energy efficiency in transportation in the manner in which it conducts its own operations.

Actions to Date

- Released a suite of resources through the award winning "Turn Back The Tide" campaign to raise awareness and provide information on ways to increase energy efficiency in transportation.
- Provided assistance through the Green Fund to support the supply and installation of residential and commercial electric vehicle charging stations in Newfoundland and Labrador.
- Developed and incorporated information in the Road Users Guide on fuel efficient driving practices and techniques that reduce fuel consumption and exhaust emissions that contribute to climate change.
- Committed to ensuring that at least 35 per cent of new passenger vehicle purchases for government's fleet are fuel-efficient and to develop guidance on selecting fuel-efficient vehicles for operations, including guidance on right-sizing to ensure the type of vehicle being used matches its function.

Transportation - Actions Going Forward

The Provincial Government has implemented a number of measures that support progress towards this vision, including those set out on the previous page. However, by building on successes and addressing gaps, the Provincial Government can further support a shift toward energy efficiency and lower GHG emissions in transportation:

The Federal Government produces information on the fuel consumption and anticipated annual fuel costs of light-duty vehicles. However, there is currently no information available on the total lifecycle costs of vehicles to inform consumer decisions.

- To help inform consumers' purchase decisions, the Provincial Government will develop a vehicle lifecycle cost calculator that considers purchase cost, fuel/energy consumption and emissions.

Some jurisdictions have experienced some level of success in increasing the market penetration of Electric Vehicles (EVs).

- The Provincial Government will engage with other jurisdictions to learn from their best practices supporting market penetration of EVs.

Servicing and maintaining plug-in hybrid and electric vehicles requires specific training and skillsets.

- The Provincial Government will review training curricula to address any gaps in specialized training and skills development for servicing plug-in hybrid and electric vehicles.

There is a range of products that can be fitted to large transport trucks to increase fuel efficiency, including specialized skirts and fairing. The Federal Government also offers training workshops to provide information on increasing fuel efficiency within trucking operations.

- In consultation with the trucking industry and the Federal Government, the Provincial Government will work to identify gaps and opportunities to increase the fuel efficiency of trucking and road transport operations in the province.

Government fleet vehicle procurement is guided by public tender processes.

- To support fuel efficiency within its vehicle fleet, the Provincial Government will ensure fuel and energy efficiency provisions are appropriately reflected in public tender documents for fleet vehicle procurement.

The Federal Government regulates vehicle fuel efficiency requirements for light duty vehicles sold in Canada. However, the Federal Government does not regulate fuel efficiency standards for larger vehicles including $\frac{3}{4}$ and 1 ton pickup trucks and vans.

- The Provincial Government will engage with the Federal Government to support further increases in fuel efficiency standards in light duty vehicles for the post-2025 period and support regulated fuel efficiency requirements for larger pickups and vans.

Products and Services

There are many energy-using products and services bought and sold in Newfoundland and Labrador. Energy-using products range from home appliances to commercial and industrial equipment, while services related to energy efficiency can include energy audits and consulting. The size of the marketplace for these products and services presents significant opportunities to improve energy efficiency and lower GHG emissions.

Vision

The Provincial Government's vision for this market is one in which:

- Consumers are aware of the environmental and economic benefits of selecting energy efficient products and services.
- There is increased demand for and access to energy efficient products and services and suppliers and retailers are able to meet this demand.
- Energy efficient products and services occupy a larger share of the marketplace than their non-energy efficient counterparts.
- Standards and regulations ensure the energy efficiency of products and services in the marketplace.
- Government demonstrates leadership on energy efficiency in the manner in which it procures energy efficient products and services and conducts its own operations.

Actions to Date

- Launched the *Greening Government Action Plan* in January 2015, which includes an objective to integrate green considerations into the procurement of goods and service.
- Released a *Buying Green!* Guide and delivered training to government officials to promote procurement of energy efficient products and services within government operations for example: computers, motion-sensor lighting, and energy efficient windows in Confederation Building).
- Released a Net-Metering Policy Framework in July 2015 to allow utility customers with small-scale generating facilities to generate power from renewable sources for their own consumption, feed power into the grid during periods when they generate excess power and draw power from the grid when their generation does not fully meet their needs.
- Launched *Turn Back the Tide* to raise awareness of the benefits of energy efficiency and conservation, which includes an "Interactive House" tool which highlights energy efficiency considerations of a range of household products. To date, there have been over 102,000 visits to the site.

Products and Services - Actions Going Forward

The Provincial Government has implemented a number of measures that support greater energy efficiency in road transportation, including those set out on the previous page. However, there are opportunities to further support a transformation toward enhanced energy efficiency for products and services by building on successes and addressing gaps:

The Federal Government has legislation and regulation in place requiring select energy-using products and services sold and manufactured in Canada to meet specific energy efficiency performance standards.

- The Provincial Government will support federal regulations and advocate for more stringent energy efficiency performance standards where possible and appropriate.

Some provinces and territories have implemented energy efficiency regulations governing the manufacture, sale and lease of specific products and services that go beyond federal standards and regulations.

- A review of measures in place in other jurisdictions will assist the Provincial Government in considering the scope for the implementation of similar standards in Newfoundland and Labrador.

Federal government labels and certifications designate energy efficient products and services. However, there is opportunity to increase awareness among consumers of energy efficient options in the marketplace.

- The Provincial Government will work to increase awareness of energy efficient product and service options.

Labels designating products and services as having a low carbon footprint have been adopted by some product manufacturers in various jurisdictions.

- Approaches used in other jurisdictions regarding labelling of low-carbon products and services will be reviewed with a view to considering the implications for Provincial Government's procurement and the scope for businesses in Newfoundland and Labrador to use such labels to access new markets or differentiate their products in competitive markets.

The Provincial Government has developed guidelines to promote government's purchase of environmentally-preferable goods and services. However, some jurisdictions have implemented specific policies outlining green procurement requirements.

- The Provincial Government will explore the scope for developing a policy on green procurement for application throughout its procurement processes.

Operationalizing the Framework

The Market Transformation Framework recognizes that market transformation is a long-term process and that there is a need to remain flexible to respond to and address market shifts as they arise. Efforts to transform markets require a coordinated approach across government and engagement with external stakeholders.

The Market Transformation Framework will be implemented over a five-year period (2015-2020) and progress will be reported at the mid-way point. Government commits to engaging key partners including industry associations and other jurisdictions throughout the process.

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