



Accountability Report

2018–2019

Energy & Mines



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Accountability Statement

During the 2018-2019 fiscal year, the new Department of Energy and Mines was created. This new department incorporated the former Department of Energy and the Geoscience and Mines branch from the Department of Natural Resources (now Lands and Forestry). This Accountability Report provides references to the creation of this new department and impacts on performance measures, where applicable.

The Accountability Report of the Department of Energy and Mines for the year ended March 31, 2019 is prepared pursuant to the *Finance Act* and government policies and guidelines. These authorities require the reporting of outcomes against the Department of Energy's Business Plan for the fiscal year just ended and relevant elements of the 2018-2019 Business Plan for the Department of Natural Resources in relation to geoscience and mining activities. The reporting of the Department of Energy and Mines' outcomes necessarily includes estimates, judgments and opinions by Department of Energy and Mines management, where applicable.

We acknowledge that this Accountability Report is the responsibility of Department of Energy and Mines 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 2018-2019 Business Plan and, where applicable, elements of the 2018-2019 Business Plan for the Department of Natural Resources as it relates to geoscience and mining activities.

original signed by

Hon. Derek Mombourquette
Minister

original signed by

Simon d'Entremont
Deputy Minister

Message from the Minister

It has been a year of change for the Department of Energy and Mines. Over the past 12 months, the former Department of Energy merged with the Geosciences and Mines Branch of the former Department of Natural Resources. Bringing these two groups together puts all our province's experts in subsurface resources together in one department. This will give us the chance to explore collaborative opportunities to better promote the province's energy and mineral assets for all Nova Scotians.

At the same time, we know we must continue to manage our resources in a responsible and sustainable way. Much of our work is directed at fighting climate change by reducing emissions. In this respect, we are North American leaders. Greenhouse gas emissions from our province are down 38 percent since 2005. Soon we will have more than 40 percent of our electricity generated by renewable sources, and we're not stopping here. Nova Scotia has set one of the most aggressive climate change targets in the country – reducing emissions by 45 to 50 percent below 2005 levels by 2030.

In 2018 - 2019, we significantly invested in efficiency and solar electricity programs to reduce emissions and help families save money on their energy bills. We welcomed new developers to our world-class tidal industry supply chain. We supported community efforts to develop clean energy and sustainable transportation. We did all of this because these investments help move Nova Scotia towards our cleaner energy future, and they also create green jobs in communities across the province.

Our work in mineral and petroleum resources is also focused on becoming more efficient and minimizing environmental impacts. Through the Mineral Resources Development Fund, we're supporting researchers as they gather geological information that could narrow the size of mineral deposit targets. We also started phase two of our \$12 million Offshore Growth Strategy which uses leading edge genome technology. This could help us de-risk oil and natural gas exploration in a way that could attract new international investment to our shores.

This report provides more detail on these, and many other initiatives that helped us deliver on our 2018 - 2019 commitments. I want to thank dedicated and professional staff at the Department of Energy and Mines for their efforts this past year, and I invite you to read more about the activities of the Department of Energy and Mines.

Sincerely,

original signed by

Hon. Derek Mombourquette
Minister

Financial Results

	2018-2019 Estimate	2018-2019 Actual	2018-2019 Variance
Program & Service Area	(\$ thousands)	(\$ thousands)	(\$ thousands)
Gross Departmental Expenses:			
Office of the Minister and Deputy Minister	460	364	(96)
Administrative Services	1,368	1,177	(191)
Sustainable and Renewable Energy	2,445	2,567	122
Business Development & Corporate Services	3,234	3,066	(168)
Geoscience and Mines	-	157	157
Petroleum Resources	1,855	2,065	210
Canada – NS Offshore Petroleum Board	4,305	4,305	-
Clean Growth and Climate Change	17,795	28,311	10,516
Total: Gross Departmental Expenses	31,462	42,012	10,550
Additional Information:			
Ordinary Recoveries	17,760	12,233	5,527
Provincial Funded Staff (FTEs)	58.2	81.7	23.5

Variance Explanation:

1. Gross Departmental Expenses (Clean Growth & Climate Change) was \$10.5 million higher than estimated, primarily due to \$14.3 million in added funding for HomeWarming & Affordable Renters programs; less \$3.6 million in reduced Low Carbon Economy Fund expenses (and related recoveries).
2. Ordinary Recoveries was \$5.5 million lower than estimated, primarily due to reduced recoverable expenses from the Government of Canada's Low Carbon Economy Fund.
3. Provincial Funded staff (FTEs) variance was due to transfer of Geoscience and Mines operational control from the Department of Lands and Forestry (formerly the Department of Natural Resources) in July 2018. Most 2018 - 2019 costs were recovered from Lands and Forestry, with budget transfer in 2019 - 2020.

Measuring Our Performance

The mandate of the Department of Energy and Mines is to manage and promote energy and mineral resources to achieve optimum economic, social, and environmental value from these sectors. On July 5, 2018, the Geoscience and Mines branch moved from the Department of Natural Resources (now Lands and Forestry) to the new Department of Energy and Mines. This merger brought the Province's experts in sub-surface resources together into one department. This new mandate provides opportunities to collaborate to better promote the province's energy and mineral resources.

The 2017 Ministerial Mandate Letters (the portions pertaining to Geoscience and Mines come from the Natural Resources Ministerial Mandate Letter) outline that achievement of the mandate is to include the following strategic actions:

- Ensure electricity rate stability and reduce energy costs for low-income individuals and families
- Continue work on tidal and renewable energy
- Reduce greenhouse gas emissions
- Continue to develop the offshore growth strategy
- Implement the new Mineral Resources Development Fund

In addition to these strategic actions, the following Platform Commitment was made:

- Continue with enhancements to the non-electric, home energy efficiency program

The strategic actions have also guided the work of the Department's other core functions in 2018-2019:

- Operate the Energy Training Program
- Oversee the Pengrowth-Nova Scotia Energy Scholarship Program
- Deliver sustainable transportation programming
- Work with partners on the joint management of offshore petroleum resources
- Administer onshore petroleum rights
- Support emerging opportunities relating to liquified natural gas
- Continue to support industry and supply chain development
- Manage oil and gas royalties
- Establish an effective regulatory regime for mineral resource development

Highlights of the Department's accomplishments are included in the following sections, under the heading of the Ministerial mandate or core function to which they are most directly aligned.

2018-2019 Departmental Performance on Ministerial Mandate

The 2017/2018 Business Plans for Energy and Mines outlined activities, initiatives, and measures relating to its mandate. The following is an overview of our progress in the past year.

Ensured electricity rate stability and reduced energy costs for low-income individuals and families

Ensuring Nova Scotians benefit from price stability, innovation, accountability, and

competition is the basis of the Province's 'Our Electricity Future: Nova Scotia's Electricity Plan 2015-2040.' Nova Scotia continues to remain on track to meet its 40% renewable energy target by 2020, thanks to contributions from community-scale projects approved under the Community Feed-in Tariff (COMFIT) Program, Independent Power Producers, and imported hydroelectricity from Newfoundland and Labrador through the Maritime Link project. In addition, the Department continues to work with Nova Scotia Power and Nova Scotians to ensure technology development and innovation are supported while keeping power rates predictable and stable through the 2017-2019 Rate Stability Plan.

Continued to work on tidal and renewable energy

Tidal Energy

The Department supports activities that enable environmentally sustainable marine energy projects and the development of world-class expertise in tidal energy here in Nova Scotia. The Province continues to focus on research, development, and regulatory initiatives that will enable deployments that benefit Nova Scotians.

In 2018-2019, the Department issued a series of approvals for technology demonstration projects in the Bay of Fundy under the *Marine Renewable-energy Act*:

- Approved Big Moon Power to test a 100-kilowatt prototype that is not connected to the grid for a 14-month period in the Minas Passage;
- Approved an increase in the size of Big Moon Power's project up to five megawatts for a five-year period at 35 cents per kilowatt hour;
- Approved Black Rock Tidal Power (now Sustainable Marine Energy Canada) to test a 280-kilowatt tidal energy platform in Grand Passage for a six-month period;
- Granted a permit to the Fundy Ocean Research Center for Energy (FORCE) for the subsea cables it has in place at its demonstration site in the Minas Passage; and
- Approved Cape Sharp Tidal Venture for a four-megawatt installation at the FORCE site (this licence was revoked by the Minister for non-compliance in April 2019).

The Province provided ~\$560,000 in funding the Offshore Energy Research Association (OERA) to complete a series of research initiatives, including:

- A tidal energy benefits analysis;
- A tidal energy supply chain assessment;
- Electrification of boats ('eBoat') study;
- The Sensor Testing Research for Environmental Effects Monitoring (STREEM) research program;
- Development of OERA's Tidal Energy Research Web Portal;
- The InWATER project; and
- Pathway to Environmental Effects Monitoring Regulatory Certainty project.

In addition, the Department also supported local marine energy supply and services companies to identify and pursue global market opportunities.

Solar Energy

In 2018-2019, the Department continued to support the development of solar energy initiatives in the province. The Department launched the second round of the Solar Electricity for Community Buildings Program. The program is open to Mi'kmaw bands, not-for-profit and charitable organizations, municipalities and municipally owned organizations, and universities and community colleges. Projects can be up to 75 kilowatts and the price per kilowatt hour for the electricity produced is proposed by the applicant. The Program, run by the Clean Foundation, awarded 1,614 kilowatts of solar electricity to 27 applicants in 2018. The Program will be offered a third and final year in 2019-2020 with the Province continuing to provide support to participants.

The Department also oversees the implementation of Efficiency Nova Scotia's SolarHomes program, growing local jobs while saving homeowners money and reducing environmental impacts. Over 1,000 households have enrolled in the program's first year.

In addition to direct solar programming, the Department also supports the development of the solar industry through policy measures, training programming and industry associations. The first Nova Scotia Solar Summit was well received, and the industry continues its steady growth.

Reduced greenhouse gas emissions

The Province has made a long-standing commitment to achieve greenhouse gas emission reductions. This includes responsibility for implementing programming as part of the Province's efforts to reduce greenhouse gas emissions. The Department also works collaboratively with the Department of Environment and the Government of Canada on the implementation of Nova Scotia's Cap-and-Trade Program. This is consistent with obligations made under the Pan-Canadian Framework on Clean Growth and Climate Change as well as the Canada-Nova Scotia equivalency agreement regarding greenhouse gas emissions from electricity producers.

To support greenhouse gas emission reductions, the Department launched the Low Carbon Communities Grant Program in September 2018 – a program designed to help municipalities, Mi'kmaw communities, and not-for-profit organizations create new ideas for clean energy in their communities. The Program invested more than \$562,000 in transit, solar, and other low carbon projects led by First Nations, municipalities, and non-profit organizations across the province in 2018-2019, leveraging more than \$790,000 in additional funding.

The Department of Energy and Mines has also continued to develop policies and programs that support the transition to electric vehicles, including personal and commercial vehicles, public transit fleets, and marine vehicles, and the deployment of other clean transportation fuels such as natural gas and hydrogen.

Continued to develop the offshore growth strategy

The Offshore Growth Strategy began as an initiative to generate new insight into our

offshore petroleum geology, to attract new investment into Nova Scotia, and to ready our offshore regulatory regime and supply chain to be prepared for increased offshore oil and gas activity.

In March 2018, the Province announced a \$11.8 million investment in Phase Two of the Offshore Growth Strategy, which consists of additional geoscience research to be led by the Offshore Energy Research Association and the Department in collaboration with the Geological Survey of Canada Atlantic, Natural Resources Canada, Genome Atlantic, Saint Mary's University, and the University of Calgary. Specific research priorities underway as part of Phase Two of the Strategy are:

- Collecting core samples and high-resolution mapping information of the ocean bottom and sub-bottom;
- Working with Morocco to analyze seismic images and data to understand conditions from 200 million years ago when Morocco and Nova Scotia separated;
- Updating the Play Fairway Analysis with new information from offshore drilling results; and
- Building new areas of research and strengthening existing research capacity.

Implemented the new Mineral Resources Development Fund

The new Mineral Resources Development Fund is an effective tool for government to encourage investment, development, academic research and growth in the province's mineral sector.

The Mineral Resources Development Fund was launched on April 1, 2018 to replace the previous Mineral Incentive Program. The Fund is designed to assist prospectors, exploration companies, and academic researchers to explore and better understand Nova Scotia's geology and mineral deposits. The Fund will attract new investment to the sector through Fund-supported promotional efforts, provide professional development opportunities, and contribute to economic growth, especially in rural Nova Scotia.

In 2018, the Fund issued 30 grants totaling \$818,750. The grants included:

- Three Shared Funding Exploration Grants in Bass River, the Cape Breton Highlands, and Whiteburn areas;
- 19 Prospecting and Exploration Grants in the communities of Barclay, Beaver Dam and Beaver Dam East, Brazil Lake, the Cobequid Highlands, Dominique, Ecum Secum East, Inglisville and Inglisville Road, Meadowvale, Minister Brook, New Britain, New Ross, Oceanview, and Tennycape;
- A Major Project Grant to the Mining Association of Nova Scotia for an airborne geophysical needs assessment of Nova Scotia;
- Two Education, Outreach, and Engagement Grants to the Mining Association of Nova Scotia to develop professional development events for the mineral industry;
- An Innovation Grant to Saint Mary's University focused on new strategies for reclaiming the province's historic, abandoned and contaminated gold mine sites; and

- Four Research Grants supporting geoscience research by professors and graduate students at Nova Scotia's universities.

Continued with enhancements to the non-electric, home energy efficiency program

The Department promotes energy efficiency and conservation programs for non-electrically heated homes (i.e., those heated by furnace oil, wood, propane, or natural gas) primarily by funding Efficiency Nova Scotia. In 2018-2019, the HomeWarming program, designed specifically for low-income Nova Scotians, continued.

Efficiency Nova Scotia also continued pilot programs for First Nations Homes and Low-Income Renters & Non-Profits. Efficiency Nova Scotia also provides ratepayer funded energy efficiency programming for electrically heated homes.

In addition to program funding, the Department also supports the development of energy efficient policies, regulations, and building standards.

In 2018-2019, the Department launched a series of programs to assist Nova Scotians in managing their electricity use:

- Home Energy Assessment Program – tailored home energy assessments with recommendations for upgrades. Rebates available for completing upgrades.
- Green Heat Program – provides homeowners a simplified way to get heating system rebates.
- Efficient Products Installation Program – provides installed energy efficient products (such as LED lights, water-saving showerheads, etc.) to homeowners and renters at no cost.

In addition, smart thermostats were added to the Energy Efficient Product Rebate Program, which offers homeowners an instant in-store rebate on energy-saving devices. The instant rebate for smart thermostats is \$75 and the device can save the average oil-heated home up to \$150 each year. Over the lifetime of these products, Nova Scotians could save up to \$115 million on fuel costs and reduce carbon dioxide emissions by more than 300,000 tonnes.

2018-2019 Departmental Performance on Core Functions

Central Departmental functions advanced in 2018-2019 that supported its mandate, strategic themes, and overall government priorities are detailed below. They include strengthening the Department's relationships with the Mi'kmaq of Nova Scotia and continuing to support Mi'kmaq participation in the energy and mining sectors. The Department remains the only department within the provincial government, outside of the Office of Aboriginal Affairs, to support a full-time position for Aboriginal consultation. Also, the Department funds a Mi'kmaq Energy Advisor working within the Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO).

Operated the Energy Training Program

The Department has continued to work with industry and partners to increase

opportunities and capacity within Nova Scotia's energy sector. In summer 2018, 16 post-secondary students gained work experience in the energy sector through the Energy Training Program for Students. The Program is in its 17th year of operation and has provided hands-on experience to nearly 450 young individuals in Nova Scotia.

Oversaw the Pengrowth-Nova Scotia Energy Scholarship Program

The Pengrowth-Nova Scotia Energy Scholarship Program provides scholarships to students pursuing energy-related studies at both universities and the Nova Scotia Community College. Pengrowth Energy Corporation, Pengrowth Management Limited, and the Government of Nova Scotia have together invested more than \$4.8 million to give students the opportunity to develop the skills and knowledge they need to become leaders in the energy sector. Since 2005, more than 260 scholarships have been awarded.

In 2018-2019, 16 post-secondary students and one graduate student earned scholarships through the Program:

- Eight students enrolled in university programs received a renewable scholarship of \$2,500 per year for four years;
- Eight students enrolled in trades and technology programs at the Nova Scotia Community College received a one-time scholarship of \$2,500; and
- One graduate student received the \$10,000 Energy Innovation Grant, to be awarded over a two-year period.

Delivered sustainable transportation programming

The Department continues to deliver the grant program 'Connect2' under the Province's 'Choose How You Move: Sustainable Transportation Strategy.' The Connect2 grant program supports community-driven projects that improve connectivity and help to achieve a low-carbon transportation future with increased biking, walking, rolling, shared transportation, transit, and land-use planning that is oriented to sustainable modes of transportation.

In 2018-2019, Connect2 granted more than \$628,000 to 19 community groups. This investment has leveraged more than \$1.1 million in matching funds from municipalities, not-for-profit organizations, and other provincial and federal government sources.

Interdepartmental collaboration with other departments and partners to implement other action items in the Strategy is ongoing.

Worked with partners on the joint management of offshore petroleum resources

Offshore oil and gas activity in the Canada-Nova Scotia Offshore Area is jointly managed by the provincial and federal governments. The Department of Energy and Mines works with Natural Resources Canada and the Canada-Nova Scotia Offshore Petroleum Board to ensure the exploration and development of Nova Scotia's offshore oil and gas resources are responsibly managed.

Work continued in 2018-2019 under the Frontier and Offshore Regulatory Renewal

Initiative (FORRI) and Atlantic Occupational Health and Safety Initiative to modernize existing regulations to ensure that rigorous standards for safety, environmental protection, and management of resources are maintained. This past year the Department, jointly with Natural Resources Canada and the Province of Newfoundland and Labrador, held engagement sessions with industry, certifying authorities, standard setting associations, and environmental stakeholders on proposed policy intent that will be used to draft new modern regulations.

Administered onshore petroleum rights

The Department administers onshore petroleum rights as set out in the *Petroleum Resources Act* and associated regulations as well as natural gas infrastructure development as set out in the *Gas Distribution Act*, the *Underground Storage Act*, and the *Pipeline Act* and associated regulations.

Supported emerging opportunities relating to liquified natural gas

The Department supports emerging opportunities related to liquified natural gas (LNG) export and investment in Nova Scotia. Work continues to examine the economics of additional development and exploration opportunities for natural gas prospects offshore.

Continued to support industry and supply chain development

The Department continued to identify and optimize private sector opportunities for Nova Scotian firms in the oil and gas, clean technology, renewable energy, and mining sectors. The Department gathers market intelligence and engages with project operators and developers to understand global supply chain opportunities, work with companies to build capacity for projects locally and abroad, and leverage opportunities to build relationships with potential partners.

In 2018-2019, the Department engaged global supply chain experts to help Nova Scotian companies to gain a better understanding of the opportunities being created in the evolving global marketplace and their competitive position in this dynamic industry. In addition, the Department provided companies with opportunities to showcase their supply and service capabilities when and where industry gathers at some of the most recognized trade shows in the world.

Managed oil and gas royalties

The Department is responsible for monitoring offshore energy projects to ensure appropriate economic benefits are collected from the development of offshore petroleum resources. The administration and auditing of oil and gas royalties and Crown Share Adjustment payments contributes millions of dollars directly to the Provincial treasury. The Department ensures the Province's royalty regime reflects modern best practice and strikes the right balance between attracting investment and ensuring a fair return to Nova Scotians.

In late 2018, the Sable Offshore Energy Project delivered its last natural gas to Nova Scotia. Over a 20-year period, Nova Scotia received approximately \$2.0 billion in royalties and

approximately \$3.0 billion in goods and services expenditures as a result of this project. When combined with the Deep Panuke project, the Province received roughly \$4 billion in payments over a 20-year period. In addition, major international companies have made \$2.1 billion in spending commitments in Nova Scotia since 2012.

Established an effective regulatory regime for mineral resource development

An effective mining regulatory regime supports competitiveness, efficiencies in government and industry, and economic prosperity in our province. In December 2018, the new *Mineral Resources Act* and associated Mineral Resources Regulations came into effect. The regulations modernize how exploration and mining activities are approved and operate in Nova Scotia. The new legislative framework increases transparency and accountability through better tracking and reporting, and improved data and knowledge sharing. The Act provides clarity to the industry and civil society on how to secure and maintain mineral rights in Nova Scotia and reduces unnecessary administrative burden for industry and government. The new *Mineral Resources Act* was a key deliverable from the Province's 10-year 'Natural Resources Strategy, The Path We Share' (2011).

Appendix A: Annual Report under Section 18 of the *Public Interest Disclosure of Wrongdoing Act*

The Public Interest Disclosure of Wrongdoing Act was proclaimed into law on December 20, 2011.

The Act provides for government employees to be able to come forward if they reasonably believe that a wrongdoing has been committed or is about to be committed and they are acting in good faith.

The Act also protects employees who do disclose from reprisals, by enabling them to lay a complaint of reprisal with the Labour Board.

A Wrongdoing for the purposes of the Act is:

- a) a contravention of provincial or federal laws or regulations,
- b) a misuse or gross mismanagement of public funds or assets,
- c) an act or omission that creates an imminent risk of a substantial and specific danger to the life, health or safety of persons or the environment, or
- d) directing or counselling someone to commit a wrongdoing.

The following is a summary of disclosures received by the Department of Energy and Mines in the Fiscal Year 2018-2019.

Information Required under Section 18 of the Act	Fiscal Year 2018-2019
The number of disclosures received	0
The number of findings of wrongdoing	N/A
Details of each wrongdoing	N/A
Recommendations and actions taken on each wrongdoing	N/A