Nova Scotia Department of Energy

Business Plan

2006-2007

Alison Scott
Deputy Minister

Honourable Bill Dooks
Minister

MESSAGE FROM THE MINISTER

Energy is a dominant subject in public discussion today and will be for the foreseeable future. People are trying to understand its price, how much is available, how it affects the environment and how to use it wisely. And all of these questions must be addressed in the context of fast paced, ever changing global commodity markets, with an appreciation of local opportunities and challenges.

Every jurisdiction in the world has been affected by rapidly-changing energy prices. Nova Scotia is no exception. The past business year saw consumers digging deeper for higher energy costs, but our province as a whole benefiting greatly from the increased royalties generated by our offshore natural gas production. It's clear that the changing energy market means both opportunities and challenges.

The Department of Energy's response to these opportunities and challenges is just as clear ... implement the policies and programs that will:

- help Nova Scotians adapt to the new realities of energy pricing, and
- allow Nova Scotia to gain maximum benefit from its energy resources.

This business plan continues our consistent progress toward these goals ... progress that has been demonstrated by the continuing growth in our renewable energy supplies; our success in securing long-term protection for our offshore revenues and the continuing growth of those revenues. We will build on these successes helping Nova Scotians use energy more efficiently; increasing security of supply by developing more renewable energy sources and creating new opportunities from our oil and gas resources both onshore and offshore. These objectives and others described in this plan will help Nova Scotians adjust to the rapidly-changing realities of the global energy market.

Honourable Bill Dooks
Minister of Energy

MESSAGE FROM THE DEPUTY MINISTER

The Department of Energy is all about collaborative effort. It's been that way since our first business plan and this year's plan continues the trend.

We work with industry to realize the opportunities that exist for Nova Scotia business to profit at home and around the world from developing the world's energy resources.

We work with universities and the community college system to ensure that Nova Scotians have the opportunity to acquire the knowledge and skills they need to compete successfully for well-paying jobs in the energy sector.

We work with the research community to solve the complex scientific and technical challenges that face offshore development.

We work with energy consumers to help them realize the best value from each and every dollar they spend on energy, whether it's electricity, oil, wood or natural gas.

We work with the renewable energy sector to improve the availability of clean energy sources for Nova Scotians.

We provide a broad range of services and expertise that influence developments in both the public and private sectors; and all are delivered with a single vision of ensuring that Nova Scotians benefit from having a world-class energy sector.

As Nova Scotia's energy sector continues to grow and evolve toward that vision, the Department of Energy will continue to work hard to develop the partnerships and collaborations that will ensure that Nova Scotia's energy supply is secure, that exploration and development expand in our onshore and offshore, and that more Nova Scotians benefit from our energy resources.

Alison Scott
Deputy Minister of Energy

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1.0 MISSION

1.1 Mission Statement

The mission of the Nova Scotia Department of Energy is to deliver maximum economic, social, and environmental benefits from the energy sector by creating partnerships with governments, industry, other provincial departments and local communities .

1.2 Department Profile

The Nova Scotia Department of Energy was created in June 2002 to serve as the Government's focal point in developing and managing the Province's energy resources. Building our energy sector and making the most of the opportunities in our offshore continue to be priorities for the Department of Energy. This priority is balanced by our commitment to improving our environment and informing Nova Scotians by promoting energy efficiency and the use of renewable energy technologies.

The department has seven divisions:

- Business and Technology
- Communications
- Energy Management, Markets and Climate Change
- Intergovernmental and Strategic Services
- Legal Services
- Resource Assessment and Royalties
- Strategic Policy and Services

2.0 PLANNING CONTEXT

Global energy market forces are again creating challenges and opportunities for Nova Scotia energy consumers and producers. Those forces include rising energy demand, supply bottlenecks, price spikes and a growing awareness that while fossil fuels continue to play a central role in our economy and lives, conservation and renewable energy sources must play larger roles in the future.

Global climate change has been called the greatest environmental challenge that we will face in the Twenty First Century. Addressing it will require major reductions in greenhouse gas emissions, most of which come from burning fossil fuels.

Nova Scotians depend on coal, oil and gas for more than 90 per cent of their energy needs. Over the coming years there will have to be a fundamental transition towards a lower - carbon economy. This transition will require us to use fossil fuels more responsibly; to increase our production of renewable energy; and to become more efficient in our use of energy.

Nova Scotia has already started to take steps to address these issues. In October 2005 the

province established the Smart Energy Choices for Nova Scotians program. This program assists Nova Scotians to become more energy efficient through public education and financial incentives. The Smart Energy Choices program will complete its first full year of operation in 2006 - 2007 and has a commitment of $10 million. The program will assist Nova Scotians in making permanent changes in their energy consumption patterns. By using less energy, consumers can reduce costs and harm to the environment.

Challenges:

The health and environmental challenges associated with using fossil fuels are particularly significant for Nova Scotia. Burning of coal, oil and natural gas and usage of combustion engine vehicles produce sulphur dioxide, nitrogen oxides and particulate as well as green house gasses (GHG) which affect the rate of climate change and the health of Nova Scotians. Existing regulations require reduction in air emissions associated with fuel combustion. Federal regulations requiring reductions in greenhouse gas emissions are anticipated. Prudence requires us to take significant action to decrease GHG emissions including the use of more renewable energy and a reduction in energy consumption.

World energy demand continues to grow while supplies of fossil fuels become more uncertain. The growth in demand from rapidly developing countries such as India and China is not expected to slow. At the same time natural disasters and political instability have introduced shortages and unpredictability to the marketplace. The result has been a series of prices shocks. While, these sharp rises in prices have often been short-term, fossil fuel prices are settling at levels above the average before the price spikes took place. This spiking and subsequent higher price plateau will continue into the foreseeable future. The result is a significant challenge to our cost of living and our international competitiveness.

Climate Change and other environmental effects of fossil energy use along with price volatility pose both challenges and opportunities for Nova Scotia's economy.

This is especially apparent in efforts to develop our offshore. Current geological thinking is that there is a potential natural gas resource of more than 40 trillion cubic feet (TCF) in the Nova Scotia offshore, most of which is not discovered. Nova Scotia's offshore gas and oil sector is currently delivering very strong fiscal benefits. To maintain these fiscal benefits, the department will be taking appropriate action to attract new investment for the exploration and development of our gas and oil resources .

New gas and oil production could begin with EnCana's Deep Panuke project - but the longer-term security of the offshore energy sector requires new discoveries and those discoveries are proving difficult to make. Although Deep Panuke drilling has been largely successful, and a discovery was made in the first modern deepwater well at Annapolis, other wells have not been as successful and some of the geological theories have been proven wrong. As a result, a number of industry players have turned back exploration licenses without meeting their exploration commitments.

The cyclical nature of offshore gas and oil activity creates uncertainty for businesses, people and

communities who wish to capitalize on related opportunities. The challenge is to build geological knowledge leading to increased commercial exploration success on a continuous basis.

Offshore activity in some areas has also raised questions about knowledge gaps surrounding potential environmental impacts. The challenge is to build knowledge about these potential impacts and develop technologies and practices to mitigate any potential negative environmental effects

Opportunities:

Increasing fossil fuel prices have the potential to stimulate interest and investment in the more efficient use of energy and alternatives to fossil fuels which will, in turn, slow the rate of climate change. Higher fossil fuel prices can improve the investment climate for Nova Scotia's renewable energy resources, including wind, tidal, biomass, and solar energy. The Department of Energy will work with industry stakeholders to develop strategies on how Nova Scotians can benefit from this increased interest and potential investment. New technologies like carbon storage and sequestration that reduce the harmful effects of burning oil and coal are being developed and hold some promise for future use with our native energy sources such as coal.

The Smart Energy Choices program promotes energy efficiency and will result in local job creation. Spending on improving the efficiency of buildings involves services which can be provided by many Nova Scotia companies.

We also have the opportunity to expand the use of mass transit systems in our populated areas and reduce pollution from private vehicle use.

It is reasonable to believe that increases in the price of oil and gas should stimulate increased exploration activity. Nova Scotia's political climate is stable and we have the infrastructure to transport natural gas to the Northeastern United States. However, there are many exploration investment opportunities worldwide and we have yet to obtain the geological knowledge which will lead to a more predictable exploitation of our resources.

Knowledge is gained through an interplay between geological theory, seismic programs and drilling results. Approximately 200 exploration wells have been drilled offshore Nova Scotia as compared to nearly 7,000 in the North Sea and over 40,000 in the gulf of Mexico. The province of Nova Scotia committed $5.2 million in fiscal year 2005 - 2006 to help establish two research associations which will examine geological and marine environment issues related to offshore energy exploration and production from renewable and non-renewable energy sources. This initiative known as *Sustaining Prosperity From Nova Scotia's Offshore* will provide the foundation for our efforts to restart Nova Scotia's offshore exploration.

Restarting Nova Scotia's offshore exploration cycle presents very important fiscal and economic benefits to the Province. The current fiscal year will see royalties from the Sable Project rise to just under $288 million depending upon production levels and natural gas prices.

In addition to the royalties generated by gas and oil activity, economic spin-offs have meant increased cash flow and employment for Nova Scotia businesses and their employees. More than

$1 billion in goods and services have been supplied by Nova Scotia companies for the Sable gas project. By working in the local gas and oil industry, Nova Scotians have built the experience and credibility to sell in the international marketplace. Gas and oil activity also contributes to the economic well-being of rural municipal units through the taxation of gas pipelines and gas plants and direct employment. The equivalent of 1100 full time jobs were created, on average, over the last four years. Many of these jobs were available to rural residents of the Province. The Department of Energy will continue to work with all stakeholders in the gas and oil sector to identify and implement strategies that will help develop and maintain a skilled workforce and related infrastructure. Initiatives will include international marketing, negotiation of Offshore Energy Agreements with operating companies and introducing students to the energy sector as a career alternative .

2.1 Energy Management

2.1.1 Climate Change

The Kyoto Protocol, under the United Nations Framework Convention on Climate Change, came into force in February 2005. It requires a reduction in emissions of greenhouse gasses by about 40 developed countries to an average of 5.2 per cent below 1990 levels.

Forecasts of future Canadian GHG emissions show we will miss that target by at least 200 million tonnes per year or about two billion dollars annually at average prices of $10 per tonne of carbon dioxide. More than 80 per cent of Canada's GHG emissions result from energy production and consumption.

Nova Scotia's *Smart Choices for Cleaner Energy...The Green Energy Framework* was released in October, 2005. This framework for future action on climate change includes potential GHG reductions of 1.5 million tonnes per year.

The Department of Energy is working to ensure regulation of large greenhouse emitters, such as Nova Scotia Power, does not place an unfair burden on our province and on the utility's customers. We are preparing for the consequences of a changing climate and are taking advantage of the economic opportunities presented by the need to reduce emissions.

The department is also evaluating federal government programs that provide assistance for projects that are climate change related. The department will be making recommendations on programs and associated provincial contributions required once this evaluation is completed.

2.1.2 Energy Efficiency

Studies indicate that, on average, families can afford to pay no more than seven percent of

their family income on energy bills. The province has taken steps to help low-income families meet this challenge in the short term through the "Keep the Heat Program".

In the longer term, Nova Scotians must take steps to reduce their energy consumption. The Department of Energy is helping Nova Scotians to better understand their energy consumption behaviour and is funding programs that outline consumer-specific steps to reduce energy consumption. Also, Government is taking steps to lead by example by reducing its own energy consumption.

By reducing energy consumption, Nova Scotians can also help defer the costly addition of electrical generating facilities that will be needed as demand increases. Energy efficiency also reduces climate-changing greenhouse gasses.

2.2 Diverse Energy Supply

2.2.1 Natural Gas Distribution

Using natural gas as an alternative to fuel oil can help our environment. To date, natural gas produced from our offshore is distributed in Dartmouth, Amherst and key industrial users in the Canso Strait area. Continued distribution is constrained by cost/profit implications for the distribution company and cost/savings implications for the consumer. However, the recent return of natural gas prices to a more normal relationship with home heating fuel makes natural gas an attractive option.

As the natural gas market grows, Nova Scotians will benefit from the manufacture, installation and maintenance of appliances in addition to the construction of the actual distribution pipe system itself.

2.2.2 Renewable Energy

Increasing the amount of sustainable, renewable energy in Nova Scotia will have local and global environmental benefits, provide economic opportunities to Nova Scotians, and help position the Province to meet future energy demands.

In 2005, the Government of Nova Scotia set a target of 280 megawatts (MW) of new wind power to be built in Nova Scotia over the next ten years in addition to the 100 MW of renewable power projects that have already been built or committed to be built since the release of the Province's Energy Strategy in December 2001.

The 30MW wind farm at Pubnico came into service in early 2005. Nova Scotia Power Inc. (NSPI) has now accepted all 17 small-medium size (less than 2 MW) Independent Power Producer (IPP) renewable energy projects that were proposed in response to a fixed rate, long-term renewable power purchase price offer. These total 28 MW.

NSPI subsequently awarded Power Purchase Agreements for an additional 42 MWs of IPP wind projects in response to a public request for proposals for large-scale renewable energy

supply from IPPs. All of these projects are anticipated to come on line by the end of 2007.

The Department of Energy is a partner in a study regarding the potential of tidal current flow for electrical generation in the Bay of Fundy.

2.3 Gas and Oil

2.3.1 Offshore

Forecast Drilling
There is significant uncertainty about exploration drilling plans because of a tight market for drilling rigs and geological uncertainties. Based upon public statements, the following players are expected to continue some level of activity in the Nova Scotia offshore: EnCana, Canadian Superior; BEPCo; Hunt Oil; and Marathon.

Exploration License Status
There are currently 27 active exploration licenses (ELs) offshore Nova Scotia. One of those licenses will expire on June 30, 2006 (EnCana's EL2357, where it drilled the unsuccessful Grand Pre and Dominion wells). Hunt Oil's two Cape Breton leases were set to expire in June but have been extended since the area has been renegotiated to expedite the development of the Donkin coal resources. An additional ten ELs are scheduled to expire on December 31, 2006 but three of them have wells or drilling deposits which extend the expiry dates, leaving a potential net loss of seven.

2.3.2 Onshore

Current Drilling
EOG Resources and its partner, Husky Energy, have drilled three exploratory wells in the Hardwoodlands area of Hants County. Original plans called for five wells to be drilled. Test results of the drilled wells have yet to be made public.

Stealth Ventures is the operator of the two coal gas agreement blocks in Nova Scotia; one in the Springhill area, the other in Stellarton/New Glasgow. The company has drilled a horizontal coal gas well just outside Springhill. This well and two others in the Priestville area of Pictou County will be flow-tested this year to help assess the commercial viability of this resource.

Forecast Drilling
Three additional operators- Contact Exploration, Consolidated Beacon and PetroWorth (all Calgary-based)- will likely conduct seismic programs this year ranging from Parrsboro to Amherst to Sydney. Seismic usually precedes drilling activity by at least a year.

Exploration License Status

There are ten exploration blocks for conventional petroleum exploration and two others for coal gas exploration. Each block is issued for an initial period of three years (for conventional petroleum) within which time a company must drill. Coal gas rights are provided for an initial period of five years with a drilling commitment as well. We expect continued interest in our conventional and coal gas rights and possibly new interest in our shale gas resources.

While overshadowed by the offshore, our onshore has had steady activity over the past 5-6 years and, with success by Corridor in New Brunswick in the same rock units, our onshore continues to hold industry's attention.

2.3.3 Economic Impact

Between 2001 and 2004 it is estimated that offshore activity contributed a total of $4.2 billion to the province's Gross Domestic Product.

3.0 STRATEGIC INITIATIVES

The Department of Energy has established three strategic directions that it will focus on to deliver its mandate.

- *Mitigate Climate Change Through Energy Efficiency and Renewable Energy*
- *Increase investment in offshore and onshore exploration and development*
- *Effective and efficient departmental regulation and operations*

3.1 Mitigate Climate Change Through Energy Efficiency and Renewable Energy

Government must work closely with the private sector and non-governmental organizations (NGO) to achieve diverse, competitively priced and sustainable energy supplies in Nova Scotia. The Department works with these groups through various program and policy initiatives. Success in this area will help to address climate change and energy efficiency challenges.

3.1.1 Build Knowledge

By promoting and facilitating targeted research and development and technological innovation, the Department supports the development and demonstration of alternative and efficient energy technologies. The Department

conducts policy research and development to fully understand issues that affect Nova Scotia's energy supplies such as the implications of the Kyoto Agreement. The Department's public education initiatives enhance understanding of opportunities for energy efficiency and conservation as well as careers in alternative forms of energy.

3.1.2 Market Nova Scotia's Alternative Technology Opportunities

The Department works continuously to identify niche markets to support Nova Scotia business development. International opportunities are emerging for Nova Scotia-developed alternative energy technologies. The Department is collaborating with the Department of Environment and Labour to identify additional opportunities.

3.1.3 Support a Positive Investment Climate

The Department works to build an efficient regulatory system, negotiate federal funding and partnerships and support the use of and access to a diverse mix of energy sources. The Department promotes Nova Scotia as a business friendly province that offers investors a motivated workforce, access to large markets, stable government and a healthy lifestyle.

3.2 Increase Investment in Onshore and Offshore Exploration and Development

Increased offshore energy exploration and production means increased tax revenue, royalties, business and employment opportunities for Nova Scotia.

3.2.1 Build Knowledge

We are building an increased understanding of our petroleum geology by promoting and facilitating research and development and technological innovation. In addition, the Department is supporting research initiatives to understand the relation of gas and oil activity to our marine environment. Working with our post-secondary institutions, we are helping to provide the skilled workforce required to support the expansion of our energy sector opportunities. The Department provides assistance with purchasing equipment and building infrastructure to support these opportunities. The Department is also conducting research to better understand Nova Scotia's competitive position.

3.2.2 Market Nova Scotia Opportunities

The Department is increasing its efforts to identify potential investors and market Nova Scotia's petroleum resource potential as well as our business and workforce capacities and capabilities. Based upon the results of our investment in research, the Department will strategically market Nova Scotia to potential investors. Working closely with industry associations such as the Offshore/ Onshore Technologies association of Nova Scotia the Department develops and implements an international marketing program. The Department also monitors economic activity resulting from local energy projects in order to identify, develop and implement strategies that will increase Nova Scotia's market share.

3.2.3 Support a Positive Investment Climate

The Department leads initiatives to improve the regulatory system for oil and gas exploration, development, production and transmission. The Department is identifying opportunities to enhance our competitive position including regulatory modernization, establishing Offshore Strategic Energy Agreements and building relationships and trust with First Nations and other interested parties. The Department provides technical and strategic advice on the capacities and capabilities of Nova Scotia business as well as the investment interests, priorities and strategies of potential investors.

3.3 Effective and Efficient Departmental Regulation & Operations

Department policy and administration staff provide leadership and support for:

- Evaluation of new program effectiveness and efficiency
- Development of modernized energy legislation and regulations
- HR Development and Recruitment Strategy
- Information Management Strategy
- Strategic Policy and Services support for operational divisions.

4.0 CORE BUSINESS AREAS

The core business areas of the Department of Energy have been grouped by the departmental divisions as follows:

4.1 Resource Assessment and Royalties

4.1.1 Resources Assessment

We are responsible for the development of policy, legislation, and regulations for the exploration and development of the Province's offshore and onshore petroleum resources, including the administration of the royalty regulations and agreements.

Onshore, we administer the granting of petroleum rights and coordinate the regulation of exploration activity.

The Canada-Nova Scotia Offshore Petroleum Board regulates day-to-day offshore petroleum activity, while it is our role to actively promote Nova Scotia's onshore and offshore petroleum potential.

As stewards of the geological knowledge in the Department, the Division has the primary role in developing the promotional efforts to encourage new investment in the resource sector.

4.1.2 Petroleum Fiscal Affairs

The core mandate of the Petroleum Fiscal Affairs Group is to:

- Forecast and monitor the financial results and fiscal implications of petroleum exploration and development
- Administer, audit and assess royalties from petroleum projects
- Undertake fiscal policy research and analysis and provide related recommendations
- Assume a central role in fiscal negotiations.

4.2 Business and Technology

4.2.1 Offshore Benefits

All proponents of offshore work must first submit a benefits plan to the Canada-Nova Scotia Offshore Petroleum Board. Benefits plans must provide manufacturers, consultants, contractors and service companies in Nova Scotia and in other parts of Canada with a full and fair opportunity to participate on a competitive basis in the supply of goods and services used in any proposed work or activity referred to in the benefits plan. Key elements of the plan include establishing a local office, local employment, education and training initiatives, and research and development to be conducted in the province.

The Department of Energy has a legislated responsibility to represent the interests of the Province in the negotiation and implementation of benefits plans. As with other international offshore jurisdictions, this process builds the local capacity and capabilities that are critical to attracting future investment. It ensures Nova Scotians are able to compete on a best value basis for local business and employment opportunities related to the development of a Nova Scotia non-renewable resource.

4.2.2 Business Development

Working with energy sector stakeholders, the department promotes investment in the energy-related capabilities of Nova Scotia. We provide opportunities for local companies to meet potential joint venture partners and participate in investment missions abroad. We maximize business opportunities for local suppliers of goods and services and identify areas of labour demands and possible skill shortages to develop strategic approaches and undertake partnerships in training projects and initiatives.

4.2.3 Marketing

The Department of Energy provides a wide range of services and programs to Nova Scotians and Nova Scotia's business community. These range from export development and investment attraction to scholarships and research partnerships. They include employment incentives to hire students. It is important that we market who we are and what we do in a manner that effectively delivers a consistent message to all stakeholders.

The Province recently launched its "Come to Life" brand initiative for all marketing activities undertaken by the Government of Nova Scotia. The Department of Energy has incorporated the Provincial brand in all of its energy initiatives and programs. It is developing a strategic framework to ensure all activities and programs meet corporate objectives to achieve maximum value delivery.

4.2.4 Energy Sector Technology Acquisition

We identify and support training opportunities for Nova Scotians within the energy sector.

We work to develop formal opportunities for training and apprenticeship such as scholarships and research grants to promote work in the energy sectors as a wise career choice. These initiatives support the establishment of a more qualified workforce in Nova Scotia with the skills and expertise needed to gain employment in

the energy sector. The department also assists the province's learning institutions extend their industry related training capacities beyond the province's borders.

The Department also leverages federal and private sector investment in energy related educational nad training infrastructure in Nova Scotia institutions.

4.2.5 Research and Development

Nova Scotia benefits from 11 universities, an extensive college system, federal and provincial government organizations, private sector firms and others who undertake energy research. The Department of Energy ensures that research priorities are identified, supported and enhanced through partnerships and leverage opportunities that ensure best value.

4.3 Energy Management, Markets and Climate Change

The Department of Energy implements policies and programs dealing with natural gas transmission, distribution and use; electricity generation, transmission, distribution and use; refined petroleum products; energy efficiency and conservation; renewables; and climate change

4.3.1 Mitigating Climate Change

The Department of Energy is an active partner in the national process considering implementation issues following ratification of the Kyoto Protocol. It is important to maintain competitiveness for Nova Scotia's industry and to recognize the actions that have already been taken to reduce greenhouse gas emissions, while striving to do more to effectively address climate change. As the specifics of Nova Scotia's obligations become clearer, we will make adjustments to the provincial *Smart Choices for Cleaner Energy....The Green Energy Framework.*

Nova Scotia partners with provincial, federal and territorial governments to establish greenhouse gas emission-reduction objectives and works with industry to achieve these in the most cost-effective way possible. We manage Nova Scotia's interests through the national climate change plan; develop partnerships to reduce greenhouse gas emissions; and address impacts of a changing climate.

4.3.2 Energy Efficiency

The Department of Energy initiated a new, multi-year Smart Energy Choices program in October 2005 to promote energy efficiency in Nova Scotia. This program has two key drivers. As a response to extraordinarily high energy costs, the primary way to

manage energy costs is through *energy efficiency* and *conservation*. As well, energy efficiency and conservation is the most effective tool for reducing energy use. The program has major initiatives focused on housing, transportation, lighting/electricity, public education, and government house-in-order - with particular emphasis for low-income seniors and families. The program includes energy savings kits, cash rebates for efficient wood heating appliances and oil fired heating systems, and incentives linked to the federal EnerGuide for Houses initiative. Public information and promotion of energy efficiency accompany the incentives.

4.3.3 Electricity and Renewables

The 2001 Energy Strategy identified high level changes to Nova Scotia's electricity system including:

- A focus on renewables
- Competition for new supply
- Opening the transmission system to multiple users
- Opening the wholesale market (municipal utilities) to competition
- Reducing emissions from electricity generation
- Energy efficiency

Legislation was passed in Fall 2004 providing for opening the wholesale market, setting minimum requirements for renewables in our electricity mix, and requiring an Open Access Transmission Tariff. Ongoing electricity changes in 2006 will include developing market rules for users of the transmission system and setting time lines and thresholds for renewables requirements.

4.3.4 Natural Gas

The Department assists Nova Scotians in converting heating systems to natural gas through Gas Market Development Fund (GMDF) incentives and information that explains the efficiency, safety, and the convenience and environmental benefits of natural gas. The GMDF was provided by the Sable Offshore Energy Producers specifically to encourage the use of natural gas in Nova Scotia. The Province, with its schools, hospitals, and other buildings, can make the expansion of the gas distribution system economical.

We work with proponents, regulatory authorities, and economic development agencies to foster the development of Liquified Natural Gas (LNG) to increase supply diversity, fuel on fuel competition, and reduce supply risk.

4.3.5 Energy Markets

The Department monitors and reports pricing for gasoline, diesel and fuel oil. We also provide public information on the comparative costs for different energy sources of space and domestic hot water heating. The Department intervenes on behalf of Nova Scotians at Utility and Review Board (UARB) and National Energy Board (NEB) hearings related to electricity pricing, gas distribution, new capital developments, etc.

4.4 Intergovernmental and Strategic Initiatives

The Department of Energy operates in an interconnected policy environment. Policy development for the offshore is significantly affected by the views and priorities of our partner Natural Resources Canada and our counterparts in Newfoundland and Labrador Natural Resources. In addition, many other federal departments and other provincial offshore energy interests have a role to plan in developing an efficient and effective regulatory system as well as many other interested parties such as fishing, environmental and community groups. Intergovernmental Affairs and Strategic Initiatives is responsible for coordinating many of the initiatives in these areas. Examples include: the Atlantic Energy Roundtable, offshore regulatory renewal, analysis and policy development for improving our competitive position, the Eastern Scotian Shelf Integrated Management plan, and our ongoing consultations and discussions with First Nations. The Strategic Initiatives part of the mandate includes projects such as coordination of energy legislation and regulation modernization and the second Nova Scotia Energy Research and Development Forum.

Nova Scotia Energy has worked with partners in the province's energy research community to establish two research associations to help remove some of the science and technology barriers to sustaining prosperity for our offshore energy resources. The OETR Association was granted $2.6 million in March 2006 to fund research geoscience initiatives that will help develop new theories and models on the location of commercial offshore oil and gas deposits. The OEER Association was also given $2.6 million to help improve science knowledge and facts with respect to offshore energy impacts on the marine environment. This work includes petroleum resource exploration and development as well as support for pre-commercial demonstration projects for renewable energy sources such as tidal current technologies. The IGA and Strategic Initiatives division in the department will work closely with these Associations to help them maximize the province's investment.

4.5 Strategic Policy and Services

The department is responsible for the coordination of energy policies, strategies, plans, and services. In order to carry out these tasks, the Department gathers information on Nova Scotia and other jurisdictions' experiences, policies and activities as well as the general business climate for energy investments and analyses them for effectiveness and implications for meeting public policy objectives and relevance to Nova Scotia's energy sector. This division also coordinates corporate activities related to human resources, procurement, business planning, budgeting, submissions to cabinet and reporting.

4.6 Communications and Public Education

Energy use and development are important to all Nova Scotians. Public information programs help create a higher level of public understanding of issues such as climate change, the exploration and development of oil and natural gas, electricity and renewable energy and energy conservation. Public education initiatives include video, print resources, and training for educators; an extensive website offering a library of publications and other energy-related information; and public education working groups to help identify innovative ways to educate Nova Scotians on energy issues.

4.7 Legal Services

The department hosts, on a full time basis, a lawyer from the Department of Justice to provide legal opinion on acts, regulations, legislation and general operations.

5.0 PRIORITIES

Section 3 of this business plan defined each of the Department's strategic initiatives against these priorities:

- Building Knowledge
- Marketing Nova Scotia
- Creating a Positive Investment Climate

This section will identify what actions the Department will take during the fiscal year 2006-07 in order to achieve these priorities.

5.1 Building Knowledge

• A significant barrier to rejuvenating interest in Nova Scotia's offshore is the lack of reliable geoscience information and theory. In fiscal year 2005-06 the Department spearheaded the establishment of an independent association (Offshore Energy Technical

Research) aimed at removing this barrier. The initiative, known as "Sustaining Prosperity from Nova Scotia's Offshore", seeded this R & D entity with $2.6 million. In 2006-07, the Department will review the work of the Association and its business plan to make more progress in this area.

- Another entity, Offshore Energy and Environment Research, was also established in 2005-06 with seed funding of $2.6 million from the Sustaining Prosperity program. This research entity will initially focus on the inter-relation of seismic testing and tidal electrical generating systems with the marine environment. In 2006-07, the Department will review the work of the Association and its business plan to make more progress in this area.

- Direct economic spinoffs, such as job creation, business growth and an increased tax base, can accrue to Nova Scotia from energy sector projects. However, these projects tend to be cyclical in nature. To ensure that our capabilities, capacities and workforce are maintained in Nova Scotia during periods of minimal activity, the Department of Energy will work with industry stakeholders to research alternative foreign markets for our goods and services.

- In 2005 the provincial government initiated the $10 million Smart Energy Choices for Nova Scotians program aimed at building public awareness and knowledge as related to making energy conscious decisions. Energy efficiency leads to reduced impacts on our climate and health that result from particulates and greenhouse gasses produced by burning fossil fuels. In 2006-07 the Department will be allocated $10 million to continue this program.

- The Province of Nova Scotia is losing its emerging and established workforce to other areas such as Ontario and Alberta. To offset this the Department will assist with developing energy sector workforce knowledge. The Department will continue to provide student pay subsidies, collaborate with learning institutions and other levels of government to provide specialized training equipment and infrastructure and partner with private sector companies such as Pengrowth to provide scholarship assistance for students. The department will assist our learning institutions extend their energy-related training capacities beyond the borders of Nova Scotia.

5.2 Market Nova Scotia's Energy Sector

- ***Prospect Exchanges***: There are a number of key global opportunities to showcase the potential of Nova Scotia's offshore. These events are known as prospect exchanges at which petroleum explorers gather to showcase their opportunities. As individual

companies prefer to spread their risk profile, these exchanges are extremely well attended venues where geoscientists meet to 'shop' the latest opportunities. For example, North American Prospectors Exchange will typically have over 1000 booths and will attract 12000 delegates, all interested in the latest global opportunities.

- ***Investors Meetings***: One-on-one meetings are highly effective in promoting the offshore and developing policy. The Department staff and senior officials (including Minister and from time to time the Premier) are well positioned to open doors and present the results of the work proposed under this plan.

- ***Conferences and Presentations***: There are many local, national and international conference opportunities where the Department staff learn the latest ideas pertaining to exploration and development, meet or renew geoscience ideas relevant to offshore Nova Scotia and discuss new policy initiatives designed to reinvigorate offshore Nova Scotia exploration and development.

- ***Trade Shows/Trade Missions***: Showcasing Nova Scotia goods and services in foreign markets provides an opportunity for companies to expand their markets. Opportunities for joint venture arrangements and technology transfers also arise. Prospector exchanges and related trade shows provide an opportunity for the department to showcase our gas and oil resource potential to global exploration community.

- ***Marketing Materials***: Delivering key investment information to industry is of paramount importance in attracting investment. The mode in which the information is conveyed should suit the opportunity. In this regard, information should be delivered via technical papers, in technical journals and magazines, brochure handouts, internet access, interactive CDs and glossy reports. This will involve using the services of internal communication experts as well as contracted experts. These materials will be used for the one-on-ones, prospect exchanges and other major industry forums.

5.3 Support a Positive Investment Climate

- *Renewable Energy*
  90 per cent of Nova Scotia's electricity is generated by burning fossil fuels. The by- products of burning fossil fuels affect both climate change and health. To encourage increased investment in alternative sources of energy, the Department of Energy will be working with industry stakeholders to assess tax issues, distribution issues and jurisdictional issues (ocean based renewables) that impact on business case decisions.

- *Oil and gas*
  The oil and gas business gravitates to those jurisdictions with a combination of attractive fiscal and land tenure regimes, ready access to markets, efficient

regulatory systems, high resource potential, stable governments, access to infrastructure and a ready and reliable service and supply sector. Of these, governments are in direct control of the fiscal and land tenure systems as well as the regulatory system. Governments with established offshore petroleum industries have found over the years that in order to maintain the attractiveness of their offshore areas, they need to regularly review these issues.

Our land tenure and rights issuance process was established several decades ago. Its effectiveness and efficiency needs to be evaluated with our partners.

As gas distribution further develops in Nova Scotia the Department of Energy will review its regulatory framework to make sure that regulatory oversight is both efficient and cost-effective while fully protecting the public interest.

6.0 HUMAN RESOURCE STRATEGY

6.1 Employee Survey

Overview

The Employee Survey Committee surveyed staff in early November 2005 using the same questions from the 2004 Government-wide "How's Work Going" employee survey. The results will help to establish a baseline unique to the Department.

Overall, the Department's results were very positive and survey participation rates were high. In fact, our approval rating was higher than the original Government-wide results for every question except for the question regarding understanding our benefits package.

Survey Results

The survey measured ten dimensions of the work environment:

- leadership
- communication
- compensation and benefits
- personal growth
- recruitment and retention
- quality of work life
- employee involvement
- diversity
- teamwork
- safety and security

In 2006-07 the Department will continue to analyse this document and develop strategies that will address areas of concern.

6.2 Departmental Human Resource Strategy

In 2005 the Nova Scotia Public Service Commission initiated *Nova Scotia's Corporate*

Human Resource Plan 2005-10.

The plan has six goals:

- To make a difference through a skilled, committed and accountable public service
- To be a preferred employer
- To be a safe and supportive workplace
- To be a diverse workplace
- To be a learning organization

The Department of Energy has submitted an application to the Public Service Commission, under the Executive Leadership Continuity Program (LCP), to appoint an individual whose main focus will be to develop a departmental HR strategy consistent with the Human Resource Plan. Pending approval, it is anticipated that the LCP placement will be available in July 2006.

6.3 Diversity in Hiring

The Department of Energy is committed to diversity in its recruitment of employees. It will review its hiring practices with emphases on improving the representation of designated groups such as African Canadians, Aboriginals and women in non traditional roles within its ranks. To this end, the department will activity work with the Human Resources Client Services Unit to ensure that individuals on their list of qualified diversity candidates have been given first opportunity for casual placements.

6.4 Occupational Health and Safety

The Department of Energy values the health and safety of its employees and is committed to providing a safe and supportive working environment. The departmental Joint Occupational Health and Safety (JOHS) committee ensures that these goals are met. This committee's priority is to work in partnership with employees to minimize the risk of occupational injury and illness in the workplace. The committee will continue to work with all employees to identify, report and resolve workplace hazards; ensure employee access to training and take necessary measures to promote health and safety**.**

7.0 BUDGET CONTEXT

	Thousands of Dollars		
	Authority 2005 - 2006	**Forecast 2005 - 2006**	**Estimate 2006 -2007**
Revenues	**30,000**	**171,423**	**288,180**
Expenses			
Salaries	**3,079**	**2,895**	**3,421**
Operations	**5,275**	**15,791**	**14,776**
CNOSPB (net)	**1,265**	**2,139**	**1,515**
Total Expenses	**9,619**	**20,825**	**19,712**
FTEs	**46.0**	**44.2**	**51.0**

8.0 PERFORMANCE MEASURES

Priority : Build Knowledge				
OUTCOME	**MEASURE**	**DATA**	**TARGET**	**Strategic Actions to achieve target**
Greater awareness of energy issues, programs, services and operation.	Energy Awareness Index as defined in 2003/04 public survey. (Thinkwell Research)	Baseline measure (obtained in 2003/04) shows Energy Awareness Index = 50.	2006/07 - no additional measure. 2007/08 - followup awareness survey. Increase Energy Awareness Index to 65.	- Website, direct mail, media, advertising, school tours and community tours.
Increased understanding of our geological systems	-Number of research studies initiated -Number of research studies completed	2006/07 is baseline year.	2006/2007 -minimum of 2 research studies initiated 2007/2008 - additional research studies initiated as needed	- Assist the Offshore Energy Technical Research Association Inc. develop a long term work plan strategy that incorporates stakeholder needs.
Increase regulatory certainty from a better scientific understanding of the interaction of renewable and non-renewable energy activities with the marine environment.	-Number of research studies initiated -Number of research studies completed	2006 / 2007 is baseline year	2006/2007 -minimum of 2 research studies initiated 2007/2008 - additional research studies initiated as needed	- Assist the Offshore Energy and Environment Research Association Inc. develop a long termwork plan strategy that incorporates stakeholder needs. - Resolve intergovernmental jurisdictional issues related to ocean related renewable enrgy activities.

Priority : Build Knowledge				
OUTCOME	**MEASURE**	**DATA**	**TARGET**	**Strategic Actions to achieve target**
Increased opportunities for education and training in the energy sector	Number of students accessing the energy scholarship program. Number of students who have had private sector work experience in energy related industries through the Energy Training program	2005/06 was baseline year. 2005/ 2006 was baseline year	2006/07 - Continuation and expansion of scholarship program 2007/2007 - Investments in energy related education and training infrastructure and programs	- Increase awareness of program - Support infrastructure development at educational institutions.
Improved energy efficiency and conservation and reduced GHG emissions	-Number of homes that have increased energy efficiency through the Smart Energy Choices program -Increased efficiency achieved	2005/06 was baseline year	2006/07 - number of homes	- Promotion of the Smart Energy Choices program - Establishment / continuation of stakeholder partnerships - Lead by example

Priority : Market Nova Scotia				
OUTCOME	**MEASURE**	**DATA**	**TARGET**	**Strategic Actions to achieve target**
Increased awareness of our offshore potential by exploration companies	- Number of targeted promotional events and technical meetings that take place at local, national and international venues	- 2006/2007 baseline - 2005/2006 baseline	- meet with 5 exploration companies identified as prime potential investors - attend 3 promotional events - make 25 company contacts	- Publish new reports - Mail-outs to interested parties - Attendance at promotional events - Conduct financial and investment trend analysis of exploration companies to identify a target market audience. - One on one meetings with targeted audience.
Exportation of goods and services related to the energy sector	-Number of trade shows/missions attended - Satisfaction of non-departmental participants	- 2005/2006 baseline - 2006/2007 baseline	- minimum of 2 trade shows/year - 75%	- Partner with stakeholders - Post-event surveys