Nova Scotia Department of Energy

Annual Accountability Report
For the Fiscal Year 2013-2014

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Accountability Statement

The Accountability Report of the Department of Energy for the year ended March 31, 2014 is prepared pursuant to the Finance Act and government policies and guidelines. These authorities require the reporting of outcomes against the Department of Energy Statement of Mandate for the fiscal year just ended. The reporting of the Department of Energy outcomes necessarily includes estimates, judgments and opinions by the Department of Energy management.

We acknowledge that this Accountability Report is the responsibility of Department of Energy management. The report is, to the extent possible, a complete and accurate representation of outcomes relative to the goals and priorities set out in the Department of Energy 2013-2014 Statement of Mandate.

Andrew Younger
Minister

Murray Coolican
Deputy Minister

Message from the Minister

The Department of Energy is enjoying a period of growth, transformation and great potential. We are developing exciting new energy opportunities, while also reviewing and improving our existing programs. This has the entire department optimistic about the possibilities that lay ahead.

Let's start with our offshore oil and gas developments – an area that is causing a lot of excitement across Nova Scotia.

We have two of the world's biggest oil and gas companies, BP and Shell, combining to invest $2 billion into offshore development in our province. Shell began its exploration program with seismic work last summer and is currently reviewing the seismic data it collected.

Shell plans to drill as many as seven wells on its deep water exploration licenses and they will begin drilling their first well as early as 2015.

BP's $1 billion exploration started this spring – a two year seismic program for its four deep water exploration licenses. BP will conduct a three dimensional seismic survey and will collect approximately 14,000 square kilometers of seismic data. This is one of the largest seismic programs in world.

We just saw the 2014 Call For Bids go out, making four parcels on the Scotian Slope available to potential investors. To assist bidders, we invested close to $1 million in new geoscience work and made the data available to industry for free. By providing industry with the science it needs to decide where to invest, we are helping to progress a sector that represents one of the best areas of potential economic growth in the province.

We've also announced $12-million into offshore geoscience research over the next four years. The investment will build on the Play Fairway Analysis, which provided a geological map of Nova Scotia's offshore potential.

The Department of Energy is focused on developing the renewable energy sector in Nova Scotia, too.

Just recently we signed a Memorandum of Understanding with the U.K. government that supports the collaborative efforts we are making to advance tidal research and support the development of the industry.

We announced in March that two new companies will be developing tidal projects at the Fundy Ocean Research Center for Energy (FORCE). Groups led by Black Rock Tidal Power and OpenHydro were the successful parties that won a chance to deploy their technologies in the Bay of Fundy's Minas Passage. We also announced an investment of more than $4 million to expand

the interconnection capacity to allow for up to 20MW of grid connected tidal energy from the FORCE site.

We remain committed to energy efficiency in Nova Scotia. Energy efficiency provides many benefits to the province, like lowering our household energy bills, creating jobs and cutting emissions. We revamped Efficiency Nova Scotia programming in legislation introduced last spring and the new model requires Nova Scotia Power to purchase energy efficiency when it is more cost effective compared to other electricity supply options generated from fuels such as coal and natural gas.

It is obvious that Nova Scotia is a small province with a big energy future. We are punching above our weight when it comes to energy development and our efforts are paying off. We have an abundance of natural resources that we are developing in a responsible and economical fashion. This is a sustainable approach that is leading to a bright energy future in our province.

Sincerely,

Andrew Younger
Minister of Energy

Financial Results

	2013-2014 Estimate	2013-2014 Actual Expense	2013-2014 Variance
Program & Service Area	($ thousands)	($ thousands)	($ thousands)
Gross Departmental Expenses:			
Office of the Minister and Deputy Minister	356	390	34
Administrative Services	1,417	1,381	(36)
Sustainable and Renewable Energy	1,860	6,545	4,685
Business Development and Corporate Services	2,548	2,453	(95)
Petroleum Resources	1,705	1,249	(456)
Non-Electricity Energy Efficiency	14,500	14,568	68
Canada/NS Offshore Petroleum Board	3,750	3,750	0
Total: Gross Departmental Expenses	**26,136**	**30,336**	**4,200**
Additional Information:			
Ordinary Recoveries	**1,875**	**4,465**	**2,590**
Provincial Funded Staff (FTEs)	**58.5**	**55.1**	**(3.4)**

Variance Explanation:

1. Total: Gross Departmental expenses were $4.2 million higher than estimated due to a contribution to the Fundy Ocean Research Centre for Energy (FORCE) for electrical infrastructure upgrades.
2. Ordinary Recoveries were $2.6M higher than budgeted due primarily to recovery of residual funds from the wind-up of Conserve Nova Scotia.
3. Provincial Funded staff (FTEs) were less than budgeted due primarily to temporarily vacant positions.

Measuring our Performance

The mandate of the Department of Energy is to manage and promote energy resources to achieve optimum economic, social and environmental value from the energy sector. These strategic priorities supported the development of a diverse energy supply, use of sustainable and renewable resources, and growth of local industries to generate economic benefits for the province.

The Department of Energy's strategic priorities for 2013-14 included:

- Move towards a cleaner energy economy
- Maximize the benefits of a diverse economy
- Further develop the offshore petroleum sector
- Encourage socially responsible development of Nova Scotia's energy sector
- Encourage innovative and strategic partnerships through collaboration

The Department of Energy achieved a number of successes over the past year and highlights of key initiatives are outlined below.

Efficiency Nova Scotia Restructuring

- The Department of Energy released Using Less Energy, an electricity efficiency and conservation plan, and legislation to restructure the delivery of electricity energy efficiency investments.
- The long-term plan aims to make efficiency investments more cost-effective, increases focus on implementing stronger codes and standards, explores innovative financing mechanisms, and commits to low-income programs for electric and non-electric heated homes.
- The legislation removes the efficiency charge from electricity bills and requires Nova Scotia Power Incorporated (NSPI) to purchase energy efficiency when it is more cost effective than other electricity supplies such as coal, natural gas, and wind.
- The legislation also creates a new franchise model for the delivery of electricity efficiency where the Province will license Efficiency Nova Scotia to deliver programs for a 10-year period.
- This will create more accountability as Efficiency Nova Scotia will be responsible for any cost overruns, and the Province can revoke the license if they underperform.

Marine Renewable Energy Strategy

- The Province committed to create a Feed-in Tariff (FIT) for developmental tidal.
- The limit on the impact of the Tidal FITs was to be 1-2% on electricity rates. In the fall of 2013, a formal Hearing took place at the Nova Scotia Utility and Review Board (UARB) and rates were set for two streams:
    - Test – designed for individual devices with the option to move to an array of devices; and
    - Developmental – designed for an array[1] from the start.
- Details for the FITs are as follows (measured in megawatt hours):
    - Test
        - Phase 1(single device): <= 3330 MWh $575, >3330 MWh $455, for 3 years
        - Phase 2(array): <=16560 MWh $495, >16560 MWh $375, for 15 years
    - Developmental
        - <=16560 MWh $530, >16560 MWh $420, for 18 years
    - Limiting the impact on rates to 1-2% at the above FITs would translate into 15-20 megawatt (MW) of availability.
- A Memorandum of Understanding was signed in March 2014 between the Offshore Energy Research Association of Nova Scotia (OERA), the Department of Energy and the Technology Strategy Board (TSB) of the United Kingdom to encourage research collaboration and support environmental monitoring, sensing and instrumentation technologies to contribute to the advancement of the in-stream tidal energy sector in both Canada and the United Kingdom.

Maritime Link

- On July 22, 2013, the UARB approved the $1.52 billion Maritime Link portion of the Lower Churchill project as the lowest long-term cost alternative, conditional on obtaining from Nalcor the right to access Nalcor Market-priced Energy.
- Nova Scotia Power Maritime Link (NSPML), the proponent, submitted an Energy Access Agreement (EAA) to fulfill the UARB condition.
- The Department of Energy participated in the hearing and proposed eight additional conditions to ensure that any unexpected costs would be recovered from shareholders and not ratepayers.
- On November 29, 2013, the Board determined that all conditions in the Board's July 2013 Maritime Link decision were satisfied and also adopted conditions specifically related the EAA.

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[1] An array is a multiple device deployment. A small array is made up of 2-5 turbines.

- The Maritime Link project is important for Nova Scotia as it will provide a renewable and reliable source of energy for the next 35 years and places Nova Scotia in an energy loop. It will also enable greater regional co-operation and enhance opportunities for competition in the marketplace.

Offshore Geoscience Research

- On May 5, 2014 the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) issued Call for Bids NS14-1 which is in the northeast areas of offshore Nova Scotia, including a portion of the Laurentian Subbasin. This call closes on October 30, 2014.
- $885,000 was approved for spending on geoscience research and marketing during 2013-14. Funding supported seismic reprocessing, biostratigraphy, petroleum systems modeling in the Laurentian Sub-basin in advance of the 2014 Call for Bids.
- Investments in geoscience research support future offshore Calls for Bids by incorporating geoscience insights from new research into the Play Fairway Analysis (PFA), updating estimates of the amount, defining the location of petroleum resources and describing the geological risks and opportunities.
- The Offshore Growth Strategy received approval for $12 million over the next 4 years.
- Marketing of the PFA occurred through seminars and one-on-one meetings as part of investment attraction efforts.

1. Develop a cleaner energy economy through increased use of renewable energy

Outcome: Achieve 40% renewable sources of electricity generation by 2020 through medium and large scale projects leading to greater energy security.

Annual Target(s):

- Progress towards 2020 target of 40% renewable sources of electricity generation.
- 10% from projects developed after 2001, including 5% from Independent Power Producers (IPPs)

Ultimate Target: Continue to increase the renewable energy mix, decreasing greenhouse gas (GHG) and improving air quality, and stabilize energy bills.

Measure/Rationale: Data on this measure is received from NSPI and it is based on information contained within power purchase agreements within a calendar year period. Through the continued implementation of the Renewable Electricity Plan and the Marine Renewable Energy Strategy, along with the renewable electricity regulations, the approval of viable medium and large scale renewable energy projects contribute to achieving the 2015 and 2020 Renewable Energy Standard of 25% renewable sources for electricity and 40% renewable sources for electricity respectively. Increasing the percentage of the energy mix drawn from renewable sources supports the province in becoming less dependent on fossil fuels, less vulnerable to global price pressures and to reduce air emissions.

Progress on Target	✓ 21% of NSPIs sales came from renewable supply. ✓ 11% was from projects after 2001 ✓ More than 8% of NSPI's sales came from IPPs ✓ Maritime Link project approval by UARB, project projected to provide a minimum of 10% of Nova Scotia's electricity supply (potential for 10% to 20%)
Strategic Action to Achieve this Target	✓ Implementation of the Renewable Electricity Plan ✓ Maritime Link Project approvals ✓ Electricity Review ✓ Renewable Electricity Regulations

2. Develop a cleaner energy economy through energy efficiency and conservation and sustainable transportation

Outcome: Energy savings and carbon dioxide gas (CO2) reductions through Efficiency Nova Scotia Corporation's (ENSC) non-electricity programs and the Sustainable Transportation Strategy.

Annual Target(s):

- 72,963 gigajoule (GJ) of savings in energy consumption
- 7,464 tonnes CO2 reduction

Ultimate Target: Incremental decreases in energy consumption for existing houses and CO2 emissions.

Measure/Rationale: Meeting the annual targets for GJ in energy savings results in a cleaner environment through lower energy consumption of other fuels and saves homeowners money. GJ is a metric term used for measuring energy use. The level of funding provided to ENSC has a direct impact on projected energy savings.

CO2 reductions through increased use of public transit, energy efficient vehicles, home energy efficiencies results in reduced CO2 to the environment.

Due to the ramp-up of programs over the first three years of the multi-year agreement, previous underspent annual budgets were spent in 2013-14. The 2013-14 budget as per the agreement was $14.15 million, however with additional funds remaining from previous years, $19.96 million was actually spent on non-electric programs in 2013-14, resulting in more participants (target was 10,602, actual was 14,421 participants) and exceeded targets for energy savings and CO2 reductions.

Progress on Target	✓ 14,421 participants (increase from 10,288 participants in 2012-13) ✓ 176,991 GJs in energy saved (increase from 148,780 GJs in energy savings from 2012-13) ✓ 14,667 tonnes of CO2 reductions (increase from 12,329 tonnes CO2 reduction in 2012-13)
Strategic Action to	✓ $19.96 million was spent on ENSC non-electricity efficiency programs in

Achieve this Target	2013-14. ✓ Supported the Provincial adoption of the 2011 National Energy Code for buildings ✓ Develop and implement the Sustainable Transportation Strategy
Changes to Measures	• CO2 reductions was removed as a measure as the Department of Energy does not directly impact this measure. Measure was replaced with sustainable transportation program targets.
New Measures	• Publish baseline data on sustainable transportation indicators to be tracked over time • Investment in community based initiatives through NS Moves

3. Further develop the offshore petroleum sector to maximize the benefits of a diverse energy economy

Outcome: Successful Call for Bids in the Nova Scotia offshore.

Annual Target: Additional work commitments in the offshore Call for Bids

Ultimate Target: Evergreen geoscience information resulting in a growing petroleum exploration and development sector.

Measure/Rationale: A Call for Bids is a formal announcement by the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) that a licence is available to be awarded through a competitive bidding process. The land in which the licence is available for bidding has been nominated by industry or posted by the CNSOPB. The figures represent a commitment by a successful bidder to invest a specified amount in an exploration program in Nova Scotia's offshore within a specified period of time.

This measure supports the Offshore Growth Strategy, where investments in geoscience research are being made to promote investment in Nova Scotia's offshore. Data for this measure is from the CNSOPB and is based on oil and gas companies' response to the Call for Bids process.

The CNSOPB issued a Call for Bids (NS13-1) on April 22, 2013 consisting of 6 parcels located 125km off the coast of southeastern Cape Breton. The Call for Bids closed with no bids received on the featured parcels. The parcels included shallow water, natural gas prone areas. The current focus for industry in the Nova Scotia offshore is deepwater, oil prone areas. The 2013 response is not an indication of declining interest in the Nova Scotia offshore area. The Department of Energy focused efforts to prepare for the 2014 Call for Bids which geoscience research indicates has significant oil potential.

Progress on Target	✓ Investments in geoscience research supported seismic reprocessing, biostratigraphy, petroleum systems modeling in the Laurentian Subbasin in advance of the 2014 Call for Bids. ✓ Department of Energy staff conducted seminars and one-on-one meetings to promote the research. ✓ The Province approved multi-year funding as part of the Offshore Growth Strategy, $12 million over the next four years.

	✓ Completing additional studies of Nova Scotia's complex geology provides further evidence of petroleum reserves to entice oil and gas companies to respond to a call for bids.
Strategic Action to Achieve this Target	✓ Conduct additional geoscience studies required to keep the PFA work current as new information and analysis become available. ✓ Providing industry with a complete picture of the Nova Scotia offshore geology to make the province more competitive in attracting exploration investments. ✓ Work will continue to aggressively market Nova Scotia's potential to global investors, corresponding with the CNSOPB's indications of offshore Call for Bids. ✓ Following up with companies to find out why no bids are received, as a mechanism to ensure the department knows what is required moving forward and how improvements can be made.