# Nova Scotia's Proposed Greener Economy Strategy

**As of August 5, 2014**

# Nova Scotia's Greener Economy Strategy

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## Preface

In 2011/2012, the Minister's Round Table on Environment and Sustainable Prosperity ("Round Table") completed the first five-year review of Nova Scotia's pioneering legislation, the *Environmental Goals and Sustainable Prosperity Act* (EGSPA). In its final report to the Minister of Environment, the Round Table acknowledged many successful achievements related to environmental goals. They further reinforced the important linkages between the environment and economy, and identified a number of accomplishments.

Among the Round Table's recommendations was the development of a "Green Economy and Jobs Labour Market Strategy" aimed at harmonizing economic prosperity and environmental sustainability. After consideration, the following new goal was included in Bill No. 136, the *Green Economy Act,* which introduced amendments to EGSPA:

> "The Province develops a strategy by 2014 to advance the growth of the green economy, and implements the strategy accordingly."
>
> - Bill No. 136, *Green Economy Act.*

This Greener Economy Strategy aims to address this goal. It is meant to build on the province's accomplishments to date, including support for various programming interventions and the pursuit of strategic opportunities to strengthen the economy and preserve the environment.

## 1. Executive Summary

In recent years, jurisdictions all over the world have become increasingly aware of the green economy, and Nova Scotia has been part of this evolution. This document builds on Nova Scotia's many accomplishments to date in strengthening economic and environmental linkages, while following a strategic approach to addressing future opportunities in the green economy. In 2011/12, the Minister's Round Table on Environment and Sustainable Prosperity completed the first legislated five-year review of Nova Scotia's pioneering *Environmental Goals and Sustainable Prosperity Act* (EGSPA). They recommended that the Province develop a green economy and labour market strategy, which was included among the legislation's amendments. This strategy aims to address that goal.

There is no consensus on a definition of the "green economy." However, there are a number of widely accepted definitions that have been used to provide direction for this strategy, including the following:

> "The aggregation of consumer, corporate and policy efforts to increase operational efficiency and minimize environmental impact while fostering economic growth, diversification and competition." - TD Economics, *The Greening of the Canadian Economy,* 2013.

A key finding of the above-referenced TD Economics report is that, "Environmental initiatives and economic growth are not alternatives, but rather increasingly can complement one another." The term "greener" is used in this strategy to reflect the fact that more sustainable approaches in traditional sectors provide economic and environmental benefits.

Another important goal of this strategy is to help ensure a workforce in the province with the training and skills necessary to meet these new employment opportunities, or "greener" jobs. Here again, a number of definitions of "green jobs" exist. This strategy will focus on jobs that have been made more sustainable or less environmentally impactful.

Jurisdictions that follow a strategic approach to the green economy will gain competitive advantage. The strategy presents the following opportunity statement: "Through a strategic and coordinated approach, the Province can accelerate the transition towards environmental sustainability, while maximizing economic benefits."

This strategy builds on accomplishments across the province to date. There has been significant progress made towards the original 21 short-term goals set out in EGSPA related to air, water, land, renewable energy, sustainable procurement and others. Nova Scotia has set clear greenhouse gas reduction targets. It also mandated renewable electricity targets of 40 per cent by 2020, which in turn drives investment and will help stabilize electricity rates. Many accomplishments fall outside the legislation. For example, in 2011 the Province launched a $24-million Clean Technology Fund to help Nova Scotia "cleantech" firms commercialize technologies for worldwide markets. Government has several "levers" available to advance the green economy, including legislation and regulation, incentives, research and development (R&D), supports and market-based mechanisms.

This strategy is divided into four Focus Areas that align with government's efforts and provide guidance and direction for the future. Each Focus area has a set of Strategic Priorities to

target, which are described below. Finally, each Strategic Priority is supported with a range of Programs and Initiatives.

**Focus Area 1 – Promote the value of regulatory certainty for innovation and cost predictability.** The emphasis is on the impact of regulation, including its relevance to investment in greening the provincial economy. Strategic Priorities include:

- Leverage successes to date in regulatory innovation.
- Strive for regulatory efficiency and harmonization, making it easier for businesses to comply.
- Continue to demonstrate regulatory leadership that links economic and environmental priorities.

**Focus Area 2 – Develop the clean technology sector.** The emphasis is on the importance of clean technologies for growth and economic development. Strategic Priorities include:

- Foster an environment that encourages marketable research and development and accelerates sector transformation.
- Promote innovative collaborations with local and international partners.
- Work collaboratively with higher education institutions.
- Facilitate strategic business mentoring.
- Invest in talent to help create, grow and attract companies in the sector.

**Focus Area 3 – Promote energy and resource efficiency as enablers of economic growth.** The emphasis is on how a strategic focus in these areas can lead to increased productivity, sustainability, innovation and overall competitiveness among businesses and the economy more broadly. Strategic Priorities include:

- Increase business competitiveness through efficiency.
- Continue to improve ongoing academic-business collaborations to advance efficiency-related innovations.
- Continue to assist resource-based industries to adopt and adapt to new approaches to help them be more efficient and sustainable.
- Identify and pursue opportunities for broader economic benefits resulting from efficiency while leveraging success.

**Focus Area 4 – Accelerate the greening of companies, products and services.** The emphasis is on how businesses and various sectors of the provincial economy can capitalize upon “green” opportunities via international supply chains, certifications, procurement, and the exportation of local “green” knowledge and expertise to other jurisdictions. Strategic Priorities include:

- Enhance awareness of niche markets from greening businesses, products and processes.
- Enhance business competitiveness immediately and long-term (e.g., energy costs, customer base).
- Support investments and hiring for the greening of businesses, products and processes.
- Encourage the greening of businesses, products and processes through government practices and procurement.
- Promote greening of the workforce through training, and supporting a culture of ongoing learning.

# 2. The Meaning of "Green"

## 2.1. Defining the Green Economy – A Global and Nova Scotia Perspective

### *What is a Green Economy?*

While the prominence of the "green" economy has grown significantly in recent years, there is still no consensus on a definition. However, there are a number of generally accepted definitions that characterize what is meant by a green economy (see text box below) that have helped guide the development of this strategy.

**Selected Definitions of a Green Economy**

While there is no consensus on a single definition of a "green economy," there are some generally recognized definitions, including the following.

The aggregation of consumer, corporate and policy efforts to increase operational efficiency and minimize environmental impact while fostering economic growth, diversification and competition.

*TD Economics, The Greening of the Canadian Economy, (2013)*[i]

A green economy is one that results in improved human well-being and social equity while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy is low-carbon, resource efficient and socially inclusive. In a green economy, growth in income and employment are driven by public and private investments that reduce carbon emissions, pollution, enhance energy and resource efficiency and prevent loss of biodiversity and ecosystem impact.

*The United Nations Economic Programme (2011).*[ii]

Green growth means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. To do this, it must catalyse investment and innovation that will underpin sustained growth and give rise to new economic opportunities.

*Organization for Economic Co-operation and Development (OECD) (2011)*[iii]

The concept of a green economy as a "subset" of the economy limits the scope of potential economic and environmental benefits. It is helpful to take a broader approach that is more inclusive of the full range of activities and opportunities associated with the "greening" of the overall economy. Rather than referring to the green economy, the term "greener economy" is used throughout this strategy. This is intended to help move away from creating an unnecessary distinction between "green" and "brown" sectors, since the greening of more traditional and resource-based sectors has positive environmental and economic impacts.

**Trends in the Environment and the Economy**

Research reinforces the move towards a broader, more inclusive definition of greening the economy. The following are recently presented conclusions about the relationship between the environment and the economy in Canada:

1. Environmental considerations are increasingly embedded into corporate decision making;
2. Improving environmental efficiency frequently results in cost advantages;
3. Incentives to reduce environmental impact can be a strong driver of innovation; and
4. Corporate responsibility is a driver for improving environmental performance.

TD Economics, *The Greening of the Canadian Economy (October 2013)*.

### *Sources of Green Growth*

A "green" focus has the potential to address economic and environmental challenges, and open up new sources of growth through the following channels[iv]:

| | |
|---|---|
| Productivity | •Incentives for efficiency, productivity, reducing waste and energy consumption, resources available to highest value use. |
| Innovation | •Opportunities for innovation, spurred by policies and framework conditions that allow for new ways of addressing environmental problems. |
| New Markets | •Creation of new markets by stimulating demand for green technologies, goods, and services; creating potential for new job opportunities. |
| Confidence | •Boosting investor confidence through greater predictability and stability around how governments are going to deal with major environmental issues. |
| Stability | • Balanced macroeconomic conditions, reduced resource price volatility, efficiency of public spending, revenues. |

Source: OECD, *Multilingual Summaries - Towards Green Growth*. (2011).

As an illustration of the move towards green growth, please refer to Appendix 2 - Going Green Globally. It provides a snapshot of jurisdictions around the world making the transition towards a greener economy.

### *A Nova Scotia Perspective*

This strategy outlines an approach to greening the economy reflective of the Nova Scotia context. Considerations include the size of the economy, changing demographics, capacity within academic institutions, workforce characteristics, and renewable and natural resources. It builds upon the unique strengths of our province.

The following describes key steps in the transition of the province's economy to become increasingly green.

- A relatively small economy that has nonetheless shown recognized leadership in sustainability, such as waste management innovation.
- A demonstrated commitment to sustainability through the province's pioneering legislation, the *Environmental Goals and Sustainable Prosperity Act* (EGSPA).
- A sustainably-minded, dedicated, entrepreneurial workforce.
- Significant green innovations emerging from local universities that are having an impact around the world.
- A strong connection to the environment through traditional industries.

### *What are Green Jobs? What do they mean to Nova Scotia?*

Greened jobs encompass existing occupations or new jobs whose skill set, knowledge, products, inputs or tasks have been made more sustainable or less environmentally impactful to meet emerging duties, regulations and markets – and that reflect the values of society in social equity, as well as environmental responsibility. There is a growing need for skills and credentials to support the greening of economies. Many of the skill requirements are transferable from other areas of the economy, and differ very little from "non-green" activity. At the same time, new occupations are likely to appear as new businesses develop, markets change and evolve, and entrepreneurs develop new business models to capitalize on opportunities. Workers in existing occupations may be required to learn new processes, and upgrade credentials to remain employable.

The transformation of some jobs into environmentally-based jobs has the potential to sustain employment in sectors that may be under competitive pressures (e.g. agriculture, forestry). It may also contribute new employment to the economy, where the green movement brings new technologies and new manufacturing to the province (e.g. wind, tidal, environmental remediation).

Green jobs can require skills to produce products or services that have an environmental benefit such as industrial engineers, product designers, architects, land use planners and others with an environmental focus.[v] They can also relate to workers who perform activities that have an environmental benefit, but do not require environmental knowledge, such as construction or trades workers completing green projects, mass transit vehicle operators, and manufacturing and agricultural workers.

## 2.2. Why pursue a greener economy?

### *The Opportunity*

The potential for Nova Scotia to prosper through greening its economy is summarized in the following Opportunity Statement.

**The "Greening" Opportunity Facing Nova Scotia**

Through a strategic and coordinated approach, the Province can accelerate the transition towards environmental sustainability, while maximizing economic benefits.

A green economy is one that results in improved economic well-being and social equity, while significantly reducing environmental risks and ecological scarcities.

The greening of an economy is a transformation that is occurring globally. Nova Scotia is among those jurisdictions involved. Approached strategically, this transition will not only result in environmental improvements but will also lead to economic benefits.

For Nova Scotia, there are particularly compelling reasons to pursue the greening of the economy. Nova Scotia is a relatively small, open economy, and the greening of businesses can provide an important means of increasing domestic and international competitiveness, and profitability. A greener economy can in turn offer better jobs with higher wages, while at the same time help to ensure a cleaner more sustainable environment for current and future generations.

The following articulates the Vision this strategy sets out to achieve in Nova Scotia.

**The Vision**

A prosperous and innovative Nova Scotia, with an enviable social fabric, standard of living, diversity and sustainability. The Greener Economy Strategy will seek to build upon the following:

- Take advantage of direct and indirect employment and business growth opportunities afforded by a greener economy;
- Create a low-carbon economy;
- Use policy and regulatory innovation to trigger business investment;
- Maintain and enhance the value of natural resources, environments and ecosystems; and
- Improve quality of life and well-being.

This strategy is about greening sectors across the provincial economy, and the integration of environmental, economic and social goals.

***Objectives***

The following objectives will be pursued through the advancement of this strategy:

- Inform policy decisions going forward, facilitate the setting of priorities, and help government evaluate investment opportunities and make resource decisions.
- Demonstrate that a greener economy will make Nova Scotia more competitive moving into the 21st century, draw attention to the associated benefits, and set the direction for fostering green economic growth.
- Provide a focused approach for programming and initiatives aimed at greening Nova Scotia's economy.
- Focus on environment and economy as "win/win", aligned to the principles of the *Environmental Goals and Sustainable Prosperity Act* (EGSPA).
- Reinforce a commitment to environmental stewardship, conservation and long-term sustainability.
- Reflect societal values in social equity, safe working environments, and community inclusion.

## 3. Greening the Nova Scotia Economy

### 3.1. Nova Scotia's progress in advancing a greener economy

Nova Scotia has demonstrated significant leadership to advance both the environmental and economic objectives. A number of past actions to support this greening of the provincial economy are mentioned throughout this strategy. The following are noteworthy examples.

***Environmental Goals and Sustainable Prosperity Act (EGSPA) –*** In 2007, the *Environmental Goals and Sustainable Prosperity Act* (EGSPA) was unanimously passed by all parties in Nova Scotia. This pioneering initiative set forth the province's environmental objectives in legislation, with the inclusion of 21 environmentally focused goals. It also set out two overarching objectives, to reinforce the integration of economy and environment, and to make Nova Scotia one of the most environmentally sustainable and healthiest environments in the world.

As of the last annual report in 2011/12, 14 of the 21 goals had been achieved, with timelines changing somewhat following the legislated review and resulting amendments. There are ongoing activities to meet the other goals, many of which extend to the year 2020.[vi] As mentioned, this strategy is meant to address the following new goal that was incorporated into Bill No. 136, the *Green Economy Act* that introduced amendments to EGSPA.

> Bill No. 136, *Green Economy Act* included the following:
>
> "The Province develops a strategy by 2014 to advance the growth of the green economy, and implements the strategy accordingly."

***Waste and Resource Management –*** Nova Scotia has been recognized on an international basis for its leadership in the management of solid waste. These efforts have helped to

brand the province in this area, and have created the potential for increased economic development through the exportation of local knowledge and expertise in this field. An economic impact analysis commissioned by RRFB Nova Scotia (Resource Recovery Fund Board) of Nova Scotia's Beverage Container Deposit-Refund System shows that the system generates approximately 600 jobs, $20.1 million in salaries and wages, and plays a significant role in the fundraising efforts of charitable groups and organizations across the province.[vii]

***Transitioning to Cleaner Energy Sources*** – The Province has clearly stated intentions to transition to cleaner sources of energy. Changing to cleaner energy sources is vital to the future. The rising cost of carbon-intensive fossil fuels, harmful impacts to human health and the environment, and new regulations on greenhouse gas emissions from electricity stretching out to 2030 and beyond are driving the province in this direction. Cleaner energy also provides opportunities to strengthen energy security, having an impact on business competitiveness. There have been many major investments in support of this transition, with highlights provided below.

*Renewable Electricity Plan* – Nova Scotia's *Renewable Electricity Plan* is making the province greener and cleaner. The plan and regulations lay out a clear legal requirement: 25 per cent renewable electricity supply by 2015, and 40 per cent renewable electricity supply by 2020, using a combination of sources such as hydro, wind, biomass, solar and tidal.

*Wind Energy* - Nova Scotia has a tremendous wind resource. By 2015, nearly 500 megawatts (MW) of wind capacity will be on the system through Nova Scotia Power, Independent Power Producer and Community Feed-In Tariff projects.

*Marine Renewable Energy* – In May 2012, the Province of Nova Scotia released its *Marine Renewable Energy Strategy* that outlines the Province's commitment to the development of the sector in Nova Scotia. In particular, the strategy outlines the research, development, and regulatory plans to achieve Nova Scotia's vision to be a global leader in the development of technology and systems that produce environmentally sustainable, competitively-priced electricity from Nova Scotia's rich ocean resources, specifically within the powerful Bay of Fundy. Nova Scotia is home to Canada's leading research centre for in-stream energy, namely the Fundy Ocean Research Center for Energy (FORCE). In addition, the Province has also approved five small-scale, community-owned tidal energy projects.

*Solar Energy* - Studies have shown Nova Scotia's mild yet clear winter days give it an impressive solar resource. The Province is currently researching the state of solar energy in Nova Scotia to examine its potential use for electricity generation. Halifax Regional Municipality's Solar City project encourages homeowners to install solar hot water panels by offering logistical and financial support. The homeowner repays the cost of the panels through property tax bills. The largest solar thermal panel manufacturer in Canada is located in Nova Scotia.

*Bioenergy/Bioproducts* - Bioenergy is becoming increasingly important as a Nova Scotia renewable energy source. With 73 per cent of Nova Scotia's land mass covered in forests, it provides a suitable environment for the responsible development of bioenergy. The progress of bioenergy includes cogeneration facilities and further development of wood pellet / briquette manufacturing facilities in Nova Scotia.

Opportunities are emerging in other jurisdictions and in Nova Scotia related to bioproducts (chemicals and materials) produced from wood and agricultural crop fibre. Activity in the winter of 2014 at the Innovacorp Demonstration Facility (IDC) in Liverpool, N.S. will include Cellufuel's demonstration of a renewable diesel technology using wood fibre. Successful testing could lead to the development of commercial scale production plants in the province in the 2014/15 timeframe.

***Climate Change –*** Included in EGSPA was a greenhouse gas (GHG) reduction target, based on the voluntary target set with governments of the New England Governors and Eastern Canadian Premiers. To reach this legislated goal, Nova Scotia focused on the largest source, the electricity sector, which emits nearly 50 per cent of all GHG output. In 2009, the Province established regulation that capped GHG output from electricity production, necessary to reach the GHG commitment. It was designed to reduce GHG emissions from the sector by 25 per cent, but do so in a way that allowed flexibility to achieve the objective in the most cost-effective way.

The federal government announced its forthcoming regulation of coal-fired based GHGs in 2011, which would see the shutdown of power plants after a fixed period of operation. This approach would cost Nova Scotians more than the implementation of existing flexible regulation, yet not attain better GHG reduction. The Province was able draw on its early action in regulating its electricity-based GHGs, which enabled the Province to negotiate the first equivalency agreement allowed in Canada under this federal regulation.

***Clean Technology –*** In April 2011, the Province announced a $24-million, five-year Clean Technology Fund to support commercialization among Nova Scotia businesses focused on renewable energy, energy efficiency, air and water quality solutions, and recycling. This fund is delivered by the Crown corporation, Innovacorp, which also offer complementary support through business incubation and mentoring. Some of the companies supported by the fund to date include:

- LightSail Energy – developing breakthrough energy storage technology;
- SABRTech – developing of microalgae for biofuel;
- TruLeaf - creating multi-layer plant farm for growing fresh produce anywhere; and
- CarbonCure Technologies Inc. - capturing carbon dioxide from emission stacks and injecting it into concrete to make a less expensive, stronger and greener product for the growing green building materials market.

***Leading by Example –*** The Province developed a Sustainable Procurement Policy in 2009, which leverages the significant buying power of government, and introduces sustainability criteria. The Nova Scotia public sector spent more than $2 billion last year, and more than 75 to 80 per cent of that is spent locally generating significant economic impacts provincially.

### 3.2. The Opportunity moving forward

Nova Scotia has taken early action on many fronts to advance greening while balancing economic activity. The opportunity moving forward is to continue to strategically develop strong businesses and sectors that are well poised to take advantage of the transition to a greener economy.

In creating a greener Nova Scotia economy, there are a number of specific areas of opportunity which government can leverage to make a difference, as follows.

- Legislation and regulation - Legislation, regulation, policies, strategies, procurement, etc.
- Incentives - Investments, programs, investment attraction, other incentives, etc.
- Research and development - Research and development involving public and private sectors, academia and other partners
- Supports - Business incubation, mentoring, sector development, education and training, etc.
- Market-based mechanisms - Feed-in tariff, taxation, other market-based mechanisms, etc.

### 3.3. Priority Focus Areas

The strategy is divided into four Focus Areas, which align with government's efforts to date and provide guidance and direction for the future  Each Focus area has a set of Strategic Priorities to target.  Finally, each Strategic Priority is supported with a range of Programs and Initiatives.  The Focus Areas described in the following section form the foundation of this strategy.  They are intended to support the continued transition to a greener provincial economy, and take into consideration specific provincial opportunities.

**Priority Focus Areas**


**Focus Area 1 – Promote the value of regulatory certainty for innovation and cost predictability**. The emphasis is on the impact of regulation, including its relevance to investment in greening the provincial economy.

**Focus Area 2 – Develop the clean technology sector**.  The emphasis is on the importance of clean technologies for growth and economic development.

**Focus Area 3 – Promote energy and resource efficiency as enablers of economic growth**.  The emphasis is on how a strategic focus in these areas can lead to increased productivity, sustainability, innovation and overall competitiveness among businesses and the economy more broadly.

**Focus Area 4 – Accelerate the greening of companies, products and services.** The emphasis is on how businesses and various sectors of the provincial economy can capitalize upon green opportunities via international supply chains, certifications, procurement, and the exportation of local green knowledge and expertise to other jurisdictions.

## 4. Focus Area 1 - Promote the value of regulatory certainty for innovation and cost predictability.


The Province launched EGSPA in 2007, making it the first province at the time to legislate its environmental goals. It clearly spelled out expectations related to the environment and the economy for the province, municipalities and businesses. It followed a phased-in approach to support long-term planning.

When making decisions and investments that can affect the environment, business leaders consider regulatory and policy aspects. Though some sectors have concerns about regulatory burdens, regulatory certainty and compliance efficiency is also an important part of the regulatory environment.

When regulatory action is needed to protect climate, water, natural resources, biodiversity and other factors, and if the action is stalled or uncertain, then private and public investment will be delayed or cancelled. As a result, innovation and productivity gains are delayed. Regulatory certainty and compliance should be designed to foster greener supply chains, as well as new products and services that improve environmental performance.

The overall goal is to maintain and enhance high standards of regulations while making it easier for businesses to comply. This is in line with the approach of “smart regulation.” Even seemingly simple enhancements can create efficiencies for businesses, such as online applications, step-by-step notifications, and guidance through the process.

The benefits of strategic regulatory certainty include:

- **Confidence** - It increases investor confidence through greater predictability and continuity as government addresses major climate, environment, and resource issues. This will allow for predictive resourcing which will enable attraction and retention of businesses and workers.
- **Policy effectiveness** – If properly designed, regulation can be effective in addressing well-known market failures. Strategic regulation can help climate and environmental mitigation, and protect natural assets in ways that promote net economic benefits.
- **An incentive** – Well-designed regulation, and related climate and environmental policy, can complement other incentives and can support innovation and productivity benefits in industry.[viii]
- **Accountability and evaluation** - Regulated environmental and climate goals introduce additional priorities in corporate decision-making. The combined economic and environmental efficiency in firms and across industries enables evaluation of total benefits.

- **Fairness** - Procedural certainly should ideally extend across all sectors of the economy. Standards should apply to all aspects of a project for clarity and decision-making.

***Strategic Priorities:***

**Leverage successes to date in regulatory innovation.**
The Province can build upon existing regulatory expertise. Where appropriate, it can engage public, private and university partners. There may be opportunities to quantify benefits of past policy as a way to promote future actions, as well as build upon current capacity developing, analyzing and implementing new policy.

**Strive for regulatory efficiency and harmonization, making it easier for business to comply.**
Taking increased steps toward more efficient regulation of the environment, energy, and resources is a key to a greener economy. The Province can also continually strengthen its coordinated, cross-governmental approach to ensure regulation and legislation are always focused and complementary. Approached properly, regulation can support business by creating a level playing field. It is important for government to ensure procedural certainty through cohesive, harmonized standards in the province. Innovative, outcome-based regulation should be a focus.

**Continue to demonstrate regulatory leadership that links economic and environmental priorities**.
Nova Scotia has become known as a leader and taken early action on certain environmental, resource, and climate goals (e.g. solid waste diversion, greenhouse gas reduction, renewable energy). These actions have brought economic benefits, including greater stability in costs, predictability for investors, economic development, job creation, climate and environment benefits. The Province can choose to build upon its success when moving forward, and can consider educating regulated sectors to capitalize on the benefits of early adoption and compliance.[ix] Early adoption of better standards and technology accelerates the cycle of innovation, and can bring short-term advantages along with longer-term savings and cost stabilizers.

***Initiatives and Programs:***

- Energy
    - *Renewable Electricity Plan*
    - Community-based Feed-in Tariff (COMFIT)
    - Independent Power Producer regulation and administration
    - *Nova Scotia Marine Renewable Energy Strategy*

- Environmental
    - Greenhouse Gas (GHG) and air pollution regulations
    - Parks and protected areas
    - Solid waste diversion and supporting programs
    - Resource Recovery Fund Board
    - Contaminated site regulations
    - Climate change adaptation planning

- Natural Resources
    - The Department of Natural Resources has restricted whole-tree harvesting to support quicker regrowth in clear-cut areas.
    - Reduce the amount of clear-cutting in Nova Scotia to no more than 50 per cent of the area harvested by the clear-cut method by 2016.
    - The province committed to explore a community working forest concept for Crown lands in the Natural Resources Strategy.
    - The province is progressing toward the commitment of implementing an efficient, cost-effective method to track harvests.

**Nova Scotia Success Stories - Regulatory Certainty**

**Coal-Fired GHG reduction equivalency agreement -** Early action and regulatory certainty by Nova Scotia concerning greenhouse gas reduction plus regulations on renewable electricity development allowed the Province to negotiate a first-of-its-kind Equivalency Agreement for proposed federal regulations. It means the GHG reduction will be the same, or exceed, federal goals. However, the design of the Nova Scotia regulation allows more flexibility than the federal regulation, thus saving Nova Scotians millions of dollars in future electricity system costs.

**Solid waste diversion and reduction -** This longstanding and well-known example of early action and regulatory certainty has resulted in Nova Scotia being viewed as a leader in Canada and internationally. The province's waste level is now below half of the Canadian average, bringing major cost savings for reduced landfills, creating additional jobs and services in waste diversion.

**Renewable energy standards** – The regulation to require more renewable electricity benefits the economy in two ways, including reduced dependence on imported fossil fuels and their rising prices, and local industry and community benefits in producing renewable energy sources and systems.

## 5. Focus Area 2 - Develop the clean technology sector.


The clean technology (or "cleantech") sector is broadly defined as:

> A group of knowledge-based companies that invent develop and produce a diverse range of products, services, and processes that will provide superior performance at lower costs, while reducing or eliminating negative ecological impacts, as well as improving the productive and responsible use of natural resources.[x]

Cleantech encompasses not only energy, but also a range of traditional and resource-based industries. The Cleantech Group's definition spans 18 vertical sectors:

- Advanced materials
- Agriculture and forestry
- Air
- Biofuels and biochemicals
- Biomass Generation
- Conventional fuels
- Energy efficiency
- Energy storage
- Fuel cells and hydrogen
- Geothermal
- Hydro and marine power
- Nuclear
- Recycling and waste
- Smart grid
- Solar
- Transportation
- Water and wastewater
- Wind

Source: Cleantech Group LLP, 2014

The uptake of clean technologies represents one way that companies can improve their resource productivity and enhance their competitiveness. While opportunities for clean technology adoption are investigated in other areas of this strategy, there are a number of opportunities for Nova Scotia to encourage innovation in the domestic development of cleantech products and services.

Currently, the global cleantech market is estimated at $1 trillion in 2011 and is anticipated to reach between $2.2 and $3 trillion by 2020, with an expected growth rate of 9 to 11 per cent annually. Increased international standards due to climate change-related issues are expected to continue to provide opportunities for more "clean"/"green" products, services and technologies.

Hundreds of local Nova Scotian companies participate in this global market dedicating a part of all of their activities to developing sophisticated products and services that benefit the environment. In addition, there is also a large supporting set of firms, institutions and organizations in renewable energy, efficiency and other areas that further expand the opportunities for sector growth and "greened" jobs.

A smaller core group of high-performing cleantech companies dedicate the greater part of their activities to the development of highly innovative, “high-tech” products and services. The core group represents a significant area of opportunity due to its potential to create high value jobs, the competitiveness of its business environment, and its potential for growth. Currently, this core represents just over 30 companies earning more than $120 million in revenues annually. Green Power Labs, Solartron Energy Systems, Highland Energy (N.S.) Inc. and Forerunner Research Inc. are just a few of the many diverse companies in this group. These core companies perform more than $2 million in research and development annually, making use of the rich research and educational opportunities locally available. In many cases, local cleantech companies are founded by students or recent graduates, or within universities. The core group also draws on a number of strengths, experience and market linkages of the larger cleantech periphery and supports.

Nova Scotia’s specific assets may position the province to capitalize on this industry, including access to diverse natural resources including, solar, wind, tidal, growth in biomaterials, and an engaged technical and entrepreneurial community.

***Strategic Priorities:***

**Foster an environment that encourages marketable research and development, and accelerates sector transformation.**
To promote increased research and development in marketable clean technologies, the Province should continue to build on collaborations with its partners and research institutions to address barriers and capture opportunities. The Province reinforced its support for this sector in 2011 with the launch of the $24-million, five-year Clean Technology Fund delivered by Innovacorp. Other potential means of encouraging research include scholarships, support of internships/fellowships, incenting training programs, and competitions. The Innovacorp Early Stage Commercialization Fund (ESCF), for example, is a competitive program that provides funding support to help university and college researchers commercialize their research results. The ESCF is a key mechanism for supporting entrepreneurial activity among higher education faculty and students as well as increased linkages between the academic and business sectors. Growth will be achieved not by subsidizing, but instead incentivizing the industry to move forward. The role of fiscal tools, the federal Scientific Research and Experimental Development (SR&ED) tax incentive program, and other resources should be considered. Government and partners can help kick-off the transformation of a high-growth, innovative sector. Other partners also play a role, such as the RRFB Nova Scotia (Resource Recovery Fund Board) that has dedicated significant effort and funding in innovation and stimulation of research and development in efficient resource use in recent years.

**Promote innovative collaborations with local and international partners.**
Identifying strategic partners locally and internationally is critical for growth of cleantech companies. Partners can provide support through investment, sales, commercialization and demonstration. They may also play a role in helping cleantech companies overcome hurdles in the commercialization process. Government can help identify and foster these innovative partnerships. The provincial Productivity and Innovation Voucher program has been a very successful mechanism for stimulating working linkages between Nova Scotia small to medium-sized enterprises (SMEs) and the university/college community. Since its inception in 2008, the program has awarded over 250 vouchers, which are essentially credit notes that provide companies with the opportunity to access the academic expertise and infrastructure they need to help grow their business.

**Work collaboratively with higher education institutions.**
Government can explore partnerships with the province's post-secondary educational institutions as a basis for advancing innovations that can potentially support greening of the provincial economy. The province can work to expand on partnerships with universities, the Nova Scotia Community College (NSCC), employers and other organizations throughout the province on the demand for skills that support greening the economy. Nova Scotia has a rich academic research environment that helps advance innovation in a range of sectors, including clean technology. Programs such as the Early Stage Commercialization Fund, the Clean Technology Fund, and the Productivity and Innovation Voucher program, help directly link that research capacity with business opportunities and needs.

**Facilitate strategic business mentoring.**
Government can play an enabling role in the area of mentoring. Currently, the Province provides mentoring in cleantech and other technology-focused industries through Innovacorp. At the federal level, Sustainable Development Technologies Canada (SDTC) offers a virtual incubator, drawing on their stringent and effective due diligence process. The Province can work to build on existing programs and offer additional supports.

**Invest in talent to help create, grow and attract companies in the sector.**
Government can help promote career opportunities in clean technology and green jobs through a number of means, including co-operative education and graduate placement programs. Companies also often require help addressing skills gaps in areas such as marketing or management.

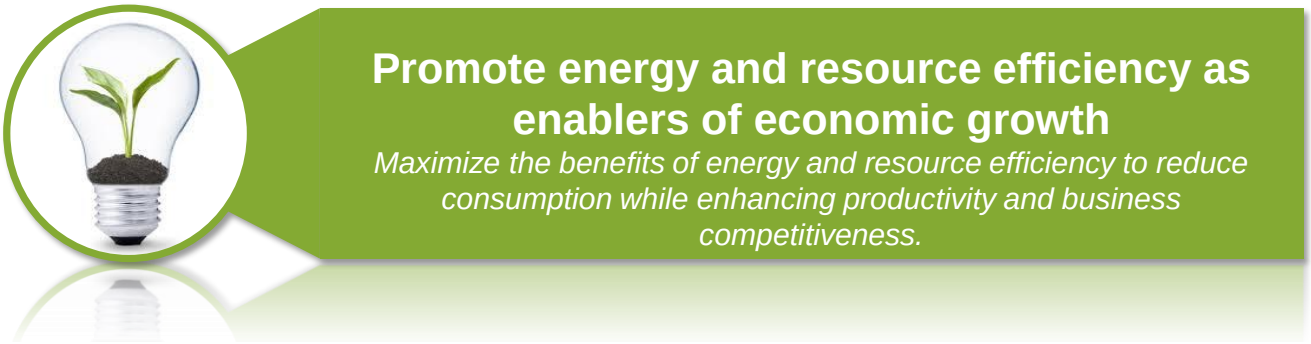
***Initiatives and Programs:***
- Clean Technology Fund
- Early Stage Commercialization Fund
- Productivity and Innovation Voucher Program
- Innovacorp i-3 Competition
- *Renewable Electricity Plan*
- *Nova Scotia Marine Renewable Energy Strategy*
- Fiscal tools, Scientific Research and Experimental Development (SR&ED)Tax Incentive
- RRFB Nova Scotia's Research and Development financing and Student Research Grants

## Nova Scotia Success Stories – Clean Technology Sector

**CarbonCure Technologies Inc.** - CarbonCure Technologies Inc. is an emerging science-based leader in concrete technology for the green building sector. CarbonCure was developed as an increasing need for an affordable, environmentally-friendly concrete was being identified. Traditional concrete raises environmental issues with 0.8 tonnes of $CO_2$ pollution created for every one tonne of cement created. CarbonCure's concrete production actually utilizes, in concrete manufacturing, what would traditionally be waste ($CO_2$ pollution). Through innovative mineral carbonation, the $CO_2$ actually aids in creating a stronger final product that is environmentally efficient. CarbonCure has installations at concrete facilities all across North America with plans for steady expansion through collaborations with like-minded companies and professionals.

**LED Roadway Lighting Ltd.** - LED Roadway Lighting Ltd. (LRL) is a Canadian-owned and operated clean technology company that designs and manufactures LED-based street and area lighting fixtures and control systems. The company is headquartered in Halifax, Nova Scotia, with primary manufacturing located in Amherst. It also has manufacturing capabilities in the United States, the United Kingdom and Australia. The company's NXT and Satellite series fixtures deliver average energy savings of 60 per cent versus traditional technologies, and are installed in more than 40 countries. The company's products include the award-winning NXT street light. The modular design of NXT allows users to easily upgrade or replace light engines or power supplies, without tools, in less than one minute. Light engines can be replaced in the field as LED efficiencies increase in the future, allowing users to prolong the useful life of lighting infrastructure. LRL also offers a full suite of networked and non-networked controls that allow users to manage their lighting assets and more efficiently deploy resources. The company is also a leader in smart street lighting technology, having established technology partnerships with leading smart grid network technology providers.

## 6. Focus Area 3 - Promote energy and resource efficiency as enablers of economic growth.




Efficiency goals are not new to industry and institutions, but there is increasing urgency to encourage their application. Resource and energy efficiency are less important in a world assumed to have unlimited or less expensive energy and resources. Globalization and new demand for energy had outpaced new resource discovery in most years of the last decade. Therefore, energy productivity and efficiency have become a crucial source of productivity gains or losses for companies.

One of the primary mechanisms for improving energy efficiency in the province is Efficiency Nova Scotia, created by legislation in 2009 and updated in 2014. Efficiency Nova Scotia is an independent, non-profit organization which is led by a Board of Directors and regulated by the Utility and Review Board. Efficiency Nova Scotia administers electricity efficiency and conservation, as well as non-electric efficiency and conservation. The latter is funded through a contract with the Province of Nova Scotia.

Efficiency Nova Scotia recently commissioned an independent report to benchmark the size and impact of Nova Scotia's energy efficiency industry. The report found the industry had a significant economic impact. Total sector output is estimated at $439.3 million, with the construction sub-sector accounting for almost 60 per cent of total output. The sum of the effects in 2011 resulted in an increase in the Nova Scotia economy as follows:

- total GDP of $355.3 million,
- total household income of $364.8 million, and
- total employment of 6,527.

To put the results in context, the study points out the efficiency sector is almost half as large as the province's key economic drivers, specifically fish processing and other food manufacturing, and the tourism sector. Further, for every $1 million of investment, about 108 jobs are supported. This ratio is substantially higher than other industries. The sector is still emerging and survey participants expect an average growth of over 8 per cent over each of the next five years. To recognize industry leaders, each year Efficiency Nova Scotia hosts a conference to recognize champions in efficiency and highlight the associated business advantages of efficiency.

The legislation introduced in 2014 puts forward a new model for energy efficiency program delivery to ensure investments continue to be competitive, affordable and accountable. The

legislation treats energy efficiency as an 'energy supply' which must compete with other electricity supply options, such as natural gas, oil, coal and wind.

The Province's energy efficiency plan sets objectives to save energy, lower costs and reduce greenhouse gas emissions. Energy efficiency initiatives will continue under the Efficiency Nova Scotia brand. Government will continue to invest in non-electric efficiency initiatives with a focus on low-income programs.

The mission of RRFB Nova Scotia (Resource Recovery Fund Board) is to work with Nova Scotians to improve the environment, economy and quality of life by reducing, reusing, recycling and recovering resources. The organization published an economic impact analysis of its beverage container deposit-refund system (BCDRS) in July 2013. The study highlighted that RRFB Nova Scotia and Enviro-Depots' combined $26 million in direct program spending generated economic benefits for the Nova Scotian economy, including:

- Employment – 586 to 660 full-time equivalents (FTEs) are created among suppliers and employees spending income, with many ENVIRO-DEPOT™ jobs supporting rural and low-income individuals;
- Household Income - $20.1 million in salaries and wages;
- GDP - $28.8 million; and
- Tax revenue - $1.2 million total personal and indirect taxes.

The study noted other important impacts, including that the BCDRS benefits many charities and community organizations. Many Nova Scotians use the BCDRS to both earn and supplement their income, most of whom are economically disadvantaged. Finally, RRFB Nova Scotia approved $305,000 towards Value-Added Manufacturing projects in 2013, provided $285,000 in support of R&D, and allocated about $1.6 million for education and awareness programs in 2013.

More broadly, key natural resources (e.g. fresh water, agricultural land, forests, fisheries, minerals, biodiversity) are pressured by growing global demand. In Nova Scotia, forestry, agriculture, and fishery sectors must find increasing efficiencies, both economically and environmentally, if they are to be sustainable.

***Strategic Priorities:***

**Increase business competitiveness through efficiency.**
There is a growing base of data showing both the economic and environmental benefits of efficiency measures. When businesses implement energy efficiency projects, the cost savings go directly to the bottom line, and they achieve greater productivity and overall competitiveness. The Province can continue to collaborate with Efficiency Nova Scotia and other organizations to capitalize on these economic benefits. This may involve increased linkages to research and development, funding sources, training supports, and other workforce development efforts. The Productivity and Investment Program (PIP) is designed to help maximize opportunity for productivity and innovation. It recognizes this objective has two important aspects: capital (addressed through the Capital Investment Incentive), and workforce development (addressed through the Workplace Innovation and Productivity Skills Incentive).

**Continue to improve ongoing academic-business collaborations to advance efficiency-related innovations.**
There is potential to draw on the significant scientific, technical and engineering capacity within the university and community college system across the province to provide advisory services and expertise to companies. These academic organizations can be sources of innovation, and collaboration with businesses strengthens the commercialization potential. A number of programs enable this type of activity among businesses, including the Productivity and Innovation Voucher Program and the Early-Stage Commercialization Fund.

**Continue to assist resource-based industries adopt and adapt to new approaches to help them be more efficient and sustainable.**
Discovery of new natural resources needs to be balanced with resource use and economic growth. Energy and resource conservation will be an essential part of business productivity, innovation and a sustainable economy. Nova Scotia has established initiatives that promote energy and resource efficiency, as well as innovation in the natural resources sector. The province will continue to look for opportunities to expand these efforts into the future.

**Identify and pursue opportunities for economic benefits resulting from efficiency while leveraging success.**
The above examples highlight opportunities to enhance productivity of individual businesses. Local and international work has confirmed that efficiency can be an important economic driver in terms of job creation, generating business activity in urban and rural areas, developing skills, leveraging investment, advancing research and technology adoption, and many others. The province has many complementary supports and can work with partners to further these goals and achieve even greater economic impact. Opportunities may exist to market the "know-how" within the province and leverage successes to date. This was the case with the broad recognition of the Province's leadership in recycling initiatives.

***Initiatives and Programs:***

The Province has a number of programs and initiatives to support greater efficiency and productivity. Some are specifically directed towards "green" areas, while others are accessible to businesses in a wide variety of sectors.

- Productivity Investment Program - Includes the Capital Investment Incentive (CII) and the Workplace Innovation and Productivity Skills Incentive (WIPSI)
- *Renewable Electricity Plan*
- *The Path We Share - A Natural Resources Strategy for Nova Scotia 2011-2020*
- RRFB Nova Scotia – Various programs
- Efficiency Nova Scotia Corporation – Various programs

## Nova Scotia Success Stories – Energy and Resource Efficiency

**Efficiency Nova Scotia -** Founded in 2010, Efficiency Nova Scotia (ENS) provides technical resources and administers efficiency services to Nova Scotian residents, businesses, non-profit organizations and institutions to reduce costs, now and in the future. Working with local, independent businesses, Efficiency Nova Scotia administers services province-wide which contribute to the transformation to an economically-prosperous and environmentally-sustainable economy. One of the services provided by Efficiency Nova Scotia is an On-Site Energy Manager to help institutions, like hospitals and universities, save energy and money. Capital Health is a partner in this program and will achieve annual energy savings of more than $1 million by 2014, and electrical energy savings of 5.6 GWh. Dollars not spent on electricity – through efficiency – are dollars that can be diverted to patient care.

High Liner Foods based in Lunenburg, Nova Scotia worked with Efficiency Nova Scotia to upgrade its lighting systems. The investment is expected to save $55,000 in annual electricity costs, improving their competitive position. CKF, a diversified Canadian-owned manufacturer offering a wide range of moulded pulp and foam products and based in Hantsport, Nova Scotia, is implementing an Energy Management Information System with the help of Efficiency Nova Scotia. This investment is anticipated to increase productivity and save the company electricity costs which can then be redirected to other key company initiatives

**RRFB Nova Scotia** – Under its mandate, RRFB Nova Scotia (Resource Recovery Fund Board) funds municipal waste diversion programs, operates a deposit and refund system for beverage containers, develops and implements voluntary industry stewardship agreements, develops education and awareness programs, and promotes the development of value-added manufacturing. As noted above, a recent study highlighted that RRFB Nova Scotia and Enviro-Depots spending leads to employment of up to 660 full-time equivalents (FTEs) and $20.1 million in salaries and wages.

## 7. Focus Area 4 - Accelerate the greening of companies, products and services.

### Accelerate the greening of companies, products and services

*Support businesses in capitalizing upon market opportunities while improving their environmental performance.*

Environmental considerations are becoming increasingly important for doing business. Environmental efficiency can be an important part of business competitiveness and innovation. Identifying new market opportunities, business models, products, services, and collaborative efforts can help to accelerate the greening companies. As global growth raises income in emerging economies, there will also emerge higher expectations for cleaner environments. This will create opportunities for businesses that can leverage technology and expertise in clean production.

Business is beginning to acknowledge and capitalize on the financial benefits of greening. Waste and pollution result from an inefficient use of resources that harm the environment; it is becoming more of a financially sound business decision.

The greening of businesses can help to attract and retain workers. Training employees to be proficient in green methods and aware of greening is necessary to perpetuate learning in this area.

One way businesses can participate in this transformative shift is to green their supply chains and processes. Environmental certification programs, where applicable, provide opportunities for businesses to capitalize and market these process improvements. There are currently over 400 valid certifications in the marketplace. They can apply to processes (e.g., manufacturing, construction) and products, and though much less common, to individuals and services. The number of third-party environmental certifications available, market penetration and purchaser demand for certification varies by sector and product category. Examples of certifications include the International Standards Organization's (ISO) Environmental Management System (ISO 14001) and the Energy Management System (ISO 50001) process certifications. Companies may be able to access programs such as the Workplace Innovation and Productivity Skills Incentive to support the implementation of these systems, given the potential resulting gains to competitiveness.

While there are hundreds of green product certification programs, a clear stable regulatory environment can provide stability for corporate growth. Energy Star, Sustainable Forest Management (SFM) and the Canadian Organic Standards (COS), LEED professional credentials, and the Environmental Professional (EP) designation are all examples of other top certifications globally available.

***Strategic Priorities:***

**Enhance awareness of niche markets from greening businesses, products, processes.**
There are many ways in which greening considerations are making their way into business leaders' decisions. Many global firms are driving sustainability requirements through their supply chains. Growing awareness among consumers means firms that take sustainability into account in manufacturing and processing can realize niche opportunities. Further, sustainability is increasingly a consideration for firms considering exporting. It will be valuable to help raise awareness levels among business leaders of these emerging opportunities and how they might incorporate sustainability into their planning processes.

**Enhance business competitiveness immediately and long-term (e.g., energy costs, customer base).**
Businesses that make their organizations greener realize important benefits. One of the most immediate is energy reduction. This can allow the business to see cost savings but also differentiate themselves from their competition. There are also opportunities for businesses to grow their customer base by attracting individuals with heightened awareness of environmental concerns. Some of these changes are achieved over the longer term with increased awareness and shifts in attitude. Efforts should support businesses in their ongoing efforts to green their operations.

**Support investments and hiring for the greening of businesses, products and processes.**
The Province will work with industry partners to support the greening of businesses, products, services and skills. This includes supporting mentorship, training and investments required to identify opportunities related to greening processes and practices and identifying appropriate certifications, standards or practices by sector, including their costs, and data and auditing requirements. Companies can seek to capitalize upon supply chain opportunities, and better position themselves by leveraging the various programs already in place to increase efficiency, reduce environmental impact and help foster relationships leading to beneficial trade exports on the international level.

**Encourage the greening of businesses, products and processes through government practices and procurement**
Since the adoption of the Sustainable Procurement Policy in 2009, the Province has been purchasing based on overall best value rather than lowest up-front cost. The winning bid is the bid that meets the specified criteria and provides the best overall value to government. Vendors may be asked to provide information such as the life cycle cost for a piece of equipment, proof of environmental or safety certifications for the product or services or descriptions of the steps taken by the business to operate in a more sustainable manner. Additional criteria are added to tender requirements. This relates to environmental requirements such as reduced toxicity, reduced packaging, recycled content in the product or packaging, and social aspects such as employee safety considerations, staff training and adherence to fair labour practices.

**Promote greening of the workforce through training, and supporting a culture of ongoing learning.**
This involves leveraging existing supports, and aligning training efforts to include and incent training that encompasses a "greening" message. This can include workplace training programs, such as the Workplace Education Initiative (WEI), and apprenticeship training.

The Workplace Innovation and Productivity Skills Incentive (WIPSI) can support this type of activity. There are various research efforts within the Province to track labour market issues that can be used to better understand the role that greening has, and will, play in shaping the workforce of the province. More broadly, all stakeholders in the province can reinforce positive attitudes towards "green" and assume a leadership role in this area.

***Initiatives and Programs:***

- Productivity and Innovation Voucher Program
- Global Business Accelerator Program (GBAP)
- Go Ahead Program (GAP)
- ExportAbility Program (EAP)
- Service Export Program (SEP)
- Export Prospector Program (EPP)
- Growing Forward (Including Innovation Fund)
- Nova Scotia Sustainable Procurement Policy
- Developing, Training and Implementing Organic Standard Operating Procedures on Farms (Aquaculture), Select Nova Scotia (local food)
- Pollution Prevention Program
- Workplace Innovation and Productivity Skills Incentive (WIPSI)
- Workplace Education Initiative (WEI)

**Nova Scotia Success Stories – Greening Companies, Products and Services**

**Productivity and Innovation Voucher Program** - Of the innovative projects that were awarded Tier 1 voucher funding in 2012/13, B.W. BioEnergy Inc., utilized the program to work with Cape Breton University to develop and improve the company's biomass-based activated carbon products, in particular from birch and other hardwood species. These are used in the removal of contaminants through liquid or gas filtration, including but not limited to mercury, lead, iron, chlorine, copper, pesticides and other harmful and carcinogenic elements and compounds.

**Waste Resource Management International -** Waste Resource Management International (WRMI) is a cooperative public/private sector partnership between government, educational institutions and industry experts in Nova Scotia. The purpose of WRMI is to promote the export of Nova Scotia waste resource management knowledge, expertise, and products. WRMI members have worked in over 50 countries around the world, and this number continues to grow - a remarkable achievement that ensures that the stamp of Nova Scotia's waste resource management system is a truly international brand.

## 8. Measuring Progress

Measurement is a critical part of policymaking, and should be integrated with the implementation phase. In this strategy, measurement is embedded at several stages (i.e., Focus Areas, Programs and Initiatives, and macroeconomic effects) to help determine the effectiveness of programming, as well as the ability to reach desired outcomes. It provides the opportunity to revisit goals and fine-tune government supports and interventions throughout the evolution of the strategy, and helps to provide evidence of outcomes.

Evaluation is the process by which impacts (beyond program deliverables) can be identified and assessed as to their effectiveness in reaching the desired outcomes. The measurement and evaluation process begins by identifying ways to either quantitatively or qualitatively track deliverables in terms of their strategic outcomes at the program or Focus Area level. Measurement and evaluation is designed and integrated into the implementation process across consistent reporting mechanisms (e.g., quarterly annual reports, statistical reports, audited statements, or client surveys).

### Existing Measures

The Greener Economy Strategy will most efficiently make use of consistently reported and universally understood indicators wherever possible, as this allows for frequent and efficient reporting of outcomes at the provincial level, against which the deliverables at the program and Focus Area levels can be compared.

The Province has already implemented measurement and evaluation tools for other legislation. For example, the *Environmental Goals and Sustainable Prosperity Act* uses the "Indicators of Prosperity" in its evaluation process that can be used, adapted, and expanded upon for use by this strategy.[xi]

### The Path Forward

The measurement and evaluation of the Greener Economy Strategy will take into consideration the Focus Areas and the programs by which they are supported, the desired outcomes, and the methods of measurement and reporting already in place. For those programs and strategies for which enhanced measurement should take place, the strategy will focus on strategic implementation of these initiatives with measurement and reporting in mind.

Interpreting indicators will involve the coordination and communication between several government departments and agencies. Making use of high-level indicators already in place, such as the "Indicators of Prosperity" allows for integration of departmental policy goals and efficient use of government resources.

## 9. Appendix 1 – Nova Scotia's Greener Economy Strategy – At a Glance

**The "greening" opportunity facing Nova Scotia: Through a strategic and coordinated approach, the Province can accelerate the transition towards environmental sustainability, while maximizing economic benefits.**

| Focus Areas | Strategic Priorities | Programs and Initiatives |
|---|---|---|
| **1- Promote the value of regulatory certainty for innovation and cost predictability.** | • Leverage successes to date in regulatory innovation.<br>• Strive for regulatory efficiency and harmonization, making it easier for business to comply.<br>• Continue to demonstrate regulatory leadership that links economic and environmental priorities. | • Energy-related: *Renewable Electricity Plan*, Community-based Feed-in Tariff<br>• Environment-related: Greenhouse Gas (GHG), air pollution, protected areas, solid waste diversion<br>• Natural resources-related: Restricted whole-tree harvesting, reduced amounts of clear-cutting, community working forest concept for Crown lands, tracking harvests. |
| **2 - Develop the clean technology sector.** | • Foster an environment that encourages marketable research and development, and accelerates sector transformation.<br>• Promote innovative collaborations with local and international partners.<br>• Work collaboratively with higher education institutions.<br>• Facilitate strategic business mentoring.<br>• Invest in talent to help create, grow and attract companies in the sector. | • Clean Technology Fund<br>• Early-Stage Commercialization Fund<br>• Productivity and Innovation Voucher Program<br>• Innovacorp i-3 Competition<br>• *Renewable Electricity Plan*<br>• *Nova Scotia Marine Renewable Energy Strategy*<br>• Fiscal tools, Scientific Research and Experimental Development (SR&ED) tax incentive program |
| **3 - Promote energy and resource efficiency as enablers of economic growth.** | • Increase business competitiveness through efficiency.<br>• Continue to improve ongoing academic-business collaborations to advance efficiency-related innovations.<br>• Continue to assist resource-based industries to adopt and adapt to new approaches to help them be more efficient and sustainable.<br>• Identify and pursue opportunities for economic benefits resulting from efficiency while leveraging success. | • Productivity Investment Program - Capital Investment Incentive (CII), and Workplace Innovation and Productivity Skills Incentive (WIPSI)<br>• *Renewable Electricity Plan*<br>• *The Path We Share - A Natural Resources Strategy for Nova Scotia – 2011 - 2020*<br>• RRFB Nova Scotia<br>• Efficiency Nova Scotia |
| **4 - Accelerate the greening of companies, products and services** | • Enhance awareness of niche markets from greening businesses, products and processes.<br>• Enhance business competitiveness immediately and long-term( energy costs, customer base)<br>• Support investments and hiring for the greening of businesses, products and processes.<br>• Encourage the greening of businesses, products and processes through government practices and procurement<br>• Promote greening of the workforce through training, and supporting a culture of ongoing learning. | • Productivity and Innovation Voucher Program<br>• Global Business Accelerator Program (GBAP), Go Ahead Program (GAP), ExportAbility Program (EAP), Service Export Program (SEP), Export Prospector Program (EPP)<br>• Growing Forward (Including Innovation Fund)<br>• Nova Scotia Sustainable Procurement Policy<br>• Organic Standard Operating Procedures on Farms (Aquaculture) Select Nova Scotia (Local Food)<br>• Pollution Prevention Programs<br>• Workplace Innovation and Productivity Skills Incentive (WIPSI)<br>• Workplace Education Initiative |

## 10. Appendix 2 - Going Green Globally

Jurisdictions around the world are making the transition towards a greener economy. While they are at different stages and using different policies, there seems to be common recognition of the important link between economy and environment. There is extensive research on the green economy and green jobs that would be challenging to succinctly cover in this strategy. For this document, some notable examples are provided to highlight work underway in Canada and elsewhere.

**A Global Perspective**

The Environmental Performance Index (EPI) led by Yale University with a panel of international experts offers an approach to quantifying and ranking the environmental performance of 132 countries.[xii] It uses a set of 22 weighted indicators categorized by two objectives: Environment Health (indicators include particulate matter, access to drinking water, etc.), and Ecosystem Vitality (e.g., indicators include $SO_2$ and $CO_2$ per GDP, protection of habitat and marine areas, renewable electricity, forest cover, etc.). A notable finding from the 2012 EPI Report is the range of sustainability results. The top five countries include traditionally recognized leaders in sustainability such as Switzerland and Norway, along with counties including Latvia and Costa Rica. A potential conclusion is that, regardless of size of the population or stage of economic development, jurisdictions can achieve significant sustainability results.

Comparisons are made between the EPI and the World Economic Forum's (WEF's) Global Competitive Index (GCI), an overall economic ranking of counties (see text box).[xiii] This comparison highlights another key message, namely it is possible to have a strong economy while respecting the environment. The top performer in each category is Switzerland, with Sweden and the United Kingdom appearing in both top 10. Given this dual performance ranking, these countries were selected for highlighting their efforts in advancing both economic and environmental goals. Canada placed 14th in the GCI and 37th in the EPI in 2012.

**Economic and Environmental Performance Rankings**

| World Economic Forum Global Competitiveness Index 2012-2013 | Yale University, Columbia University Environmental Performance Index 2012 |
|---|---|
| 1. Switzerland | 1. Switzerland |
| 2. Singapore | 2. Latvia |
| 3. Finland | 3. Norway |
| 4. Sweden | 4. Luxembourg |
| 5. Netherlands | 5. Costa Rica |
| 6. Germany | 6. France |
| 7. United States | 7. Austria |
| 8. United Kingdom | 8. Italy |
| 9. Hong King SAR | 9. United Kingdom |
| 10. Japan | 10. Sweden |

*Switzerland* – Going back to the 1950s and 1960s, the country experienced an economic boom and saw the pressures on the environment.[xiv] In reaction to this situation, and as understanding of ecological considerations grew, a steadily more sophisticated and comprehensive system of environmental legislation was developed. Examples include *The Environmental Protection Act,*

*The Forest Act, The Waters Protection Act*, and others. Federal authorities are preparing to make changes to the *Environmental Protection Act* that will promote the development of a green economy.[xv] Switzerland's *Green Economy Action Plan* was adopted in March 2013.

*Sweden* – The country has the following objective: "Sweden is striving to ensure that the next generation can take over a society where the major environmental problems have been solved." [xvi] This "generational goal" involves 16 government-sanctioned environmental quality objectives (EQOs) to be achieved by 2020. They address reduced climate impact, clean air, a non-toxic environment, a protective ozone layer, water quality, marine environments, wetlands, sustainable forests, agriculture and others. At present, Sweden has the highest percentage of renewable energy in the EU (over 47 per cent). By 2020, at least half of the country's energy should be renewable. Sweden will allocate approximately SEK 22 billion from 2013-2016 to environmental measures.

*United Kingdom* – The Government published a strategy in 2011 outlining the approach to achieving a greener economy including international action, investment in infrastructure, regulation, voluntary agreements, fees and related measures, innovation, building the right skills, public procurement, provision of information, and others.[xvii] The strategy is unique in that it is based on a partnership between government and business. It references the findings of the Stern Review, which reported the global costs of climate change could be between 5% and 20% of GDP per annum if there is failure to act, far outweighing the costs of effective international action, estimated at around 1% of GDP in 2050. The United Kingdom issued a 2011 report on skills for the green economy.[xviii] It committed support for "green" sector councils, career information, teaching skills in the educational sector, promoting science skills, funding apprenticeship positions and others.

*United States*

On June 25, 2013, U.S. President Obama announced a national climate action plan that includes new pollution standards for both new and existing power plants.[xix] His speech highlighted activities already underway at the State and municipal level, as more than 25 have set energy efficiency targets, and more than 35 have set renewable energy targets. Further, over 1,000 mayors in the United States have signed agreements to cut carbon pollution. He mentioned that when measures have been enacted to protect environmental health in the past, such as reducing CFCs or leaded fuels for vehicles, industry leveraged science, research and development to develop new alternatives. He added that more than 500 businesses have signed a Climate Declaration,[xx] calling action on climate change "one of the great economic opportunities of the 21st century."

**Selected companies signing Climate Declaration in United States**


Source: Ceres, November 2013.

*California* - California is known for the environmental measures and legislation. In 2010, the State launched a survey to better understand labour market opportunities.[xxi] It considered categories such as renewable energy, recycling, energy efficiency, education, compliance and awareness, and sustainable manufacturing. It found close to 433,000 individuals performed green work at least part time, and more than 263,000 spend 50 per cent or more of their working hours in green activities. There were jobs in urban and rural areas, with notable green employment in manufacturing and utilities.

*Canada*

In Canada, the government is working to curtail greenhouse gas (GHG) emissions by introducing regulations on a sector basis, the first being coal-fired power plants. Provincial governments and industry are monitoring these developments to understand their impact. In July 2013, a progress report on a Canadian Energy Strategy was released by the Council of the Federation. Developed in collaboration with provinces, it states values and principles with a commitment to a final report in summer 2014.[xxii] Notable activity is happening at the provincial level, with selected highlights described here.

*British Columbia* – British Columbia is viewed as proactive on green economy issues. A 2010 study found that GDP from the province's "green" sectors could grow from $15.3 billion in 2008 to between $20.1 billion and $27.4 billion in 2020, representing between 10.8 per cent and 14.1 per cent of total provincial GDP.[xxiii] British Columbia's green economy was responsible for nearly

166,000 full-time equivalent (FTE) jobs in 2008 (117,000 direct and 49,000 indirect), equivalent to 7.2 per cent of total provincial employment. It suggested that, in terms of green jobs, a labour shortage poses the greatest threat to potential growth. Turning to the province's clean technology sector, a KPMG report identified 202 cleantech organizations the province in 2011, with total employees of 7,200 in 2010, an average salary of $72,000, and estimated total revenues forecasted at that time to be $2.5 billion by 2011.[xxiv]

*Manitoba* – Manitoba is pursuing green objectives through legislation and strategy development. Public consultations began in 2012 to seek input on the *Green Prosperity Act* to replace *The Sustainable Development Act*.[xxv] Additionally, *Tomorrow Now – Manitoba's Green Plan*, identifies numerous opportunity areas including a green R&D tax credit, investing in the green collar economy, an energy jobs fund, leading clean water technology, being a national leader in energy efficiency, green community economic development, and others.

*Newfoundland and Labrador* –The province is looking to projects such as the Lower Churchill development to substantially lower greenhouse gas emissions at home and further afield.[xxvi] Research initiated by the Province reported that, the green economy was estimated to employ approximately 10,300 people in 1,100 private and public sector organizations in 2010.[xxvii] The nine sectors that comprise the province's green economy include sustainable resource management, green energy supply, green buildings, green transportation, environmental protection, waste management and recycling, sustainable tourism, green knowledge and support, energy efficiency and conservation.

**The Business and Economic Case for Green**

The National Round Table on Environment and the Economy (NRT) completed economic modelling related to climate change prior to its closure in 2012. It found that the economic impact on Canada could reach $5 billion per year by 2020, and between $21 and $43 billion per year by 2050. It is no longer solely the environmentalists who advise that action is needed. Some of the leading think-tanks, banks and businesses are making bold statements about the need to pursue green growth. The following are selected examples.

**Recent Quotes on the Business and Economic Case for Green**

"…Environmental initiatives and economic growth are not alternatives, but rather increasingly can complement one another." – TD Economics, 2013.

"So we need growth, but we also need green growth that respects environmental sustainability. Good ecology is good economics." – Christine Lagarde, Managing Director, International Monetary Fund (IMF), February 2013.

"Seventy percent of organizations say sustainability has a permanent place on the management agenda, and almost none say they plan to reduce their commitments… Resource-intensive industries — energy and utilities, consumer products, commodities, chemicals and automobiles — are leading the way." – MIT Sloan and Boston Consulting Group, Winter 2012.

## 11. Appendix 3 - Programs and Initiatives by Focus Area

This section provides additional detail on Programs and Initiatives, organized by Focus Area, in support of the continued greening of Nova Scotia's economy.

## Focus Area #1: Promote the value of regulatory certainty for innovation and cost predictability.

***Advance strategic long-term regulation and legislation that ensures a stable, known environment conducive to long-term planning and investment by business.***

**Energy**

Energy regulation has important implications for the economy in Nova Scotia. Nova Scotia is moving towards a different atmosphere for energy production, including drivers such as renewable electricity targets, and incentive-based programs such as the Community-Based Feed-in Tariff (COMFIT). There are many opportunities for innovation in the renewable energy sector, and Nova Scotia has created a supportive environment to take advantage of those opportunities. Well-designed regulation not only creates certainty, but can drive investment, innovation and employment.

- *Renewable Electricity Plan* - Makes the electricity system more diversified, thus more stable as well as less damaging to climate and environment.
- Community Feed-in Tariff (COMFIT) - Opens up the electricity marketplace for renewable energy generation by community-based groups to keep wealth in the community and support sustainable energy ventures by municipalities and others.
- Independent Power Producers (IPP) - Provides an arms-length procurement process to grow the renewable energy sector.
- *Nova Scotia Marine Renewable Energy Strategy* - Provides a foundation for tidal energy development , coordinated research and regulatory approvals, and information sharing.

**Environmental**

Environmental regulation has historically been required to deter from unsustainable use, and the demise and collapse of ecosystems. Nova Scotia is moving away from traditional resource use requirements to acknowledge the scientific evidence organizations are now capable of collecting and measuring. Environmental regulation helps in resource stewardship, but also offsets costs related to mitigating problems and reduces risk. This is reflected in the following regulations.

- Greenhouse Gas (GHG) Emissions Regulations
- Protected areas - Nova Scotia has now announced a goal to protect 13% of provincial land.
- Solid waste diversion - Nova Scotia's RRFB Nova Scotia (Resource Recovery Fund Board) is internationally known for its policy and systems to divert 50% of solid waste, based on regulation established in 1995. As previously noted, a recent study of RRFB Nova Scotia's Beverage Container Deposit-Refund System showed significant economic impacts in terms of employment, income, contribution to GDP and taxes.

**Natural Resources**

Historically, natural resources have been considered for extraction and use in cyclical lifecycles. Today, an understanding of holistic interdependencies of biodiversity and the limits of resources such as forests have encouraged some to take a cautious approach, creating opportunities for future innovations in resource efficiencies. Regulations and policies can support resource productivity, which is more widely recognized in terms of the sustainability of traditional industries from both an environmental and economic point of view.

- Restricted whole-tree harvesting – The Department of Natural Resources has restricted whole-tree harvesting to support quicker regrowth in clear-cut areas.
- Reduced amounts of clearcutting in Nova Scotia to no more than 50% of the area harvested by the clearcut method by 2016.
- The Province committed to explore a community working forest concept for Crown lands in the Natural Resources Strategy.
- The Province is progressing toward the commitment of implementing an efficient, cost effective method to track harvests

## Focus Area #2: Develop the clean technology sector.

### *Create opportunities for Nova Scotia clean technology companies to grow locally and internationally.*

Nova Scotia has invested in local companies that are working to bring to market products and services that continue to foster the province as a world leader in innovative technologies. It has invested to ensure the projects are as strong and achievable as possible to bring forward, and provide many levels of help to move projects forward. The Province has also set out targets that clearly set limits and identify the sustainability of resources. It works closely with other government counterparts to ensure that it is reducing any administrative burdens on companies or organizations looking to move their projects forward. With this in mind, the following initiatives that are currently applicable to cleantech efforts in Nova Scotia have been highlighted.

- **Clean Technology Fund -** Innovacorp invests in early-stage clean technology companies in Nova Scotia that have a high growth potential and attractive risk-return prospects.
- **Early Stage Commercialization Fund** – The Innovacorp Early Stage Commercialization Fund (ESCF) is a competitive program that provides funding support to help university and college researchers commercialize their research results. The ESCF is a key mechanism for supporting entrepreneurial activity among higher education faculty and students as well as increased linkages between the academic and business sectors.
- **Productivity and Innovation Voucher Program** - The provincial Productivity and Innovation Voucher program is a proven mechanism for stimulating working linkages between Nova Scotia small to medium-sized enterprises (SMEs) and the university/college community system. Since its inception in 2008, the program has awarded over 250 vouchers, which are essentially credit notes that provide companies with the opportunity to access the academic expertise and infrastructure they need to help grow their business.

- **Innovacorp i-3 Competition -** The purpose of Innovacorp's i-3 Technology Start-Up Competition is to find and support high potential early-stage Nova Scotia knowledge-based companies, and encourage entrepreneurial activity across the province. This year the competition includes a separate prize for start-ups in the clean technology sector.
- ***Renewable Electricity Plan* -** Nova Scotia's Renewable Electricity Plan is making the province greener and cleaner. The plan and regulations lay out a clear legal requirement: 25 per cent renewable electricity supply by 2015, and 40 per cent renewable electricity supply by 2020, using a combination of sources such as hydro, wind, biomass, solar and tidal.
- ***Nova Scotia Marine Renewable Energy Strategy*** - Marine Renewable Energy (MRE) has the potential to create a whole new energy sector in Nova Scotia - one that contributes to Nova Scotia's energy needs, reduces its greenhouse gas (GHG) emissions, and because this is an emerging global sector, provides economic opportunities and jobs for projects in Nova Scotia and around the world. Local firms focused on clean technology and renewable energy have the opportunity to participate in the growth of this emerging sector.
- **Fiscal tools, Scientific Research and Experimental Development (SR&ED) tax incentive program, other –** Various fiscal tools can be used to further development of sectors such as clean technology. The goal is not to subsidize, rather to incentivize growth. An example is the federal SR&ED tax incentive. Administered by the Canada Revenue Agency, it is intended to encourage Canadian businesses to conduct research and development (R&D) in Canada. It is the largest single source of federal government support for industrial R&D.
- **RRFB Nova Scotia's Research and Development financing and Student Research Grants** - RRFB Nova Scotia offers financing for Research and Development projects related to solid waste diversion, in order to encourage the development of innovative products and/or process improvements. RRFB Nova Scotia provides Student Research Grants for research in solid waste diversion. Leveraging the knowledge and capacity of universities, the program is intended to support student research projects that will provide a commercial benefit to businesses and municipalities, and/or result in the increase of diversion of materials from disposal. Although the funding targets students, university faculty and businesses can apply for student research grants and select students after the project scope is approved.

## Focus Area #3: Promote energy and resource efficiency as enablers for economic growth.

### *Maximize the benefits of energy and resource efficiency to reduce consumption while enhancing productivity and business competitiveness.*

The Province has a number of programs and initiatives to support greater efficiency and productivity. Some are specifically directed towards "green" areas, while others are accessible to businesses in a wide variety of sectors.

- **Productivity Investment Program** - This program is designed to encourage businesses to become more productive, innovative and globally competitive, and it includes two incentives: the Capital Investment Incentive (CII) and the Workplace Innovation and Productivity Skills Incentive (WIPSI). The CII program contributes towards the cost of technologically-advanced machinery, clean technology, equipment, software and hardware and it can help support the

implementation of more efficient, cleaner technologies. The WIPSI program encourages investment in skills development and certification and is designed to help companies adapt to new technology and innovative processes, improve productivity and strengthen international competitiveness. WIPSI is very complementary to programs offered by Efficiency Nova Scotia Corporation, including their On-Site Energy Manager program and their Energy Management Information System (EMIS) initiative.

- ***Renewable Electricity Plan*** – Renewable energy is environmentally efficient in that it uses little or no non-renewable energy. Nova Scotia's Renewable Electricity Plan provides regulatory certainty in its requirements, specifically 25 per cent renewable electricity supply by 2015, and 40 per cent by 2020. The plan invites the use of a diversity of sources, for example hydro, wind, biomass, tidal, and other sources such as geothermal, which is more efficient over the long run. The potential benefits include reduced emissions and greater price stability. At its launch, the plan was expected to generate roughly $1.5 billion in investment and 5,000 to 7,500 person-years of employment. [xxviii]

- ***The Path We Share: A Natural Resources Strategy for Nova Scotia 2011 – 2020*** - Nova Scotia's natural resources strategy will improve resource efficiency and sustainable practices in the province while creating jobs. The strategy will be a guide for improved management of Nova Scotia's biodiversity, and of forests, geological resources and provincial parks. A 24-month review of the strategy implementation was released in August 2013.

- **RRFB Nova Scotia**– The mission statement of RRFB Nova Scotia is to work with Nova Scotians to improve the environment, economy and quality of life by reducing, reusing, recycling and recovering resources. Under its mandate, it funds municipal waste diversion programs, operates a deposit and refund system for beverage containers, develops and implements voluntary industry stewardship agreements, develops education and awareness programs, and promotes the development of value-added manufacturing. The “reduce, reuse, recycle” approach makes a significant contribution towards more efficient use of resources.

- **Efficiency Nova Scotia** - Efficiency Nova Scotia (ENS) is an independent non-profit organization created to ensure a customer-focused, innovative and accountable approach to energy efficiency. With regulatory oversight by the Nova Scotia Utility and Review Board (UARB), ENS manages the delivery of electricity-efficiency as well as efficiency and conservation programs other than electricity. A variety of services are offered by ENS, including education and technical assistance, incentives on energy efficient products, and financial incentives for energy efficient upgrades. Efficiency reduces costs overall, generates fewer emissions, and helps local businesses through new investment. In 2012, investments in energy efficiency saved enough electricity to power 16,000 homes. These energy savings were above what was anticipated, beating targets by 28 per cent while staying on budget. The organization saw its 100,000$^{th}$ program participant in 2012, and 96 per cent of customers said they would recommend ENS.

## Focus Area #4: Accelerate the greening of companies, products and services.

### *Support businesses in capitalizing upon market opportunities while improving their environmental performance.*

The Province has focused programs available to support activities such as accessing supply chains, capitalizing on export opportunities, and others. While these programs are not exclusive to "green" businesses or activities, they can certainly be used by companies in a variety of sectors in pursuing such opportunities.

- **Productivity and Innovation Voucher Program** – The Voucher Program provides small and medium-sized enterprises (SMEs) with vouchers to acquire the direct assistance from Nova Scotia universities and colleges that is needed to help make their business more innovative and productive. The two tiers of vouchers available are Tier 1, provided to eligible SMEs that have not previously been awarded a voucher to a maximum of $15,000, and Tier 2, designed to help previous voucher recipients build upon progress initiated and previously supported to a maximum of $25,000. While the program does not focus on specific sectors, it has been awarded to a number of companies in clean technology and other sustainably-focused areas.

  The Province has a number of programs to support international trade, depending on export-readiness and market focus of the business. Businesses may find these programs relevant when greening their supply chain, exporting clean technologies, or meeting international market requirements.

- **Global Business Accelerator Program (GBAP) -** The Global Business Accelerator Program helps small and medium-sized businesses increase their global competitiveness by expanding into new international markets and outside the Maritimes. GBAP provides financial assistance to Nova Scotia companies who want to work with a business accelerator to help them compete and grow in the global marketplace.
- **Go Ahead Program (GAP)** - This program is designed for businesses interested in growing their export potential. The program helps businesses follow up on leads and pursue export opportunities outside the Maritime Provinces.
- **ExportAbility Program (EAP)** - This program helps businesses gain the skills they need to be export savvy. Funding is available to support continuing professional development in the area of international trade.
- **Service Export Program (SEP)** - If a business is looking for export opportunities in the business, educational or professional services sector, this program can help. Funding can support in-market meetings, and the development of proposals, presentations, and collateral materials specific to this sector.
- **Export Prospector Program (EPP)** – If a business is seeking new market opportunities, this program is intended to help companies discover new business opportunities and find qualified leads in markets outside of Nova Scotia.

As previously mentioned, government can play a leadership role in greening supply chains through its priorities for procurement, as described below.

- **Sustainable Procurement Policy** - The Province is working towards sustainable procurement of all of its goods, services and construction. Sustainable procurement looks beyond the lowest cost to consider the economic, environmental and social impact of our purchases to achieve the overall best value for government. The Province of Nova Scotia's Sustainable Procurement

Policy (2009) grew out of a commitment in the *Environmental Goals and Sustainable Prosperity Act* (EGSPA). Government is demonstrating leadership in this case by working with vendors and embedding green practices throughout a substantial supply chain.

Other selected programs and initiatives are as follows.

- **Developing, Training and Implementing Organic Standard Operating Procedures on Farms (Aquaculture)** - The Department of Economic and Rural Development and Tourism and the Aquaculture Association of Nova Scotia partnered on a project to improve traceability records and provide tools required for conversion to organic operations.
- **Select Nova Scotia -** Select Nova Scotia is a provincial marketing campaign aimed at promoting locally grown and produced food. The Select Nova Scotia logo was developed to help consumers identify local produce and select it for purchase. To help promote awareness, increase consumer knowledge and encourage consumption of Nova Scotia agri-food products, a Minister's Advisory Committee on Buy Local has been created to review buy-local efforts and coordinate initiatives across the province.
- **Pollution Prevention Program** - The Pollution Prevention group within Nova Scotia Environment addresses issues that impact both the environment and economy. As their website states, "Pollution affects everyone in Nova Scotia by contaminating air, land and water. It can affect human health and the health of ecosystems. For business, pollution also has an economic impact by increasing costs and reducing competitiveness."[xxix]
- **Workplace Innovation and Productivity Skills Incentive** – The WIPSI program encourages investment in skills development and certification and is designed to help companies adapt to new technology and innovative processes, improve productivity and strengthen international competitiveness.
- **Workplace Education Initiative** - The Workplace Education Initiative promotes learning at work and supports the development of workplace skills. Funding and supports are available to help business representatives assess the learning needs within the organization, recommend education programs and help them apply for funding.

## 12. Appendix 4 – List of Acronyms

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| BCDRS | Beverage Container Deposit-Refund System (RRFB) |
| CII | Capital Investment Incentive |
| COMFIT | Community-based Feed-in Tariff |
| DSM | Demand-side Management |
| EGSPA | *Environmental Goals and Sustainable Prosperity Act* |
| ENS | Efficiency Nova Scotia |
| ESCF | Early Stage Commercialization Fund |
| FTE | Full-Time Equivalent (employment context) |
| GDP | Gross Domestic Product |
| GHG | Greenhouse Gas |
| IPP | Independent Power Producer |
| MASH | Municipalities, academic institutions, schools and hospitals |
| MW | Megawatt |
| NAICS | North American Industry Classification System Canada |
| NEGECP | New England Governors and Eastern Canadian Premiers |
| NOx | Nitrogen oxides |
| NSCC | Nova Scotia Community College |
| P&I Voucher | Productivity and Innovation Voucher Program |
| PIP | Productivity Investment Program |
| R&D | Research and development |
| RRFB | Resource Recovery Fund Board |
| SDTC | Sustainable Development Technologies Canada (federal) |
| SME | Small to medium-sized enterprise |
| SOx | Sulphur oxides |
| SR&ED | Scientific Research and Experimental Development (federal) |
| UNEP | United Nations Environment Programme |
| WEI | Workplace Education Initiative |
| WIPSI | Workplace Innovation and Productivity Skills Incentive |
| WRMI | Waste Resource Management International |
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