



White Rose Extension Project

Socio-Economic Impact Statement and Sustainable Development Report

June 2014

ACKNOWLEDGEMENT

Husky Energy gratefully acknowledges the contribution of Stantec Consulting Ltd. in the preparation of the Socio-economic Impact Statement and Sustainable Development Report.

EXECUTIVE SUMMARY

This Socio-Economic Impact Statement (SEIS) assesses the socio-economic effects of the White Rose Extension Project (WREP). Husky Energy (Husky) is planning to develop the WREP using a wellhead platform (WHP). The WHP will be tied back to the existing *SeaRose floating production, storage and offloading (FPSO)* vessel.

The WREP entails construction of a WHP comprising topsides supported by a concrete gravity structure (CGS) that will be incorporated into the existing White Rose project. The WHP will be designed for a 25 year life.

Development of the WHP will entail constructing the CGS in a purpose-built graving dock, which will have reinforced concrete gates that will allow future re-use of the facility. Following construction, the CGS will be towed and situated in the western portion of the White Rose field. The current schedule is for the CGS to be towed to the field and ballasted in place in 2017, followed by installation of the topsides by a specialized platform installation vessel and hook up and commissioning.

The SEIS studies the same Valued Environmental Components (VECs) that were considered in the original White Rose project SEIS and the North Amethyst Satellite Tie-Back SEIS: Employment and Business; Community Social Infrastructure; and Community Physical Infrastructure and Services. These VECs have been used for previous offshore petroleum projects in the province and they represent the socio-economic issues that have typically been of the greatest public interest for this type of development.

The temporal scope for the SEIS covers the initial development phase, through installation and operations and decommissioning and abandonment. The geographic scope of the analysis is provincial, with those areas most likely to experience direct effects from the WREP, the St. John's and Argentia areas, examined in greater detail. Existing conditions for each VEC are discussed, focusing on each area and the larger province, where appropriate.

Newfoundland and Labrador has undergone strong economic growth during the past decade, during which offshore oil production has been a primary economic driver. The Newfoundland and Labrador Department of Finance report that the provincial real Gross Domestic Product (GDP) increased 58.8 percent between 1997 and 2010. Approximately half of this growth was attributed to oil and gas production. In 2013, GDP growth in Newfoundland and Labrador remained among the highest in the country.

The province's economic performance marks a recovery from the economic downturn of the 1990s. Newfoundland and Labrador has experienced a long period of population decline, which was largely due to economic consequences of the 1992 fisheries

moratorium. However, the recent period of relative prosperity has influenced demographic changes and the provincial population has stabilized in recent years. The 2011 Census reported a provincial population of 514,536, representing a 1.8 percent increase since 2006.

The economy of the St John's area has been comparatively strong by provincial standards over the past decade, and the area continues to enjoy a boom in economic growth and activity. Real GDP in the St. John's Census Metropolitan Area (CMA) increased by 2.9 percent in 2011 over 2010 as a result of increased capital investment related to major projects, but fell slightly in 2012 due to natural declines in offshore oil production. The population of the St. John's CMA has been increasing steadily since 2001. Between 2006 and 2011, the population of the St. John's CMA grew by 8.8 percent to 196,966. The 2011 population counts for both the City of St. John's and the St. John's CMA are the highest on record.

Economic conditions in the Argentia area are not as strong as in the St. John's area, but a relatively diverse economy and proximity to several large industrial projects have enabled a stronger economy than many other rural areas of the province. However, the area has not avoided the population decline that has characterized the province as a whole. According to the 2011 Census, the population of the Argentia area is approximately 7,600, which represents a decline of 8.5 percent since 2001, when the population was over 8,000.

The SEIS focuses on the direct effects of the WREP, mostly through expenditures or activities. Secondary effects are also considered, including those of any WREP-related demographic change on community services and infrastructure, both social and physical. The great majority of socio-economic effects will occur during the construction phase of the WREP.

Provincially, the WREP will generate a range of positive effects on the economy. The WREP is expected to directly contribute positive employment and business effects during construction and operations. The WREP will also create indirect economic benefits, including employment and business for those companies providing goods and services during WREP construction and operations. Induced benefits of the WREP will come from spending by direct and indirect employees, providing new sources of government revenue. Potential adverse effects at the provincial level are expected to be minor and are likely within the capacity of existing services, facilities and infrastructure. Adverse effects will also be minimized and addressed through Husky's ongoing engagement with communities, government agencies and stakeholders.

The WREP will also generate some positive economic effects particular to the St. John's and Argentia areas. As the primary location for administrative, engineering, training, regulatory and supply and service activity, the St. John's area will see a range of socio-economic benefits during WREP construction and some degree of continued benefits

during operations. These positive economic effects are expected to be similar to, but much smaller in scale than, those resulting from Hibernia, Terra Nova or White Rose, or those expected for Hebron. These include the provision of local employment, training, business and research and development (R&D). More generally, the WREP will result in the further development of provincial expertise and capabilities, contributing to sustainable economic development.

The Argentia area will also see direct, indirect and induced positive economic effects as a result of WREP construction. Local opportunities for employment and business will be provided where possible. Induced effects on the economy are expected to result from increased employment and higher wages resulting from the Project.

The SEIS also assesses the social effects of the WREP on communities, including any potential effects to local residents, as well as community services and infrastructure. Potential WREP-related effects are considered for community physical infrastructure and services, including housing, ports, airports, industrial and commercial land, warehousing and office space. Also examined are potential effects on community social infrastructure and services, including education, health and community services, income support and employment services, safety and security and recreation.

Based on past experience with offshore petroleum projects in Newfoundland and Labrador, it is anticipated that the WREP will result in similar benefits, while smaller in scale, to those seen for Hibernia, White Rose or Terra Nova, or those expected for Hebron. Previous experience with offshore development has also shown that while these projects have had some related social effects on communities, these changes have generally been minor and manageable. As the WREP is much smaller in scale than these previous developments, it is expected that any of its effects on communities can be managed satisfactorily. However, it is recognized that the recent economic prosperity is presenting some housing and other challenges in the St. John's area. Husky will continue its active process of stakeholder engagement, public consultation and cooperation so that appropriate measures are taken to manage WREP effects.

The SEIS concludes with a discussion of Husky's approach to sustainable development. For Husky, sustainability means the integration of social, environmental and economic considerations into its core business. Engaging with key stakeholders and conducting its business in a manner which seeks to maximize positive impacts on current and future generations are core elements of Husky's sustainability commitment and values.

To support sustainable development, Husky continually analyzes and improves upon its activities and proposed projects in order to meet, and often exceed, industry and government regulatory requirements. The Husky Operations Integrity Management System is a systematic approach towards operational excellence. It details how Husky will "operate responsibly to minimize the environmental impact of our operations" and "leave a positive legacy behind us when we leave".

Husky has introduced a number of initiatives to contribute to positive and sustainable economic and social change. These include employment, supporting petroleum industry R&D work, involving the local business community in operations through the Atlantic Region business unit and promoting and supporting workplace diversity within Husky and the local oil and gas industry.

The oil and gas industry remains an important economic driver for Canada, generally, and particularly for Newfoundland and Labrador. Husky projects contribute substantially to the economies of Canada and the province, providing employment and business opportunities through its commitment to generating local benefits. Recognizing the importance of managing effects from both an environmental and social perspective, Husky contributes to sustainable economic development, keeping health and safety and environmental stewardship as core business values.

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ACRONYMS

Term	Description
AMA	Argentia Management Authority
CAPP	Canadian Association of Petroleum Producers
C-CORE	Centre for Cold Ocean Resources Engineering
CGS	concrete gravity structure
CIHI	Canadian Institute for Health Information
CMA	Census Metropolitan Area
CMHC	Canada Mortgage and Housing Corporation
CNA	College of the North Atlantic
CNIB	Canadian national institute for the Blind
FPSO	floating production, storage and offloading vessel
GDP	Gross Domestic Product
HOIMS	Husky Operational Integrity Management System
MLS	multiple listing service
MUN	Memorial University
NLDAES	Newfoundland and Labrador Department of Advanced Education and Skills
NLDCYFS	Newfoundland and Labrador Department of Child, Youth and Family Service
NLDE	Newfoundland and Labrador Department of Education
NLDF	Newfoundland and Labrador Department of Finance
NLDHCS	Newfoundland and Labrador Department of Health and Community Services
NLHC	Newfoundland and Labrador Housing Corporation
NOIA	Newfoundland and Labrador Oil and Gas Industry Association
PRAC	Petroleum Research Atlantic Canada
PRNL	Petroleum Research Newfoundland and Labrador
R&D	research and development
RCMP	Royal Canadian Mounted Police
RNC	Royal Newfoundland Constabulary
SEIS	Socio-economic Impact Statement
SJIAA	St. John's International Airport Association Inc.
SJPA	St. John's Port Authority
VEC	Valued Environmental Component
WHP	wellhead platform
WISE	Women in Science and Engineering
WRDC	Women in Resource Development Corporation
WREP	White Rose Extension Project

1.0 INTRODUCTION

1.1 Project Overview

Husky Energy (Husky), as Operator, on behalf of its co-venturers Suncor Energy and Nalcor Energy – Oil and Gas, is planning to develop the White Rose Extension Project (WREP) using a wellhead platform (WHP) tied back to the existing *SeaRose floating production, storage and offloading (FPSO)* vessel. The WREP entails construction of the WHP, comprising topsides supported by a concrete gravity structure (CGS), which will be incorporated into the existing White Rose project. The following facilities and systems will be installed on the CGS:

- Single drilling facilities to enable drilling and completion of wells plus ongoing downhole maintenance of all wells
- Utility systems including power generation and distribution
- Production manifolds to accommodate services for well testing, oil production to the *SeaRose FPSO*, water injection, gas lift and gas flood
- Life support and safety systems, including personnel accommodations for up to 144 persons, platform control system, temporary safe refuge and emergency evacuation and rescue systems.

The WHP will accommodate 20 well slots using conductor sharing wellhead technology in some or all wells, which allows two wells to be drilled in each conductor, for a total of up to 40 wells. The well slots will have the capability to be designated as either oil production, oil production with gas lift, water injection, gas flood, or cuttings re-injection throughout the life of the field (interchangeable). The well count and designation of slots will be finalized once depletion planning is finalized.

The WHP systems related to oil production, testing, water injection and gas supply will be remotely controlled from the *SeaRose FPSO* via controllers located on the WHP. The WHP will have a communications interface with the *SeaRose FPSO* to provide the remote control functionality and to execute emergency shutdowns between the facilities.

There will be no oil storage in the WHP; hence, all well fluids will be transported to the *SeaRose FPSO* for processing, storage and offloading. The WHP concept will be further refined/finalized during the detailed design stages.

In order to facilitate the transportation of production fluids from the WHP to the *SeaRose FPSO*, additional subsea facilities will be required, including new flowlines and modifications to existing drill centre infrastructure.

The WHP will be designed for a 25 year life. Based on the current conceptual reservoir depletion plan, it is expected the facility will be designed to accommodate an estimated production rate to the *SeaRose FPSO* of 35,000 to 48,000 bbl/day of oil. Gas compression on the *SeaRose FPSO* will be required to provide approximately 1.5 to 3.0 x 10⁶m³/day of gas lift, gas flood and fuel gas to the WHP. The facility will also be designed to accommodate approximately 8,000 to 18,000 m³/day of water injection for reservoir support. These design rates may change as the reservoir depletion strategy and plan are finalized.

The topsides facilities configuration will be designed to ensure maximum isolation of the rotating equipment and well bay from the living quarters and helideck. The facilities will comprise:

- Drilling, completions and well intervention equipment
- Well bay and wellheads
- Oil production, test, water injection, gas injection and gas lift manifolds
- High pressure water injection booster pumps
- Fuel gas heating and treatment
- Test separator and metering
- Safety and utility systems
- Integrated control and safety systems
- Telecommunications systems
- Power generation and distribution systems
- 144 person living quarters.

Figure 1-1 provides a conceptual illustration of the WHP.



Figure 1-1 Conceptual Wellhead Platform

Development of the WHP will entail constructing the CGS in a purpose-built graving dock. A review of potential onshore CGS construction sites on the island of Newfoundland was undertaken and Argentia was identified as the most suitable location for the construction of the CGS. The graving dock will have reinforced concrete gates that will allow future re-use of the facility. The graving dock gates will be comprised of two gates, each 27.5 m high, 72 m wide and 30 m thick. The gates will sit on a concrete

sill and will connect to gravity based abutments that step up the side of the casting basin slope. Figure 1-2 is an illustration of the proposed graving dock.

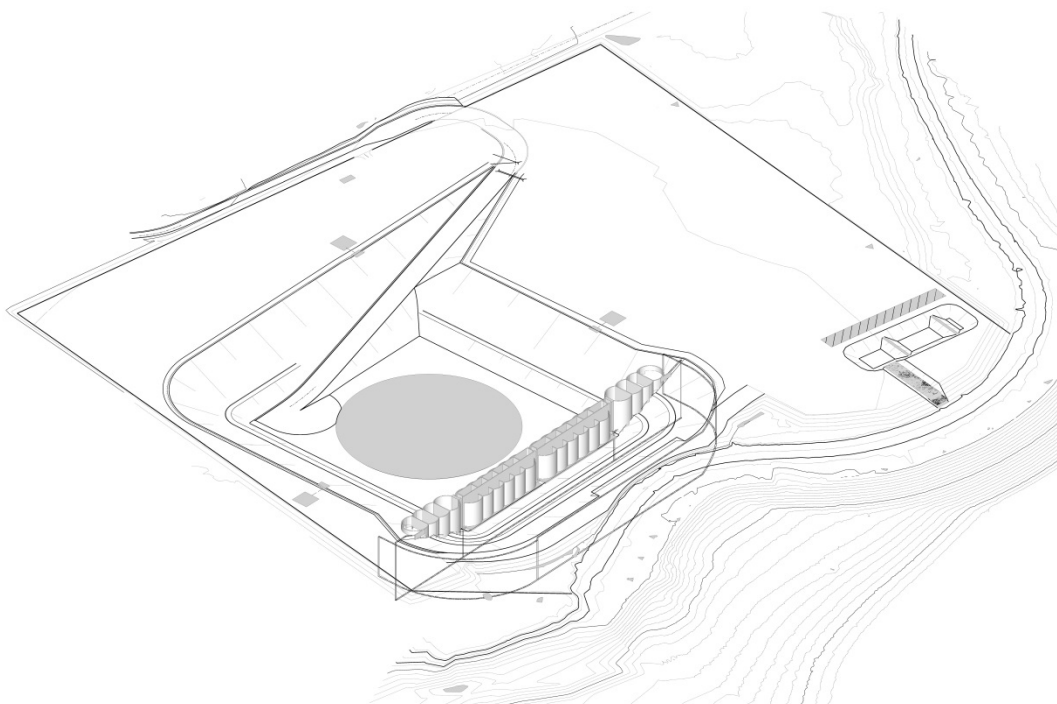


Figure 1-2 Proposed Graving Dock with Dock Gates

Following construction, the CGS will be towed and situated in the western portion of the White Rose field. The current schedule is for the CGS to be towed to the field and ballasted in place in 2017 followed by installation of the topsides by a specialized platform installation vessel and hook up and commissioning.

The WHP will be connected to the *SeaRose FPSO* via new subsea facilities and modifications to existing equipment. The subsea infrastructure will include two production flowlines, one water injection flowline, one gas supply flowline, and one control umbilical. The production flowlines will be tied into the existing Central Drill Centre (CDC) production flowlines (connected to the *SeaRose FPSO*). The water injection flowline will be tied into the manifold in the CDC and gas supply will connect to the WHP tee module that was installed as part of the 2013 SWRX construction program.

Topsides construction will take place in an established fabrication yard to be identified through an international competitive bidding process. The living quarters on the WHP will be comprised of a series of light weight modular boxes of standard size. It is anticipated that these modular boxes will be fabricated in Newfoundland and Labrador and shipped to the topsides fabrication yard for assembly and integration into the topsides structure. It is also anticipated that additional components of the topsides, specifically the helideck,

flare boom and life boat stations, will be fabricated in Newfoundland and Labrador for integration into the topsides structure.

Further information on the proposed project is provided in the White Rose Extension Project Development Plan Amendment submitted to the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) as part of the WREP Development Application.

Figure 1-3 outlines the proposed WREP Development Schedule.

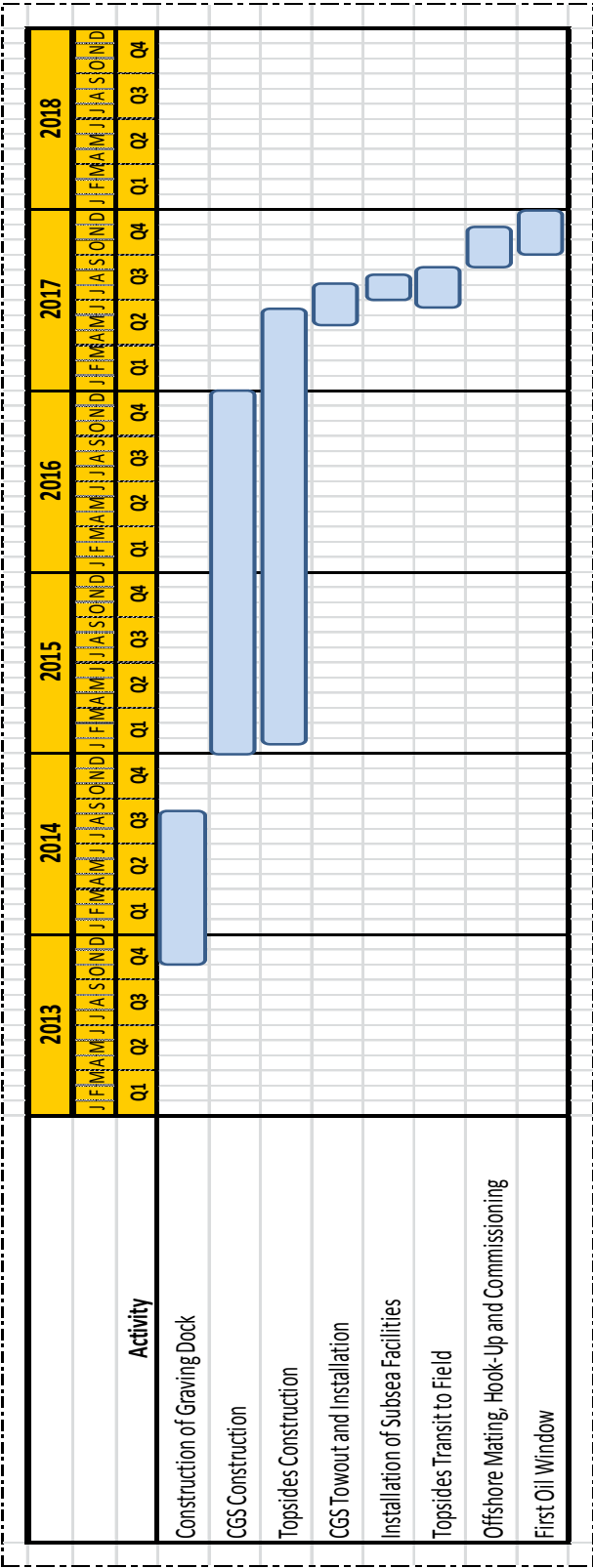


Figure 1-3 WREP Development Schedule

1.2 Assessment Scope and Methodology

This Socio-Economic Impact Statement (SEIS) assesses the socio-economic effects of the WREP. The analysis examines the same Valued Environmental Components (VECs) that were studied for the original White Rose field and the subsequent North Amethyst Satellite Tie-Back. The VECs were selected on the basis of a literature review, including research on previous offshore developments in the province, as well as experience with previous projects and from public consultations held by Husky. These VECs have been used for previous offshore petroleum projects in the province and they represent the socio-economic issues that have typically been of the greatest public interest for this type of development. The VECs identified and considered for the WREP are:

- Employment and Business
- Community Social Infrastructure
- Community Physical Infrastructure and Services.

The geographic scope of the analysis is provincial, with those areas most likely to experience direct effects from the WREP examined in greater detail. The geographic areas for detailed assessment were selected based on a precedent set by patterns of activity for the Hibernia, Terra Nova, White Rose and Hebron projects. They are the:

- St. John's Area (Figure 1-4)
- Argentia Area (Figure 1-5).

Each area consists of a 50 km zone around the anticipated centre of activity, within which most of the effects of the WREP are expected to occur. This zone was determined by road distance, representing a functional commuter-shed for employees. While some employees may commute from substantially greater distances, the road distance of 50 km around the centre of activity is anticipated to be the primary commuter-shed, within which:

- The number of Project employees relative to the total population, and hence their proportional effects, will be greatest. (The exception here with respect to the Argentia site may be commuting from the major population centre of St. John's, a distance of approximately 130 km; however, the St. John's area is anyway assessed as a separate impact area.)
- Any WREP-related in-migration is most likely to occur; any employees moving in order to work on the Project in St. John's or Argentia are likely to take up residence within this area

- The majority of both direct and indirect effects, such as additional highway movements of personnel, equipment or materials, and increased demands for goods and services, are expected to occur.

The temporal scope for the SEIS covers the initial development phase, through installation and operations, decommissioning and abandonment.



Figure 1-4 St. John's Area



Figure 1-5 Argientia Area

To provide socio-economic context for the SEIS, baseline information on each VEC was collected for the St. John's and Argentia areas, as well as for the province. Demographic and economic factors for the province and for each area were also researched and are presented in Section 2.0. A wide range of secondary information sources was consulted, including:

- Statistics Canada and other federal agencies and departments
- Newfoundland and Labrador Statistics Agency and the Community Accounts database, as well as other appropriate provincial agencies and departments
- Municipal governments and local and regional authorities and boards.

In addition to the secondary sources listed above, primary information was collected through personal and telephone interviews with key informants representing organizations and agencies at the community, regional and provincial levels.

1.3 Public Consultation

Husky held public consultations, in the form of open houses and socio-economic workshops, in Placentia, Marystown and St. John's during the week of June 25, 2012.

The open houses were held from 3:00 pm to 8:00 pm at each location and saw a total of 113 attendees. Issues surrounding the Project that were identified as important by attendees at the open house sessions included:

- Diversity of the Project workforce
- Maximizing benefits to local industry and to the Province
- Making sure local businesses are aware of procurement opportunities
- Maximizing employment of a local workforce
- Providing training to ensure the availability of skilled labour to work on the Project
- Minimizing effects on the environment, particularly on fish and Placentia Bay
- Keeping residents of affected communities informed about Project progress.

Many open house attendees stated that they believe that Husky is taking all of the necessary steps to minimize negative effects of the Project. Suggestions for ways that Husky can address public concerns regarding the proposed development of the WREP included:

- Careful research, planning and implementation of the Project to minimize negative effects
- Sessions to keep the public informed and to communicate employment and business opportunities
- Providing Project information online and keeping this information updated
- Consulting with the public and relevant stakeholders about the Project diversity plan
- Working with educational institutions (College of the North Atlantic (CAN), Fisheries and Marine Institute (Marine Institute)) to prepare students for Project employment
- Preparing a plan to ensure that benefits to Newfoundland and Labrador are maximized
- Communicating with local vendors regarding business opportunities.

The Placentia, Marystown and St. John's open house attendees who wrote additional comments on the exit survey indicated that they were very happy with the sessions and the information provided. Comments also indicated that many of the attendees have a positive attitude regarding the Project and look forward to the opportunities that it can potentially provide to these three communities and to the Province.

The socio-economic workshops were conducted with key stakeholder groups to provide information on the WREP and to discuss concerns or answer questions raised by the participants. At all workshops, a PowerPoint presentation was given by a Husky representative, which described the two Project design options (WHP and subsea development), Project activities and schedule, and provided some background on the existing White Rose project. A total of 17 people participated in the three workshops, in addition to two Husky and two Stantec representatives (Table 1.1).

Workshop participants had few concerns about the potential effects of the Project on nearby communities. In all three locations, stakeholders confirmed that community members view the WREP as being beneficial to the communities and to the local and provincial economies. In St. John's, it was recognized by the workshop participants that the challenges of growth confronting the region were the result of multiple projects and associated government spending of taxes and royalties, that the Project would make only a very minor additional contribution to the size of these challenges, and that it was the provincial government's responsibility to spend resource revenues to address them.

Table 1.1 Socio-economic Workshop Attendees, Placentia, Marystown and St. John's

Stakeholders	Husky/Stantec
Placentia - Placentia Arts Centre, June 25	
Des Linehan – Eastern School District	Malcolm MacLean
Darrell Clarke –CNA Placentia	Margie Allen
Terry Trainor – RCMP	Mark Shrimpton
Ren Osmond - RCMP	Hilary Rowe
Marystown –Marystown Hotel and Convention Centre, June 27	
Vanessa Jackman – CNA Marystown	Malcolm MacLean
Dennis Kelly - Town of Marystown	Margie Allen
Alje Mitchell – Town of Marystown	Mark Shrimpton
	Hilary Rowe
St. John's – Fluvarium, June 28	
Glenn Blackwood – Marine Institute	Malcolm MacLean
Bronda Aylward – City of Mount Pearl	Margie Allen
Greg Knott – Northeast Avalon REDB	Mark Shrimpton
Larry Blanchard – Eastern School District	Hilary Rowe
Elizabeth Lawrence – City of St. John's	
Heather Mills Snow – City of St. John's	
Brenda Rowe – NL Housing	
Tamara Vatcher – Advanced Education and Skills -Skills Development	
Bob McCarthy – St. John's Port Authority	
Chief Bob Johnston – RNC	

Issues that were raised at the workshops included:

- Road traffic in and out of Placentia has become heavy and difficult to monitor due to the number of workers commuting to the Long Harbour plant – mitigations such as staggered work shifts and busing employees to the site should be considered
- High volumes of traffic or movement of materials may affect the condition and maintenance of St. John's roads
- The importance of communication between Husky and the Royal Canadian Mounted Police (RCMP)/Royal Newfoundland Constabulary (RNC) for the purpose of monitoring traffic and criminal behaviour
- Additional RCMP members are needed in Placentia, particularly to monitor traffic
- Potential for an increase in crime, particularly drug use, related to Project employment – and Husky's measures to prevent drug use by employees
- Importance of involving police in criminal activity at Project sites
- Concern that local non-unionized workers will not be hired to work on the Project
- Affordable housing is limited and rental units are hard to come by in Placentia and St. John's

- Demand for recreation facilities and programs is increasing in Placentia and St. John's
- Source of skilled workers for this and similar projects
- The Port of St. John's is expecting 2016 to be a very busy year so it is important that Husky keep the Port informed about the Project schedule and if materials will be going through St. John's
- Project-related opportunities for the Marystown Marine Industrial Park.

1.4 Report Format

Following this introductory section, the SEIS will discuss the socio-economic context within which the WREP will occur (Section 2.0). Current economic and demographic conditions are discussed for the St. John's and Argentia areas, as well as for the entire province. Baseline conditions for each of the three VECs are then presented in detail, beginning with Employment and Business, followed by Community Social Infrastructure and then Community Physical Infrastructure and Services.

The assessment of WREP effects is presented in Section 3.0 of the SEIS. Potential interactions between the WREP and each VEC are analyzed and assessed, following the same order in which baseline conditions were discussed in Section 2.0. Section 4.0 discusses Husky's approach to sustainable development and a conclusion is presented in Section 5.0. Personal communications and the literature referenced in the preparation of the SEIS are provided in Section 6.0.

2.0 SOCIO-ECONOMIC CONTEXT

This section of the SEIS begins with a description of the economic and demographic context within which the WREP will occur. Following this, baseline conditions for each VEC are discussed in order to describe the existing socio-economic environment that will potentially be affected by WREP-environment interactions. The discussion of existing VEC conditions begins with Employment and Business, followed by Community Social Infrastructure and then Physical Infrastructure and Services.

2.1 Economic and Demographic Context

An understanding of the economic and demographic context within which the WREP will occur is fundamental to the analysis of its potential effects. This section summarizes this context for the province and the St. John's and Argentia areas.

2.1.1 Newfoundland and Labrador

Newfoundland and Labrador has experienced strong economic growth during the past decade, during which the primary economic drivers have been offshore oil production and mining. The Newfoundland and Labrador Department of Finance (NLDF) reports that the provincial real Gross Domestic Product (GDP) increased 58.8 percent between 1997 and 2010, with approximately half of this growth attributed to oil and gas production (NLDF 2011). Economic conditions remained robust in Newfoundland and Labrador in 2011 and, at 4.3 percent, Newfoundland's GDP growth was among the highest in Canada. GDP remained virtually unchanged in 2012 as investment and consumption growth was offset by a decline in exports (NLDF 2011, 2012a). GDP growth was expected to be 5.8 percent in 2013, the highest growth among provinces (NLDF 2013).

In 2013, the provincial unemployment rate was expected to average 11.5 percent, having decreased each year since the 2009 recession, and representing the province's lowest unemployment rate since 1973 (Table 2.1) (NLDF 2013). Economic expansion is expected to continue as a result of investment in major projects, including Vale Newfoundland and Labrador Limited's commercial nickel processing plant in Long Harbour, the Iron Ore Company mining expansion in Labrador City, the Muskrat Falls development, the Hebron oil project and planned expansion projects for the Hibernia and White Rose oil fields. Offshore oil production has been a primary economic driver in the province between 2000 and 2010. Since first oil flowed from Hibernia in 1997, the Terra Nova and White Rose projects have also become active, and the oil and gas industry has been a major contributor to provincial GDP. Mining has also been an important component of the provincial economy, which has been expanded through the production of projects such as the Iron Ore Company mine in Labrador City and the Vale operation at Voisey's Bay.

Table 2.1 Selected Economic Indicators, Province, 2003 to 2013

Economic Indicators	2003	2004	2005	2006	2007	2009	2009	2010	2011	2012 ^(a)	2013 ^(b)
Population as of July 1 (000s)	518.4	517.4	514.3	510.6	509.0	511.5	516.7	522.0	525.0	526.8	526.7
% Change	-0.2%	-0.2%	-0.6%	-0.7%	-0.3%	0.5%	1.0%	1.0%	0.6%	0.3%	0.0%
GDP at Market Prices (\$000)	18,406	19,664	22,248	26,482	29,714	31,434	24,972	29,063	33,501	33,817	n/a
% Change	10.1	6.8	13.1	19.0	12.2	5.8	-20.6	16.4	15.3	0.9	n/a
Personal Income (\$000)	12,436	12,855	13,249	13,952	14,808	15,653	16,396	17,083	18,065	19,031	20,095
% Change	4.3	3.4	3.1	5.3	6.1	5.7	4.7	4.2	5.8	5.4	5.6
Labour Force, Annual Average (000s)	253.3	253.3	251.0	251.8	250.3	252.0	251.3	256.3	258.0	263.3	262.8
% Change	1.9%	0.0%	-0.9%	0.3%	-0.6%	0.7%	-0.3%	2.0%	0.7%	2.1%	-0.2%
Employment, Annual Average (000s)	211.8	213.7	213.0	214.8	216.5	218.7	212.3	219.4	225.4	230.5	232.8
% Change	2.1	0.9	-0.3	0.8	0.8	1	-2.9	3.3	2.7	2.3	1.0
Unemployment Rate, Annual Average (%)	16.4	15.6	15.1	14.7	13.5	13.2	15.5	14.4	12.7	12.5	11.4
% Change	-0.6	-4.9	-3.2	-2.6	-8.2	-2.2	17.4	-7.1	-11.8	-1.6	-8.8
Consumer Price Index (2002 = 100)	102.9	104.8	107.6	109.5	111.1	114.3	114.6	117.4	121.4	123.9	126.0
% Change	2.9	1.8	2.7	1.8	1.5	2.9	0.3	2.4	3.4	2.1	1.7
Newsprint Shipments (thousands of metric tonnes)	780.9	731.7	761.8	594.8	549.4	525.4	264.5	259.1	227.4	245.9	242.2
% Change	5.5	-6.3	4.1	-21.9	-7.6	-4.4	-49.7	-2	-12.2	8.1	-1.5
Value of Fish Landings (\$Millions)	575.6	606.1	497.3	441.6	514.3	519.2	423.3	468.2	613.9	581.5	579.4
% Change	13.9	5.3	-18	-11.2	16.5	1	-18.5	10.6	31.1	-5.3	-0.4
Value of Mineral Shipments (\$Millions)	776.4	693.9	1,550.4	2,601.4	3,913.5	3,796.5	2,030.5	3,768.1	4,538.9	3,818.4	3,682.5
% Change	-2.4	-10.6	123.4	67.8	50.3	-3.0	-46.5	85.6	20.5	-15.9	-3.6
Value of Iron Ore Shipments (\$000)	720,427	653,923	1,286,771	1,346,989	1,157,858	2,390,811	1,159,627	2,595,288	2,832,441	2,250,260	2,399,288
% Change	-1.2	-9.2	96.8	4.7	-14	106.5	-51.5	123.8	9.1	-20.6	6.6
Value of Manufacturing Shipments (\$000)	2,583.8	2,513.2	2,780.6	4,292.9	5,113.6	6,574.3	4,357.9	5,141.8	5,420.8	7,075.2	6,226.8
% Change	1.8	-2.7	10.6	54.4	19.1	28.6	-33.7	18.0	5.4	30.5	-12.0
Oil Production (Millions of Barrels) ^(c)	123	114.8	111.3	110.8	134.5	125.2	97.7	100.7	97.3	72.2	83.6
% Change	17.9	-6.7	-3	-0.4	21.4	-7	-22	3.1	-3.4	-25.8	15.9

Economic Indicators	2003	2004	2005	2006	2007	2009	2009	2010	2011	2012 ^(a)	2013 ^(b)
Public and Private Capital Investment (\$Millions)	3,712	4,243	4,576	4,359	4,217	5,037	4,949	6,048	7,549	9,385	12,329
% Change	10.4	14.3	7.8	-4.7	-3.2	19.4	-1.7	22.2	24.8	24.3	31.4
Housing Starts (Number)	2,692	2,870	2,498	2,234	2,649	3,261	3,057	3,606	3,488	3,885	2,862
% Change	11.3	6.6	-13	-10.6	18.6	23.1	-6.3	18	-3.3	11.3	-26.3
Retail Trade North American Industrial Classification System (\$Millions)	5,736	5,762	5,827	6,017	6,534	7,019	7,123	7,446	7,841	8,200	8,524
% Change	6.1	0.5	1.1	3.3	8.6	7.4	1.5	4.5	5.3	4.6	4.0
New Motor Vehicle Sales (Number)	25,428	22,898	24,899	24,188	28,260	31,448	28,755	31,667	30,816	33,606	35,439
% Change	-1.4	-9.9	8.7	-2.9	16.9	11.3	-8.6	10.1	-2.7	9.1	5.5

Source: Newfoundland and Labrador Statistics Agency 2014; NLDF 2013, 2014

(a) estimate

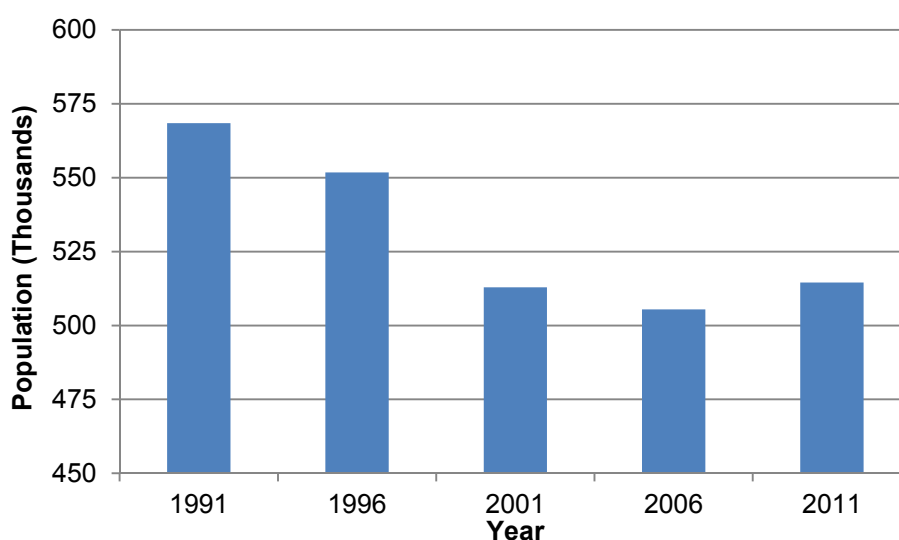
(b) forecast

(c) Hibernia began production in November 1997, Terra Nova began in January 2002, Voisey's Bay began in September 2005 and White Rose began in November 2005.

Investment related to further project development in the province has continued to drive economic expansion, and the economy of Newfoundland and Labrador is now one of the fastest growing in Canada. Capital investment was expected to total approximately \$11 billion in 2013, an increase of 10.0 percent over 2012, reflecting the development of projects such as the Vale nickel processing plant in Long Harbour, the Iron Ore Company expansion in Labrador City, the Hebron oil project and planned expansion projects for the Hibernia and White Rose oil fields.

The current state of the provincial economy is robust, and the NLDF has predicted solid economic conditions for the medium-term outlook. As shown in Table 2.1, most economic indicators posted gains for 2010, and 2011 and 2012 estimates indicate continued growth (NLDF 2012a, 2013).

The province's economic performance over the last decade marks a recovery from the economic downturn of the 1990s. Newfoundland and Labrador has experienced a long period of population decline, which was largely due to economic consequences of the 1992 fisheries moratorium. This blow to the economy was reflected in high unemployment rates (approximately 20 percent during 1992 to 1994), a decline in the labour force, decreases in retail trade and declining housing starts. Census counts show net losses of over 15,000 people between 1991 and 1996, of nearly 40,000 between 1996 and 2001, and of over 5,000 between 2001 and 2006 (Figure 2-1). This period of population decline is also illustrated by interprovincial migration data, which show net out-migration for each year between 1991 and 2007 (Table 2.2). Population loss, out-migration and unemployment particularly affected rural areas of Newfoundland and Labrador.



Source: Statistics Canada 1996, 2001, 2006 and 2012a

Figure 2-1 Population, Province, 1991 to 2011

Table 2.2 Interprovincial Migration, Province, 1991 to 2013

Census Year	In	Out	Net
1991-1992	9,266	10,935	-1,669
1992-1993	7,558	10,636	-3,078
1993-1994	6,580	11,532	-4,952
1994-1995	6,406	13,380	-6,974
1995-1996	7,005	14,441	-7,436
1996-1997	6,962	15,096	-8,134
1997-1998	7,392	16,882	-9,490
1998-1999	7,392	13,690	-5,625
1999-2000	8,400	12,663	-4,263
2000-2001	7,499	11,992	-4,493
2001-2002	8,784	12,136	-3,352
2002-2003	9,198	10,881	-1,683
2003-2004	8,397	10,424	-2,027
2004-2005	8,213	11,923	-3,710
2005-2006	8,295	12,637	-4,342
2006-2007	8,406	12,473	-4,067
2007-2008	9,759	10,287	-528
2008-2009	10,262	8,385	1,877
2009-2010	8,998	7,440	1,558
2010-2011	7,785	7,755	30
2011-2012	8,173	7,628	545
2012-2013	9,097	9,972	-875

Source: Newfoundland and Labrador Statistics Agency 2013

Note: Figures do not include international migration

The recent period of relative prosperity has influenced demographic changes and has stabilized the provincial population (Figure 2-1). In 2008-2009, there was a net in-migration for the first time since 1991 (Table 2.2). Population estimates for Newfoundland and Labrador in 2009 showed an increase of 0.5 percent compared to the previous year (Newfoundland and Labrador Statistics Agency 2012). This was the first year since 1992 that the province recorded a population increase. By 2010, population estimates had increased by a further 0.5 percent. The 2011 Census reports a provincial population of 514,536, representing a 1.8 percent increase since 2006. In 2013, the provincial population was more than 526,000 and preliminary data indicate net out-migration of almost 900 people (Newfoundland and Labrador Statistics Agency 2014).

Despite this recent period of relative stability, the excess of births over deaths in the province (Table 2.3) has consistently decreased since 1991. In the last 20 years, Newfoundland and Labrador has recorded a large decline in the rate of natural population increase as a result of fewer births and an increase in annual deaths. The province's fertility rate was the lowest in the country in 2006, when Newfoundland and Labrador was the only province to report negative natural population change (NLDF 2006). Between 2006 and 2009 the birth rate increased to 1.6 but in 2011, it stood at 1.45, which was still below the national average of 1.62 (Statistics Canada 2013a).

Table 2.3 Natural Increase Components of Growth, Province, 1991 to 2013

Census Year	Births	Deaths	Net Natural Increase
1991-1992	6,929	3,791	3,138
1992-1993	6,689	3,815	2,874
1993-1994	6,423	3,977	2,446
1994-1995	6,140	3,987	2,153
1995-1996	5,846	3,954	1,892
1996-1997	5,542	4,181	1,361
1997-1998	5,245	4,340	905
1998-1999	4,899	4,095	804
1999-2000	5,060	4,232	828
2000-2001	4,732	4,233	499
2001-2002	4,636	4,126	510
2002-2003	4,596	4,276	320
2003-2004	4,598	4,254	344
2004-2005	4,543	4,434	109
2005-2006	4,526	4,392	134
2006-2007	4,495	4,677	-182
2007-2008	4,664	4,519	145
2008-2009 ^(r)	4,925	4,360	565
2009-2010 ^(r)	4,945	4,450	495
2010-2011 ^(r)	4,775	4,541	234
2011-2012 ^(r)	4,460	4,591	-131
2012-2013 ^(r)	4,420	4,706	-286

Source: Newfoundland and Labrador Statistics Agency 2014

(r) Revised

However, the long-term trend over the past 20 years has been the decline in the natural increase component of population growth reinforced by the effects of net out-migration, resulting in the period of provincial population decline discussed above. This decline has occurred in most parts of the province, with those regions that are dependent on the fishery and Employment Insurance being disproportionately affected (NLDF 2006). Areas heavily dependent on the groundfish fishery, including the Northern Peninsula and the South Coast, have experienced the greatest losses.

2.1.2 St. John's Area

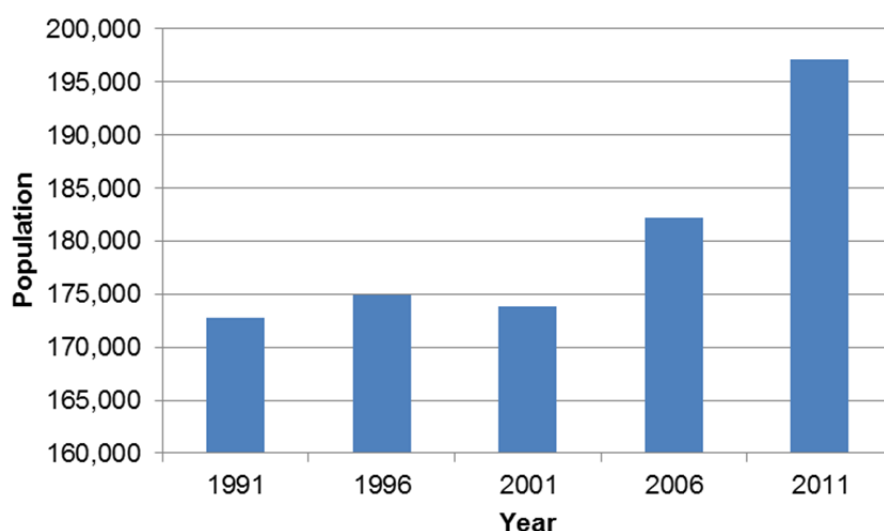
The St. John's area economy has fared comparatively well by provincial standards over the past decade, and is currently enjoying a boom in economic growth and activity. The Cities of St. John's and Mount Pearl, in particular, have experienced substantial economic growth in recent years. Beginning in the late 1990s and continuing through the 2000s, St. John's experienced a wave of construction activity, including the new Janeway Hospital, the Mile One Civic Centre and convention facility, The Rooms (provincial art gallery and archives complex), the Outer Ring Road, and a primary sewage treatment plant serving St. John's, Mount Pearl and part of the Town of Paradise. The St. John's Airport also underwent a \$48 million redevelopment and there was an expansion and redevelopment at the St. John's Dockyard (NEWDOCK). Construction of a new Metrobus Depot was also completed in 2013. The St. John's Port Authority completed a \$13 million upgrade of Pier 17, the A. Harvey & Co. wharf (Piers 15 and 16) was upgraded and in 2005 the Bay Bulls Marine Terminal was completed.

Mount Pearl, home to the Donovan's Industrial Park, the province's largest, has experienced economic growth across a number of sectors, including most substantially, the offshore oil and gas sector.

There are also several substantial construction projects that have recently begun or are scheduled for the near future in the St. John's area. The Canadian Forces base at Pleasantville is being replaced with a new multi-purpose facility at an estimated cost of \$150 million. Other proposed and ongoing construction projects include the expansion of the Convention Centre, the Henry Bell condominiums, the Fortis office building, the Steele Hotel project and the Eastport Properties office building in downtown St. John's, as well as further upgrades to the St. John's International Airport, including the addition of parking, roads, and an expansion the Airport Terminal Building (City of St. John's 2013).

In response to the increased economic activity and prosperity in the St. John's area over the past decade, the City of St. John's has developed an action plan to guide the area's economic growth through to 2021. The *Strategic Economic Roadmap: 2011-2021* sets guiding principles, identifies strategic goals and outlines a series of priority actions to be undertaken by the City of St. John's and its various partners (City of St. John's 2011).

Favorable economic conditions have supported population growth in the St. John's area, as illustrated by Figure 2-2. Between 2001 and 2006, the population of the St. John's area increased by 4.8 percent from 173,855 to 182,150. From 2006 to 2011, the population grew by an additional 8.0 percent to approximately 197,000 (Statistics Canada 2012a). The 2011 Census also shows that the population has continued to increase in the City of St. John's, and the St. John's CMA – which includes most communities in the St. John's area. Intercensal demographic changes in the St. John's CMA and the City of St. John's since 1991 are illustrated in Table 2.4. These changes indicate a trend towards steady population growth for St. John's and its adjacent communities over the past 20 years. Between 2006 and 2011, the population of the St. John's CMA grew by 8.8 percent to 196,966, while the City of St. John's population increased by 5.5 percent to 106,172. The 2011 Census population counts for both the City of St. John's and the St. John's CMA are the highest on record (Statistics Canada 2012a). As of July 1, 2013, the population of the St. John's CMA is estimated to have been 203,600 (NLDF and City of St. John's 2014).



Source: Statistics Canada 1996, 2001, 2006, 2012a

Figure 2-2 Population, St. John's Area, 1991 to 2011**Table 2.4 Population Change, St. John's CMA and City of St. John's, 1991 to 2011**

Year	St. John's CMA		City of St. John's	
	Population	% Change	Population	% Change
1996	174,051	1.3	101,936	-2.6
2001	172,918	-0.7	99,182	-2.7
2006	181,113	4.7	100,646	1.5
2011	196,966	8.8	106,172	5.5

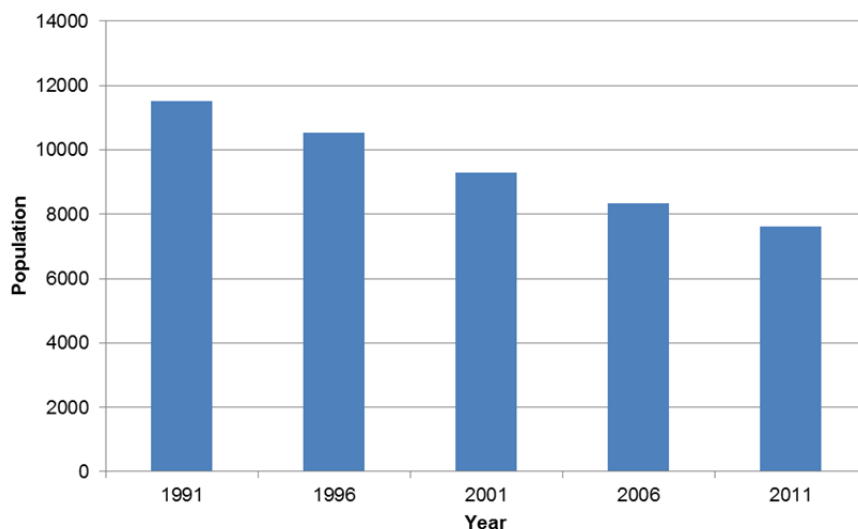
Source: Statistics Canada 1996, 2001, 2006, 2012a

2.1.3 Argentia Area

Economic conditions in the Argentia area are not as strong as in the St. John's area, but the Argentia area's relatively diverse economy and proximity to several large industrial projects have enabled it a stronger economic performance than many other rural areas of the province. The population of the Argentia area in 2006 was approximately 8,500, which represented a decline of 9.2 percent since 2001, when the population was over 9,000. Between 2006 and 2011, the population of the Argentia area continued to decline; the 2011 population of approximately 7,600 represents a further decline of over 8.0 percent since 2006. As the largest community in the Argentia area, Placentia was populated by 3,898 residents in 2006 (Statistics Canada 2006; Avalon Gateway 2009). This represents a population decline of over 20 percent in the decade since 1996, when the population stood at over 5,000. Placentia's population has continued to decrease and fell to 3,643 in 2011 and to 3,590 in 2013 (Statistics Canada 2006, 2012a).

Census 2011 data indicate continued population decline for the majority of communities in the Argentia area. However, Long Harbour-Mount Arlington Heights and Whitbourne-Markland have grown between 2006 and 2011, by 41 percent and 7 percent, respectively (Statistics Canada 2006, 2012a). Despite the long period of population loss in the Argentia area (as illustrated in Figure 2-3), there is recent evidence that more

people are moving into Placentia and other nearby communities to take advantage of employment associated with projects such as the Vale nickel processing plant in Long Harbour. In fact, housing sales in Placentia have increased recently and it has been reported that it is becoming difficult to find housing to rent or buy in the Placentia area (Dooley 2011).



Source: Statistics Canada 1996, 2001, 2006 and 2012a

Figure 2-3 Population, Argentia Area, 1991 to 2011

Like much of Newfoundland and Labrador in general, the communities in the Argentia area have traditionally relied on the fishery as the main source of employment and income. However, the economy of the Argentia area changed in the 1940s with the construction of an American naval station at Argentia. This had major socio-economic effects for the surrounding area as the base became a dominant employer, introducing a cash economy where there had traditionally been a system of credit between fishers and merchants. The station remained important to the regional economy until it was decommissioned by the American military in 1994.

The Argentia site has remained an important industrial centre for the area. It is currently the location of port facilities and an industrial park, which houses several fabrication operations that provide employment to the area (Argentia Management Authority (AMA), no date). Argentia is also the site of the Marine Atlantic terminal for ferry service to North Sydney, Nova Scotia. In 2010-2011, Marine Atlantic made substantial capital investment to upgrade the Argentia terminal building and added a new vessel, the *MV Atlantic Vision*, to service the Argentia-North Sydney route (Marine Atlantic 2011).

The economy in the Argentia area is diversifying. The fishery, marine and agriculture industries are still important for the area and the tourism industry has continued to develop, with Placentia as a regional centre for cultural heritage tourism (Avalon

Gateway 2009). Major construction of the Vale nickel processing plant in Long Harbour, which was completed at the end of 2013, had a peak workforce of approximately 6,000. Operations will continue to bring new jobs and new people to the area, and will also create many indirect business opportunities for new and existing companies. The nickel plant will have an annual capacity of 50,000 tonnes of nickel. The value of the project is estimated at \$2.8 billion, with capital expenditures estimated at \$1.1 billion in 2013 (NLDF 2013).

Argentia area construction will also continue with further upgrades to the Marine Atlantic shore facilities and the replacement of the Sir Ambrose Shea Lift Bridge in Placentia, a project valued at \$26 million. Other project developments that could affect the economy and demography of the area include the Hebron project at Bull Arm, as well as potential fabrication and marine transport opportunities at Argentia (Avalon Gateway 2010).

2.2 Employment and Business

2.2.1 Newfoundland and Labrador

Employment conditions in the province have improved in recent years. The labour force has increased steadily since the mid-1990s (Table 2.5). Between 2006 and 2012, average annual employment increased from 251,800 to 263,300. In 2013, there was a slight decrease in the labour force. However, employment rose by 0.3 percentage points, while the unemployment rate fell from 12.5 percent in 2012 to 11.4 percent in 2013. In 2013, the total population aged 15 years and older was approximately 429,500 and the participation rate was 61.6 2 percent, up from 59.1 in 2006. Employment conditions are expected to remain strong for 2013 (Newfoundland and Labrador Statistics Agency 2013).

Table 2.5 Labour Force Characteristics, Province, 1991 to 2013, Annual Averages

	1991	1996	2001	2006	2012	2013
Total Population, 15 years and older (000s)	444.4	443.7	427.3	425.8	427.7	429.5
Labour Force (000s)	249.7	232.9	243.9	251.8	263.3	262.8
Employment (000s)	204.7	188.8	204.9	214.8	230.5	232.8
Participation Rate (%)	56.2	52.5	57.0	59.1	61.6	61.2
Employment Rate (%)	46.1	42.6	48.0	50.4	53.9	54.2
Unemployment Rate (%)	18.0	18.9	15.8	14.7	12.5	11.4

Source: Newfoundland and Labrador Statistics Agency 2014

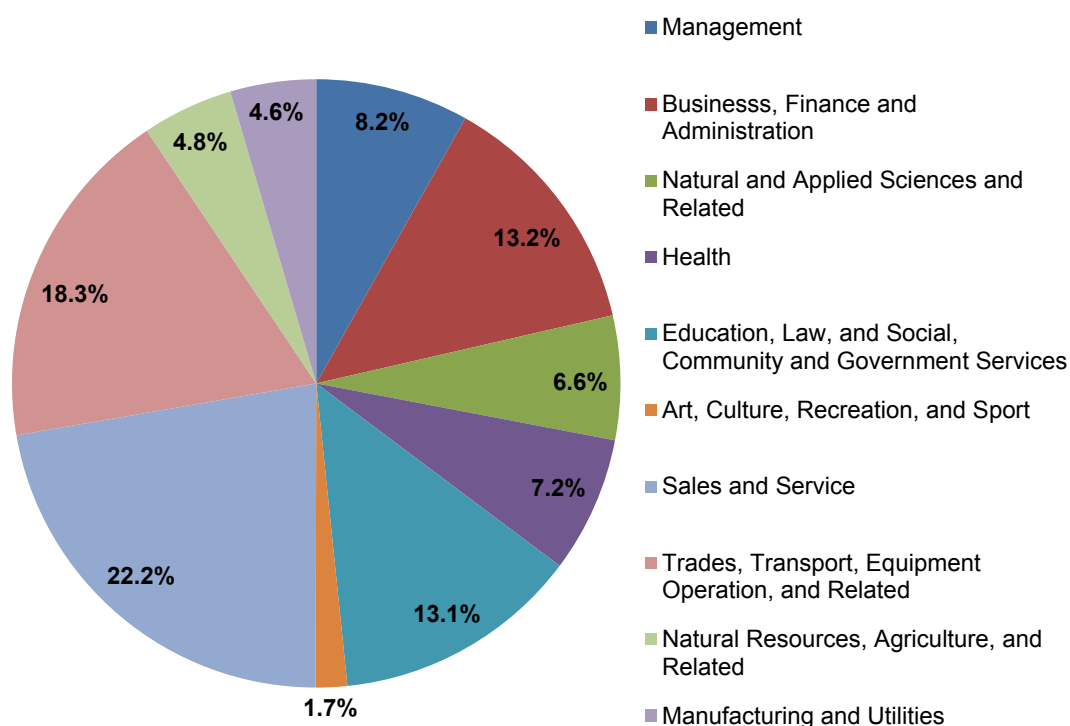
In 2013, the provincial labour force was comprised of 51.8 percent males and 48.2 percent females (Table 2.6). The participation rate for males was 65.4 percent, while for females this figure was 57.2 percent. At 12.7 percent, the male unemployment rate was higher than that for females, which stood at 10.0 percent (Newfoundland and Labrador Statistics Agency 2012).

Table 2.6 Labour Force Characteristics by Gender, Province, 2013

Parameter	Males	Females	Total
Labour Force (000s)	136.9	125.9	262.8
Employment (000s)	119.4	113.4	232.8
Participation Rate (%)	65.4	57.2	61.2
Employment Rate (%)	57.0	51.5	54.2
Unemployment Rate (%)	12.7	10.0	11.4

Source: Newfoundland and Labrador Statistics Agency 2013

In 2011, 22.2 percent of the province's labour force worked in sales and service occupations. 18.3 percent worked in trades, transport, equipment operations and related positions, which includes construction trades. Natural resources, agriculture and related positions, which includes occupations in the oil and gas sector, accounted for 4.8 percent of provincial employment by occupation (Figure 2-4) (Statistics Canada 2013b).



Source: Statistics Canada 2013b

Figure 2-4 Occupations by Industry, Province, 2011

After a recession-related decrease in 2009, labour markets in the province have remained robust (NLDF 2013). Employment growth resumed in 2010, and continued through 2013. In 2012, several labour market indicators, including employment, participation rate and wage rates, reached the highest level ever recorded in the province. In 2014, employment is expected to remain relatively stable, with some decline as employment from major projects is reduced (NLDF 2013).

In 2013, there were 17,657 businesses in Newfoundland and Labrador. Small businesses formed the majority, with 53.7 percent of businesses in the province employing one to four persons (Table 2.7). A further 6,095 businesses (34.5 percent) employed 5 to 19 employees, 1,731 (9.8 percent) employed 20 to 99 people and 303 (1.7 percent) had between 100 and 199 employees. Businesses that employ over 500 people are relatively rare in the province; in 2013 there were 51 businesses in this category, representing 0.3 percent of all businesses (Newfoundland and Labrador Statistics Agency 2014).

Table 2.7 Number of Businesses by Employment Size Range, Province, 2013

Employment Size Range	Number	Percent
1 to 4	9,477	53.7%
5 to 19	6,095	34.5%
20 to 99	1,731	9.8%
100 to 499	303	1.7%
500+	51	0.3%
Total	17,657	100.0%

Source: Newfoundland & Labrador Statistics Agency 2014

As indicated in Table 2.8, the top five North American Industrial Classification System industry code categories of business in the province, based on the number of operations, are: retail trade; other services; construction; health care; and accommodation and food services.

Table 2.8 Number of Businesses by Industry, Newfoundland and Labrador, 2011

Industry	Number	Percent
Agriculture, Forestry, Fishing and Hunting	554	3.1%
Mining and Oil and Gas Extraction	91	0.5%
Utilities	24	0.1%
Construction	2,387	13.5%
Manufacturing	443	2.5%
Wholesale Trade	684	3.9%
Retail Trade	2,677	15.2%
Transportation and Warehousing	784	4.4%
Information and Cultural Industries	145	0.8%
Finance and Insurance	401	2.3%
Real Estate, Rental and Leasing	745	4.2%
Professional, Scientific and Technical	1,236	7.0%
Management of Companies and Enterprises	135	0.8%
Administrative and Support, Waste Management and Remediation	615	3.5%
Educational Services	169	1.0%
Health Care and Social Assistance	1,927	10.9%
Arts, Entertainment and Recreation	341	1.9%
Accommodation and Food Services	1,337	7.6%
Other Services	2,524	14.3%
Public Administration	438	2.5%
Total	17,657	100.0%

Source: Newfoundland & Labrador Statistics Agency 2013

2.2.2 St. John's Area

The St. John's area has been a major beneficiary of, and contributor to, the recent economic success enjoyed by the province. Strong economic conditions are indicated by the most recent statistics for the St. John's CMA, which encompasses the majority of the St. John's area defined by the SEIS. Employment in the St. John's CMA increased 3.6 percent between 2011 and 2012, due mainly to increases in construction, professional, scientific and technical services, finance, insurance, real estate and leasing and wholesale and retail trade. However, employment in the St. John's CMA decreased by 1.1 percent between 2012 and 2013, primarily as a result of public sector reductions, decreasing construction activity at Long Harbour and the slowing housing market (NLDF and the City of St. John's 2014). Overall, the past decade has seen a steady decline in the unemployment rate of the St. John's CMA; in 2001, unemployment stood at 9.2 percent and in 2013 the unemployment rate was 6.1 percent (NLDF and the City of St. John's 2014).

The labour force increased by 4.3 percent between 2011 and 2012, as more people participated in the labour market and substantial net in-migration to the region continued. In 2013, the labour force decreased by 2.3 percent to 115,000. This was the sixth highest employment growth of all CMAs in Canada. Growth in construction activity and the service sector will continue to be supported by strong growth in employment and wages, increased support activities for major projects and general consumer and business optimism (NLDF and the City of St. John's 2013, 2014).

The growth of the oil industry has been accompanied by the development in St. John's of an array of education, training and research and development (R&D) facilities. At Memorial University (MUN), for instance, this has included construction of the Centre for Earth Resources Research, Centre for Cold Ocean Resources Engineering (C-CORE) and Landmark Graphics Visualization Centre, with a combined worth of approximately \$66 million. In 2010, MUN opened an Autonomous Ocean Systems Laboratory to advance harsh environment research capacity, as well as a new Process Engineering Design and Research Laboratory (Department of Industry, Trade and Technology 1998; Petroleum Research Atlantic Canada (PRAC) 2003, 2005; Stantec 2012). In addition, \$12.5 million has been committed to establish the C-CORE Centre for Arctic Resource Development, which will support the safe, responsible, cost-effective and sustainable hydrocarbon development in Arctic and sub-Arctic regions (Stantec 2012).

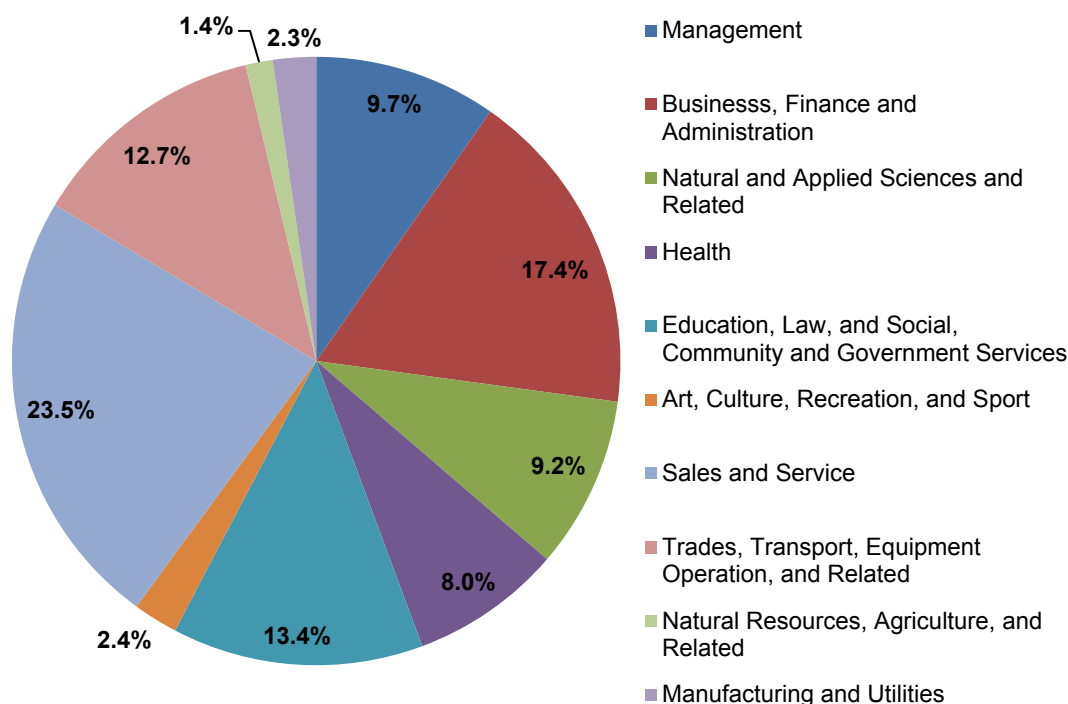
Development at the Marine Institute has included the Marine Offshore Simulator Training Centre, a safety and emergency response training centre and the Offshore Safety and Survival Centre in Foxtrap, with a combined worth of \$24 million. In 2010, the Marine Institute purchased new ocean-mapping equipment in support of its ocean technology programs and a wave-piercing catamaran, which provides a marine platform to deploy research equipment. That same year, the Marine Institute also opened a new marine

base in Holyrood, which is a focal point for a variety of oil and gas-related research and education activities (PRAC 2003, 2005; Stantec 2012).

The CNA has developed a Petroleum Technology Training Program and continued to upgrade many of its industrial trades shops and engineering technology laboratories, including a \$2 million refurbishment of the welding shop at the Prince Philip Drive campus.

The St. John's area has also seen an increase in fabrication work related to major oil projects at the NEWDOCK sub-sea systems fabrication centre and the Pennecon marine terminal in Bay Bulls (PRAC 2003, 2005). Located 30 km south of St. John's, Bay Bulls has been used for rig mobilization and subsea installation support activity related to different offshore projects. Recently, Pennecon Energy Marine Base invested more than \$3.5 million in infrastructure development at its Bay Bulls facility. In addition to the installation of a concrete caisson that expanded its dock space from 60 to 90 m, Pennecon increased warehouse space by approximately 1,021 m² (11,000 ft²) and expanded its secure laydown area (Stantec 2012).

St. John's has historically been the provincial centre for administration, engineering, regulation, training, supply base, air transportation and service activities. In 2011, most people in the St. John's area were employed by the sales and service industry (23.5 percent) and in business, finance and administration positions (17.4 percent). Trades, transport, equipment operations and related occupations accounted for 12.7 percent of the CMA's workforce, while 1.4 percent of the workforce was in occupations related to natural resources, agriculture and other production activities (Figure 2-5) (Statistics Canada 2013b).



Source: Statistics Canada 2013b

Figure 2-5 Occupations by Industry, St. John's Area, 2011

In 2011, there were 7,279 businesses in the St. John's CMA, representing approximately 40 percent of the total for the province. The business capacity of the St. John's CMA is primarily composed of small businesses; businesses in the employment size range of one to four employees represent approximately 50 percent of total businesses in the St. John's CMA. Companies with less than 20 employees accounted for approximately 85 percent of the total. There were 919 businesses with 20 to 99 employees, 187 businesses with 100 to 499 employees and 32 companies that employed 500 or more people (Table 2.9) (Newfoundland and Labrador Statistics Agency 2014).

Table 2.9 Number of Businesses by Employment Size, St. John's CMA, 2013

Employment Size Range	Number	Percent
1-4	3,620	49.7%
5-19	2,521	34.6%
20-99	919	12.6%
100-499	187	2.6%
500+	32	0.4%
Total	7,279	100.0%

Source: Newfoundland & Labrador Statistics Agency 2014

As indicated in Table 2.10, the construction industry accounted for 1,124 businesses in the St. John's CMA, representing 15.4 percent of total businesses in the CMA and the highest number among industries. Services, retail trade, health care and professional/scientific companies also represented large sections of the business

community. There were 855 (11.7 percent) businesses in retail trade, 848 (11.6 percent) in other services, 821 (11.3 percent) in professional, scientific and technical services, and 815 (11.2 percent) in health care and social assistance (Newfoundland and Labrador Statistics Agency 2014).

Table 2.10 Number of Businesses by Industry, St. John's CMA, 2013

Industry	Number	Percent
Agriculture, Forestry, Fishing and Hunting	95	1.3
Mining and Oil and Gas Extraction	50	0.7
Utilities	4	0.1
Construction	1,124	15.4
Manufacturing	180	2.5
Wholesale Trade	377	5.2
Retail Trade	855	11.7
Transportation and Warehousing	252	3.5
Information and Cultural Industries	92	1.3
Finance and Insurance	201	2.8
Real Estate, Rental and Leasing	344	4.7
Professional, Scientific and Technical Services	821	11.3
Management of Companies and Enterprises	83	1.1
Administrative and Support, Waste Management and Remediation	313	4.3
Educational Services	101	1.4
Health Care and Social Assistance	815	11.2
Arts, Entertainment and Recreation	121	1.7
Accommodation and Food Services	477	6.6
Other Services	848	11.6
Public Administration	126	1.7
Total	7,279	100.0

Source: Newfoundland and Labrador Statistics Agency 2014

An increasing number of businesses in the St. John's CMA are related to ongoing oil industry activities. For example, as of 2010, the Newfoundland and Labrador Oil and Gas Industry Association (NOIA) had 523 member companies, the majority of them based in the St. John's region (Stantec 2012).

2.2.3 Argentia Area

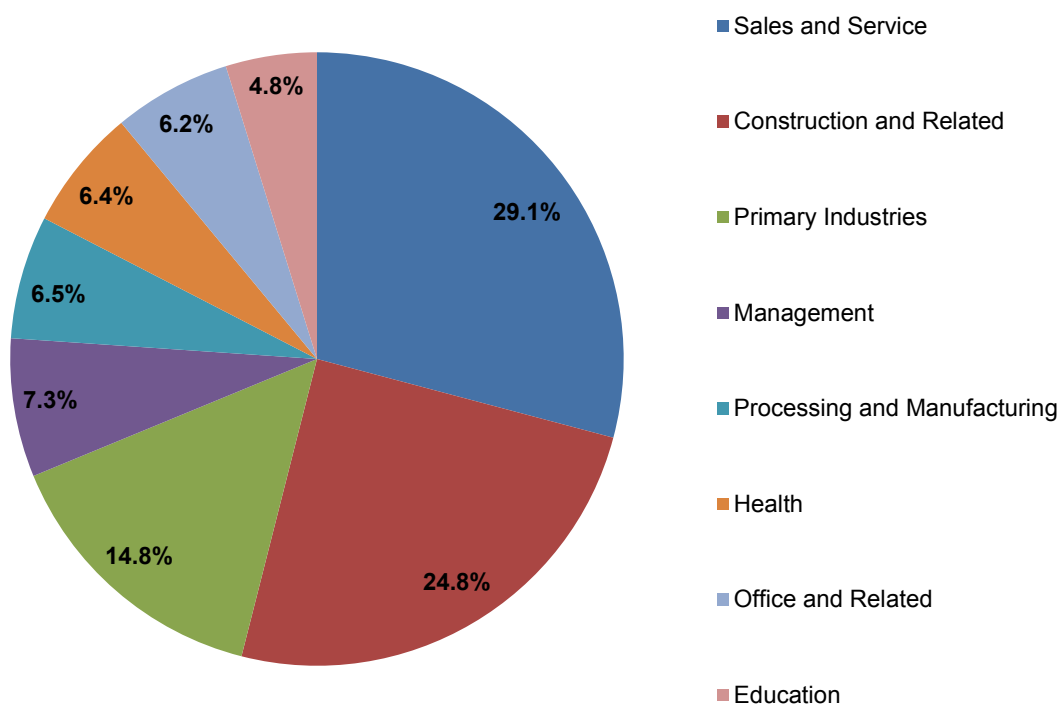
The Argentia area has had fluctuating economic fortunes over the years, reflecting changes in the provincial economy, in the fishery and with several large industrial projects within and close to the area.

National Household Survey data from 2011 for the majority of the communities in the Argentia area are not available due to data quality or confidentiality reasons. In 2006, the labour force for the Argentia area stood at approximately 4,000, with a participation rate of approximately 53 percent (Community Accounts, no date). The unemployment rate for the Argentia area was 28.5 percent in 2006, with approximately 2,800 people employed. The area has experienced relatively high unemployment compared to provincial averages. The provincial unemployment rate during the same period in 2006 was 18.6 percent. As of 2006, unemployment in the Argentia area varied considerably according

to gender and age group. For Regional Economic Zone 18, which includes the majority of the Argentia area, the 2006 unemployment rate was 30.2 percent. There was higher unemployment among females, with an unemployment rate of 31.2 percent compared to 28.7 percent for males. Higher unemployment rates were also recorded for the 15 to 24 age group (34.8 percent) and for the 25 to 34 age group (38.8 percent), while the unemployment rate for people aged 35 to 54 stood below the regional rate at 26.5 percent (Community Accounts, no date).

Within Regional Economic Zone 18, there was also substantial variation in employment conditions at the community level. For example, the unemployment rate for Long Harbour-Mount Arlington Heights (13.8 percent) was considerably lower than the regional unemployment rate (Community Accounts, no date).

In 2005, the predominant occupations for residents of the Argentia area were in sales and service, construction and related industries and primary industries such as fishing (Figure 2-6). The processing and manufacturing sector reflected local employment at several metal fabrication operations at the Argentia industrial park. Other employers included health and education, and residents are also employed at provincial government offices such as the Newfoundland and Labrador Department of Advanced Education and Skills (NLDAES), Community Health and CNA, as well as federal government offices such as Service Canada and Fisheries and Oceans Canada. Argentia Freezers & Terminals, operated by A. Harvey & Co. Ltd., is a multi-purpose marine cargo facility in Argentia. The company employs in excess of 30 employees seasonally, as demand for service requires. The Town of Placentia is the service centre for the region, and small businesses in Placentia provide employment for residents of the Argentia area (Placentia Area Chamber of Commerce 2009).



Source: Community Accounts, no date

Figure 2-6 Occupations by Industry, Argentia Area, 2005

Changes in employment and business have occurred in the Argentia area as a result of Vale's nickel processing operations. The company has decided to process nickel concentrate from its Voisey's Bay mine using hydrometallurgy ("hydromet"), an innovative process requiring an R&D approach. To optimize the process for Voisey's Bay nickel concentrate, Vale constructed a demonstration hydromet processing facility in Argentia. Construction began in May 2004 and the plant was operational from October 2005 to June 2008 (Vale 2012a). During operations, the demonstration plant contributed substantial income to the local economy and employed approximately 130 people (Bell 2008).

For the next stage in the development of this project, Vale chose a site near Long Harbour for the location of their hydromet nickel processing plant. The construction timeline is from 2009 to 2013 and operations start-up is scheduled for 2015. The estimated capital cost of construction is US \$2 billion. Construction-phase employment is estimated to be 10 million person-hours. As of March 2012, Vale reported that 9 million person-hours of employment had been generated to date, with over 2,400 jobs at the construction site in Long Harbour and approximately 150 jobs at the project management office in St. John's (Vale 2012b). Plant operation will provide an estimated 500 long-term positions (Fitzpatrick 2013a).

In 2013, there were 175 businesses in Economic Zone 18, representing 1.0 percent of the total for the province. Of these, 102 (58.3 percent) employed one to four persons and 58 (33.1 percent) had five to 19 employees (Table 2.11). There were only 15 companies employing over 20 people (Newfoundland and Labrador Statistics Agency 2014).

Table 2.11 Number of Businesses by Employment Size, Economic Zone 18, 2011

Employment Size Range	Number	Percent
1-4	102	58.3%
5-19	58	33.1%
20-99	11	6.3%
100-499	x	x
500+	x	x
Total	175	100.0%

Source: Newfoundland & Labrador Statistics Agency 2014

Note: "X" indicates data suppressed by Statistics Canada for confidentiality purposes

As indicated in Table 2.12, retail trade was the predominant industry in the Argentia area in terms of business capacity. With 31 businesses, retail trade accounted for 17.7 percent of total businesses in the area. Aside from retail trade, the business capacity of the Argentia area largely comprised companies working in construction (12.6 percent) and accommodation and food services (11.4 percent).

Table 2.12 Number of Businesses by Industry, Economic Zone 18, 2013

Industry	Number	Percent
Agriculture, Forestry, Fishing and Hunting	8	4.6%
Mining and Oil and Gas Extraction	0	0.0%
Utilities	0	0.0%
Construction	22	12.6%
Manufacturing	7	4.0%
Wholesale Trade	X	X
Retail Trade	31	17.7%
Transportation and Warehousing	10	5.7%
Information and Cultural Industries	X	X
Finance and Insurance	X	X
Real Estate, Rental and Leasing	9	5.1%
Professional, Scientific and Technical	0	0.0%
Management of Companies and Enterprises	X	X
Administrative and Support, Waste Management and Remediation	7	4.0%
Educational Services	X	X
Health Care and Social Assistance	18	10.3%
Arts, Entertainment and Recreation	5	2.9%
Accommodation and Food Services	20	11.4%
Other Services	17	9.7%
Public Administration	13	7.4%
Total	175	100.0

Source: Newfoundland and Labrador Statistics Agency 2014

Note: X = data not available

2.3 Community Social Infrastructure

2.3.1 Education

2.3.1.1 Newfoundland and Labrador

In recent years, Newfoundland and Labrador has seen a decline in the number of schools, students and full-time teachers, and in the teacher-pupil ratio. As of September 2013, as a result of declining student enrolment, the education system in the province was reorganized into one English-language board and one French-language board. The four existing English language school boards in the province were amalgamated into one English school board with one district office in St. John's (Newfoundland and Labrador Department of Education (NLDE) 2013). In 2013-14, the Newfoundland and Labrador English School District had 259 schools, approximately 67,000 students and over 8,000 employees (Newfoundland and Labrador English School District 2014).

Prior to the reorganization, the Eastern School District included communities in the region east of Clarendville, including the Burin, Bonavista and Avalon peninsulas. In addition, the Conseil scolaire francophone provincial de Terre Neuve et du Labrador has one school in St. John's. Under the previous system, in 2011-2012, the five school boards operated 276 schools, representing a decrease of 6.0 percent from 2006-2007, when there were 285 schools in the province. Between 1999 and 2012, the number of full-time equivalent students in the province fell 28.0 percent from 91,053 to 65,538 (NLDE 2012). The full-time teaching force in the province was 5,443 in 2006-2007 and this increased by 2.4 percent, to 5,572 teachers in 2008-2009, but dropped slightly to 5,529 in 2011-2012. Overall, enrolments continue to decline slightly faster than the number of teachers; hence, the overall teacher-pupil ratio continues to decrease, albeit at a much slower rate. For example, in 2011-2012 the ratio was 1:11.9, compared to 1:14.7 in 1993-1994 (NLDE 2012).

Post-secondary education and training in the province is provided primarily through MUN, which has its main campus and the Marine Institute in St. John's and Grenfell Campus of MUN in Corner Brook. In addition, there is the CNA, which has 17 campuses throughout the province. In 2011-2012, there were 26 registered private training institutions, which offer certificate and diploma programs for a wide range of occupations. Some of these colleges are trade union-sponsored and the majority of these schools are located in the St. John's area (NLDAES 2011).

In 2008, there were 128 full-day, 28 part-day and 22 after-school centres, plus 67 family child care facilities in the province, providing a total of 5,972 regulated child care places. The majority of these places (approximately 86 percent) were occupied by pre-school children (24 months to school entry age) (Beach et al. 2009). This represented an approximately 41 percent increase in the number of spaces since 2001 (Friendly et al. 2002). As of 2010, the number of child care centres in the province was 170, of which

120 offered full-time, 27 had part-time and 23 provided after-school spaces. The number of regulated family child care facilities remained constant at 67 and offered 410 spaces (H. Sinclair, pers. comm.). As of December 2013, the number of child care centres in the province increased to 202, with 7,073 child care spaces. There were also 133 family child care homes with 750 spaces (Newfoundland and Labrador Department of Child, Youth and Family Services (NLDCYFS) 2013).

2.3.1.2 St. John's Area

In 2005-2006, there were 124 schools in the Eastern School District, including 50 in the St. John's area. In 2011-2012, there were 118 schools in the Eastern School District and approximately half of these were located in the St. John's area (Eastern School District 2012; NLDE 2012).

In 2011-2012, there were 39,039 full-time equivalent students in the Eastern School District, which was a decrease of 3.4 percent from 2007-2008, when students numbered 40,427. There were 3,083 teachers in the Eastern School District in 2011-2012, giving a teacher-pupil ratio of 1:12.7 (NLDE 2012). In the St. John's area in 2011-2012, there were approximately 25,600 full-time equivalent students and 1,900 full-time equivalent teachers (Community Accounts, no date). Data on the number of students and teachers in the St. John's area during the 2013-14 year, post-reorganization of the English school boards into one, are not yet available.

A report on school facility requirements in the greater St. John's area indicates that, while enrolment at some schools has increased due to high levels of in-migration to suburban neighbourhoods, enrolment in the greater St. John's area is expected to drop to approximately 19,300 students by 2015-16. The report also states that the schools in the area are generally in good condition despite the old age and maintenance requirements of some. Most schools have the capacity to enroll more students (BAE-Newplan Group Limited 2010).

Post-secondary education and training in the St John's area is provided through MUN, three campuses of the CNA and 11 private training institutions. Between 2000 and 2006, the number of undergraduate students enrolled at the university increased from 14,171 to 15,414, but dropped to 14,850 in 2012. Graduate enrolment at the St. John's campus grew from 1,659 in 2000 to 3,386 in 2012, an increase of approximately 78 percent (Centre for Institutional Analysis and Planning 2012).

Three CNA campuses are located in the St John's area: Prince Philip Parkway; Ridge Road; and Seal Cove. In the fall of 1999, enrolment was approximately 3,000 and by the fall of 2005-2006, the number of full-time and part-time students had reached 3,520. Since then, enrolment has remained fairly constant. In 2007-2008, there were 3,495 students enrolled at these three campuses and approximately 3,100 students were

enrolled in 2012-13 (G. Morris, pers. comm.; C. Patey, pers. comm.; I. Pye, pers. comm.).

As of December 2013, there were 116 registered full-time and part-time daycare and after-school programs in the St. John's area. In total, these provided 4,664 spaces (NLDCYFS 2013).

2.3.1.3 Argentia Area

There are six schools in the Argentia area, which had a total of 1,344 students during the 2011-2012 school year (Table 2.13). This is a decrease of 18.2 percent from the 2005-2006 school year, when the total student enrolment in the area was 1,643. The number of teachers in the Argentia area increased between 2005 and 2011, from 124 to 125, but fell to 120 in 2012 (Community Accounts, no date).

Table 2.13 Student Enrolment and Number of Teachers, Argentia Area

School	Community	Students		Teachers	
		2011-2012	2005-2006	2011-2012	2005-2006
St. Anne's Academy	Dunville	224	248	20	19
Laval High School	Placentia	284	270	23	20
Fatima High School	St. Bride's	84	152	11	14
Crescent Collegiate	Blaketown	553	699	41	45
Whitbourne Elementary	Whitbourne	72	83	9	7
St. Catherine's Academy	Mount Carmel	127	191	16	19
Total		1,344	1,643	120	124

Source: Community Accounts, no date

In 2008-2009, 204 full-time students were enrolled at the CNA campus in Placentia. More than 200 students participate in Continuing Education and part-time courses. The Placentia campus offers industrial programs, such as Industrial Mechanic (Millwright), Welding, Heavy Duty Equipment Technician, Heavy Equipment Operator and Process Operator (CNA, no date).

Family resource programs are community-based initiatives that provide a variety of programming for young children and families. The types of services that may be offered are pre- and post-natal support programs, in particular the Healthy Baby Clubs, drop-in play sessions, parenting workshops, child development and literacy programs and toy, book and equipment lending services. Placentia and Outreach Area Family Resource Centre Inc. provides a place for parents, guardians, caregivers and their children (aged six and under) to interact with each other and to improve their physical, mental and social well-being. Stepping Stones Family Resource Centre is located in Placentia and it has three outreach sites, which are located in Mount Carmel, St. Bride's and Whitbourne. In 2009, 307 children participated in programs offered by the Family Resource Centre throughout the region (Placentia Area Chamber of Commerce 2009).

The Town of Placentia has one registered early childhood education facility, Little Pete's Daycare, with a capacity for 16 children at one time. Through government-sponsored programs, this childcare centre offers special programs such as early intervention services for children with developmental delays and children diagnosed with Autism Spectrum Disorder (Placentia Area Chamber of Commerce 2009; NLDCYFS 2013).

2.3.2 Health

Health and community services in Newfoundland and Labrador are administered by the Newfoundland and Labrador Department of Health and Community Services (NLDHCS) through four regional integrated health authorities. In addition, there is a regional Nursing Home Board in St. John's.

The Eastern Health Regional Integrated Health Authority (Eastern Health) is responsible for providing health services to all communities on the Avalon, Burin and Bonavista peninsulas. Eastern Health operates more than 80 hospitals and health care facilities, with a total of 2,692 beds (Eastern Health 2012a). The geographic areas administered by the Integrated Regional Health Authorities differ from the areas used in this SEIS. For purposes of comparability, primary attention is given to those facilities and services located within the St. John's and Argentia areas wherever possible; however, in many cases they are sub-units of larger administrative areas. For institutional health services the administrative units are:

- Newfoundland - the Province as a whole
- St. John's area - served by Eastern Health and the St. John's Nursing Home Board
- Argentia area - served by Eastern Health.

2.3.2.1 Newfoundland and Labrador

Annual total health care expenditure in the province increased from \$1.305 billion in 1997 to \$2.335 billion in 2006, an increase of 78.9 percent in less than a decade. In 2012, expenditures on health care and social services were \$2.023 billion (NLDF 2012a). Of all Canadian provinces, Newfoundland and Labrador had the highest total health expenditure per capita in 2012. The province's health care spending represented 11.7 percent of the GDP, reaching \$3.6 billion, while Canada's health care spending reached \$207.4 billion in 2012, accounting for 11.6 percent of the GDP (Canadian Institute for Health Information (CIHI) 2012a).

There are 37 hospitals and health care centres, 19 long-term care homes and three community clinics in the province. In 2011-12, they provided 1,582 acute care and 2,750 long-term care beds. The level of service at these facilities, as defined by the number of nurses and doctors per capita, is comparable to other provinces in Canada.

Between 2006 and 2011, the number of physicians per 100,000 population in Newfoundland and Labrador increased from 200 to 231. Compared with the Canadian average, Newfoundland and Labrador had a higher ratio of physicians overall per 100,000 population (200 versus 231, respectively), of family medicine physicians per 100,000 population (106 versus 123, respectively) and of specialists per 100,000 population (103 versus 108, respectively) (CIHI 2012b).

In 2011, the number of Registered Nurses per 100,000 population in Newfoundland and Labrador was 1,185, substantially higher than the Canadian ratio of 785 Registered Nurses per 100,000 population. The ratio of Licensed Practical Nurses to population was 486 per 100,000 population in 2011, higher than the Canadian ratio of 246 Licensed Practical Nurses per 100,000 population. The province's nursing workforce has been seeing a rise in full-time employment, with approximately 73 percent of Regulated Nurses working full time in 2011, compared with 66 percent in 2007. Of the 10,228 graduates of Newfoundland and Labrador's nursing programs employed in Canada in 2011, 77 percent were employed within the province (CIHI 2013).

The NLDHCS operates a number of programs and services specifically for women, including programs on reproductive health and pre- and post-natal services and benefits. According to the College of Physicians and Surgeons of Newfoundland and Labrador, there were 38 obstetrician/ gynecologists in the province in 2012 (College of Physicians and Surgeons of Newfoundland and Labrador 2012).

In Newfoundland and Labrador, concern has been expressed about the limited number of nurses, and of physicians in some specialty areas. Also, the availability of nurses and family physicians in rural areas has been seen as problematic as it may limit patient access to, and potentially reduce the quality of, medical services. The issue of the availability of nurses in rural areas is in part being addressed through the nurse-practitioner program, which was established in 1997 (NLDHCS 2006). In 2013, a new program, the Master of Nursing, Nurse Practitioner Option, was introduced at the MUN School of Nursing. This program prepares nurses to work in expanded roles in acute care areas such as emergency rooms, mental health and cardiac care, as well as long-term care and out-patient clinics. In 2011, there were 21 nurse practitioners per 100,000 people in the province, the second highest number in Canada. As of April 2013, the number had increased to 24 per 100,000 people, or 123 nurse practitioners in total (NLDHCS 2013).

In March 2008, Eastern Health began a needs assessment process for the different regions under its jurisdiction. These assessments were designed to support a regional health services plan by enhancing the understanding of health issues facing residents of the Eastern Health region. The community needs assessment included a public participation component that helped to identify the major issues of concern regarding the health system in the regions. Assessments have been completed for Bell Island, the

Burin Peninsula, the Discovery Zone, the Northeast Avalon, the Southern Avalon and Trinity Conception. As a result of these assessments, specific recommendations have been made to address identified concerns. These reports are helping Eastern Health anticipate future community needs and identify innovative strategies to meet the needs (Eastern Health 2012a; G. Janes, pers. comm.).

2.3.2.2 St. John's Area

Eastern Health operates seven long-term care facilities and four hospitals in the St. John's area. In 2012, Eastern Health provided 691 acute care and 77 critical care beds in these hospitals, as well as 1,059 long-term care beds. St. John's also has one psychiatric institution, the Waterford Hospital, which has 82 acute-care beds. Other hospitals provide some psychiatric care. The number and location of beds continues to change with the consolidation of facilities within the area and the reorganization of the health care system (Eastern Health 2012b).

The Health Sciences Centre in St. John's has a Women's Health Centre, which offers a number of services to women, including obstetric care, prenatal education and cervical screening. There is also a breast health centre at St. Clare's Mercy Hospital. As of July 2012, there were 19 obstetrician/gynecologists in the St. John's area (College of Physicians and Surgeons of Newfoundland and Labrador 2012).

A needs assessment of the Northeast Avalon conducted in 2008-2009 identified three areas of priority for recommendations and action planning: wait times in the emergency room; access to specialists; and access to diagnostic imaging services. Recommendations in the assessment report include: development of a proposal to describe a model of care for less urgent conditions to be offered outside of the hospital setting that would seek to relieve pressure from the emergency rooms; creation of a communications strategy that will better explain the triage system and wait times in the emergency room to the public; and better mechanisms to coordinate referrals to specialists, booking of tests and procedures, confirmation of appointments and receipt of test results (Eastern Health 2010).

2.3.2.3 Argentia Area

There are three health centres in the Argentia area: the Placentia Health Centre; the Mount Carmel Health Centre; and the Dr. William H. Newhook Community Health Centre in Whitbourne. In addition, there are Health and Community Services offices in Placentia, Whitbourne and St. Bride's. There is also a long-term care facility in Placentia, the Lions Manor Nursing Home, with 75 beds. Twenty-four-hour emergency service is available at the Placentia Health Centre (Eastern Health 2012a).

The Placentia Health Centre has ten acute care beds and the William H. Newhook Community Health Centre has three holding beds. The Placentia Health Centre has four

physicians and one nurse practitioner in the outpatient clinic, with five physicians providing on-call emergency service. There are also 28 full-time nurses, 46 full-time licensed practical nurses, nine temporary personal care attendants, four laboratory technicians and an X-Ray technician. A physiotherapist, an occupational therapist, a physiotherapy/occupational therapy aide, a clinical dietitian and a social worker all provide services to acute and long-term care. Respiratory therapy, speech language pathology and pharmacy services are available for consult and secondary and tertiary health care services are available, through consult or transfer, from other facilities under Eastern Health in Carbonear or St. John's (Placentia Area Chamber of Commerce 2009).

There has been no marked increase of in-patients at the Placentia Health Centre despite regional development and population growth. According to Eastern Health, a total of 352 patients were admitted to the Centre in 2008-09 and 247 in 2011-12 (Fitzpatrick 2012a).

With regard to women's health, there is no obstetrician/gynecologist in the Argentia area (College of Physicians and Surgeons of Newfoundland and Labrador 2012). However, the Family Resource Centre described in Section 2.3.1.3 does provide a variety of programming for women and young children, including pre- and post-natal support programs and Healthy Baby Clubs.

A needs assessment of the Southern Avalon, which includes the communities of the Argentia area, was released in 2007. Results of the assessment indicate that people of the Southern Avalon would like to see:

- More emphasis on health promotion and support for communities to develop the skills and capacity to pursue health promotion
- Primary health care that is stable, dependable, team-based and innovative in responding to the needs of rural areas
- Accessible mental health and addictions services
- Support for an aging population
- A health system that is easy to understand and "navigate"
- Staff that respect them as partners and are willing to work in collaboration with people and communities.

A perception encountered during the assessment was that many of the acute care beds at the Placentia Health Centre were being occupied by patients (often seniors) who lack the necessary supports to return home and/or who are waiting for admission to a personal care home bed or long-term care bed at Lions Manor. Concerns were also

raised about physician turnover and the subsequent lack of continuity in physician care. This concern was particularly strong in the St. Mary's-Mount Carmel and Placentia areas (Eastern Health 2007).

The Trinity-Conception Community Health Needs Assessment, which includes the communities of Whitbourne and Blaketown, was released in June 2012. Respondents to the surveys indicated high satisfaction with a number of health services, such as community and public health nursing, ambulance, X-ray and blood collection services and access to family physicians. They also reported satisfaction with in-patient care received in hospitals and health centres in the Trinity-Conception area.

Concerns identified during the assessment included the need for additional information on local programs and services, more appropriate and affordable housing, especially among those with lower incomes, the availability of affordable transportation to access medical services and social supports and the need for recruitment and retention of family physicians to offset anticipated retirements in the next two to five years.

Residents of the Trinity-Conception area also cited mental health as a key aspect of overall health, identifying a need for increased access to services and a decrease in the stigmatization of mental illnesses (Eastern Health 2012c).

2.3.3 Income Support and Employment Services

A new provincial government department, the NLDAES, was established in 2011. It incorporates most of the former Newfoundland and Labrador Department of Human Resources, Labour and Employment, and replaces that department in its role as the provincial agency responsible for providing Income Support (formerly Social Assistance) and employment-related services.

2.3.3.1 St. John's Area

In the St. John's area, the NLDAES has an Avalon Regional office, two district offices within the City, one in Mount Pearl and others on Bell Island and in Conception Bay South (NLDAES 2012).

The number of individuals using Income Support in the area increased in the early 1990s. In 1991, the number of cases was 22,470 and by 1995 it had increased 18.0 percent to 26,520. However, by 2002, this number had fallen to 19,990, a decrease of 24.8 percent, which reflected improved local economic conditions. Between 2005 and 2012, the number of individuals using Income Support decreased 15.0 percent from 19,410 to approximately 16,500 (Community Accounts, no date).

2.3.3.2 Argentia Area

The NLDAES has a district office in Dunville. In 1991, there were 2,000 individuals using Income Support in the Argentia area. By 2002, this number had dropped nearly 40 percent to 1,210 and in 2012 Income Support was required by 610 people in the area. This represented a further decrease of approximately 50 percent (Community Accounts, no date).

2.3.4 Security and Safety: Policing and Fire Protection

Newfoundland and Labrador is policed by the RNC and the RCMP. The RNC has jurisdiction over the St. John's area, while the Argentia area falls under the jurisdiction of the RCMP, which also has its headquarters in St. John's.

Both full-time and volunteer fire-fighters serve the province. While detachment and fire department administrative and data boundaries do not coincide with the area boundaries, this is not anticipated to affect the following analysis.

2.3.4.1 Newfoundland and Labrador

Newfoundland and Labrador has the lowest requirement level for policing in Canada, reflecting the province's relatively low crime rates. In 2008, the number of police officers in the province was 864, with 369 RNC and 515 RCMP, an increase of 8.1 percent since 2006. The total number of police officers in the province increased to 917 in 2013, with 402 RNC officers and 515 RCMP officers (Statistics Canada 2010, 2014).

The provincial government has a Fire and Emergency Services agency, which is primarily responsible for both the provision of emergency preparedness and emergency response, planning and training, and for a leadership role in the coordination and delivery of fire protection and fire prevention services throughout the province. Its mandate is to promote public safety and awareness in fire prevention and life safety, through effective fire protection and education programs and to enhance, direct and guide government, municipal authorities, private business, fire departments and police agencies in effective delivery of fire protection services (Fire and Emergency Services Newfoundland and Labrador 2012). In 2013, the fire protection services system in Newfoundland and Labrador included almost 297 municipal fire departments, down from 312 in 1993 (W. Porter, pers. comm.). These fire departments include career fire departments, volunteer fire departments and composite fire departments (combination of paid and volunteer firefighting force) (Fire and Emergency Services Newfoundland and Labrador 2013).

2.3.4.2 St. John's Area

In 2009, 327 RNC personnel served the St John's area. This is an increase of 27.7 percent over 1995, when there were 256 (Statistics Canada 2009). In May 2012, there

were 336 RNC officers in the St. John's area, or 178 officers per 100,000 population (Statistics Canada 2012b). Since 2004, MUN and the RNC have offered a one year Diploma Program in Police Studies designed to attract, train and retain new RNC officers (R. Johnston, pers. comm.).

Fire protection services are provided by the St. John's Regional Fire Department. The Department operates six fire stations, which provide 24-hour response and currently employs 164 full-time operations staff, including 115 firefighters. There are also two composite (partially paid) fire departments in the Goulds and Conception Bay South, and volunteer fire departments serve Pouch Cove, Torbay, Bell Island, Portugal Cove-St. Phillips and Logy Bay-Middle Cove-Outer Cove (St. John's Regional Fire Department 2011; D. Hamlyn, pers. comm.).

Witless Bay has a volunteer fire department with 22 members, which also serves nearby communities including Mobile and Tors Cove (G. Caul, pers. comm.).

2.3.4.3 Argentia Area

Placentia-Whitbourne District was formed in 1997 and involved the amalgamation of the jurisdictions of the former Placentia and Whitbourne RCMP Detachments. The district has 17 employees: the district commander (staff-sergeant), who is based out of the Placentia office; an operations non-commissioned officer (sergeant); two team leaders/supervisors (corporals); 11 investigators (constables); and two district-assistants (public service employees) (RCMP 2011). During a workshop held by Husky in Placentia, concern was expressed regarding traffic increases related to the Vale nickel processing plant. It was suggested that a higher capacity of police resources could be beneficial towards addressing traffic problems.

Placentia-Whitbourne District jurisdiction extends westward to cover most of the Isthmus of Avalon and borders the Clarendville-Bonavista District, and shares jurisdictional boundaries with Avalon East and Trinity-Conception Districts to the east. In total, 40 small communities are located within the Placentia-Whitbourne District jurisdiction, with a combined resident population of approximately 15,000 people (RCMP 2011).

In 1994, the fire departments in Placentia, Jerseyside, Freshwater and Dunville amalgamated to form a united fire service to serve a much bigger single municipality. A new fire hall, centrally-located in Placentia, houses a volunteer fire department consisting of 29 members. It operates three pumpers, one rescue vehicle and one utility vehicle. The fire department receives between 52 and 60 calls for service each year. Training is held weekly using International Fire Services Accredited Training Standards (W. Power, pers. comm.). In 2011, the fire department received new radio equipment (Placentia Town Council 2011).

Long Harbour-Mount Arlington Heights and Whitbourne each have volunteer fire departments with 22 and 28 firefighters, respectively. In 2010, a new fire hall was constructed in Long Harbour and the Whitbourne fire department received a new 800 gallon pumper, bringing its total number of fire trucks to three (Pike 2010). St. Bride's also has a volunteer fire department with 12 firefighters. The department received some upgraded equipment in the last several years, including a new hose and new firefighting suits; however, the one fire truck is more than 25 years old and needs to be replaced (Towns of Point Lance and St. Bride's 2010).

2.3.5 Recreation

Responsibility for sports-related recreational services and facilities lies with both the public and private sectors. The cities of St. John's and Mount Pearl and many towns within the St. John's area have their own recreation departments and facilities. Private organizations and operators offer team sports, golf, personal fitness and other sporting activities. For illustrative purposes, this SEIS assesses municipal facilities and services in the St. John's area and the Argentia area.

2.3.5.1 St. John's Area

The St. John's area has numerous recreation and leisure facilities facilitating a wide range of activities. In the City of St. John's such facilities include The Works at MUN, the H.G.R. Mews Community Centre, the St. John's (Buckmaster's Circle), Wedgewood Park and Goulds recreation centres, the Techniplex in Pleasantville and Mile One Centre, a multi-purpose sports and entertainment facility. There are indoor public swimming facilities at The Works, the H.G.R. Mews Centre and Wedgewood Park. There are winter and summer facilities and programs at Rotary, Bannerman, Bowring and Victoria parks. Cross-country skiing trails as well as an extensive network of walking trails can be found at Pippy Park, Bowring Park and Rotary Sunshine Park. In addition, the City has numerous soccer, softball, baseball, tennis and playground facilities. The YMCA-YWCA completed the construction of a new facility, the Ches Penney Family Y, in 2011 to replace the existing building in St. John's. The new facility includes a daycare, a conditioning centre, community space and a swimming pool (Newfoundland and Labrador Department of Environment and Conservation 2010).

Mount Pearl also has a range of facilities, including the Glacier arena, the Smallwood Drive RecPlex, the St. David's Tennis Complex, the Smallwood Pool, the Reid Community Centre, the Kenmount Park Neighbourhood Centre, a golf driving range and a number of parks, playgrounds and tennis courts. As in St. John's, there is an extensive walking trail system.

In 2009, the City of Mount Pearl installed an international standard synthetic turf field at the Team Gushue Sport Complex. This field represents a \$1.8 million investment. In September 2011, a second ice arena opened at the Mount Pearl Glacier and the City is

also planning to build a new Multiplex, which is expected to be completed in June 2014. This recreational complex would include a leisure pool, a fitness centre, a youth centre and a theatre. The Glacier expansion and the Multiplex project represent investments of \$38 million by the City of Mount Pearl in new recreation facilities (R. Osmond, pers. comm.; City of Mount Pearl, no date).

Conception Bay South and Paradise have both experienced substantial population growth in recent years and increased demand for new kinds of recreation for young families, teens and seniors. Conception Bay South has a stadium (hockey, skating, etc.), a recreation complex (swimming pool, squash courts and fitness programs), tennis courts, playing fields (soccer, softball and rugby), a skateboard park and outdoor recreation programs (Town of Conception Bay South 2012). Since 2005, Conception Bay South has further developed its outdoor recreation facilities by constructing seven new parks and in 2008, the Town of Paradise built a Community Centre, which contains an indoor gymnasium, a fitness centre and a youth centre (J. Collins, pers. comm.). Construction of a double ice surface arena, which will seat 1,400 people and will also include a fitness centre, has begun in Paradise and is expected to be completed in September 2014 (Newfoundland and Labrador Department of Municipal Affairs 2013). Both communities have extensive networks of walking trails (Town of Conception Bay South 2012; J. Collins, pers. comm.). In Conception Bay South, work on the concrete footing has begun, and a town official stated that — barring any unforeseen circumstances — the 1,250-seat arena would be ready for use at the beginning of the 2015 skating season.

In 2009, a \$13.1 million arena opened in Torbay. The Jack Byrne Arena is owned and operated by the municipalities of Torbay, Logy Bay-Middle Cove-Outer Cove, Pouch Cove and Flatrock. The facility includes an ice rink, an indoor walking track and community rooms for special events (Newfoundland and Labrador Department of Municipal Affairs 2009).

The Southern Shore Arena in Mobile serves all communities along the Southern Shore and provides an indoor ice surface for hockey, figure skating, curling and general skating from late September until early April each year. It is also a venue for events, such as concerts, during the summer.

2.3.5.2 Argentia Area

There are several options for recreation in the Argentia area. The PARC Arena at Placentia has an indoor ice surface for hockey, skating and curling. It is also available for trade shows and other large-audience events. The P4 Youth Centre in Dunville provides a variety of services and programs for the youth of the area. It is open year round and has a gymnasium, weight and fitness room, computer lab and recreation equipment, including a karaoke machine and a play station (Placentia Area Chamber of Commerce 2009).

Most communities in the region have softball fields and playgrounds and the Dunville Ball Field often hosts provincial tournaments. There is also a driving range in Placentia (Placentia Area Chamber of Commerce 2009).

In the spring of 2010, the Placentia Lions Club contracted an engineering firm to develop plans for a swimming pool facility to service the Town of Placentia and surrounding communities in the region (Placentia Lions Club 2010). The Lions Club has reviewed revised financial information with respect to the swimming pool proposal and launched a campaign to raise funds for the project (Placentia Town Council 2012). The need for a local swimming pool was discussed during public consultations for the WREP. It was reported that families in the Argentia area currently travel to St. John's for swimming lessons and recreational swimming.

The region has many outdoor recreational opportunities, including the Argentia Backlands Hiking Trail and the Heritage Trail, which is a popular location for cross-country skiing and hiking. There are hiking trails in Fox Harbour and Ship Harbour and the d'Iberville hiking trail extends to Markland and on through St. Mary's Bay to the Southern Shore. There is also a boardwalk in Placentia with wooden walkways overlooking the beach, gazebos and a picnic area.

The Mayor of the Town of Placentia has indicated that recreational development should be more of a priority for the town, particularly programs that are geared towards youth and seniors. Recreation groundwork should be laid as part of the growth and expansion of the area, but there is little money in the Town's budget to make it a priority (Placentia Town Council 2011). In January 2013, the federal and provincial governments announced that they would be investing in upgrades to recreational infrastructure in the Argentia Area, including improvements to an existing ball field and trail in Long Harbour-Mount Arlington Heights and redevelopment of the Placentia Regatta boathouse (ACOA 2013).

2.4 Community Physical Infrastructure and Services

2.4.1 Housing

The following discussion uses housing information drawn from Statistics Canada, Canada Mortgage and Housing Corporation (CMHC) and the Newfoundland and Labrador Housing Corporation (NLHC). Local realtors have also provided information on the Argentia area.

2.4.1.1 Newfoundland and Labrador

In terms of supply, there were 208,842 occupied private dwellings in Newfoundland and Labrador in 2011, an increase of 5.9 percent from 2006. In 2006, the average value of a

home had increased to \$111,711 from \$76,283 in 2001 and the average rent was \$551 (Statistics Canada 2006, 2012a).

The annual number of housing starts in the province generally declined during the 1990s; in 1990, it was 3,245; by 1999, it was 1,371 (CMHC 2000). The majority of units constructed have been single-detached, though periodically, the number of row and apartment units has increased to meet demand. By 2006, the number of housing starts in the province had increased to 1,493, the majority of them single-detached units (CMHC 2007).

In 2010, the number of housing starts in Newfoundland and Labrador increased by 18.0 percent to 3,606 (Statistics Canada 2012a). Housing starts totaled 2,862 units in 2013, a decrease of 26.3 percent compared to 2012, which experienced the highest number of starts in 36 years. There was a decline in starts across the country in 2013, which reflected, in part, the tightening of mortgage regulations over the past five years, as well as higher mortgage rates in the latter half of 2013 (NLDF 2014).

According to CMHC, the surge in house prices since 2008 can be attributed to historically low interest rates combined with overall economic strength, which has resulted in high overall market demand (CMHC 2010). In recent years, the province has experienced a net population increase, a growth in household formation, increased employment and a growing labour force. All of these factors, combined with a strong inventory of capital projects and high consumer confidence, have had implications for the housing market.

In 2013, the residential multiple listing service (MLS) residential price in the province was \$283,100, an increase of 5.3 percent over 2012. The cost of a home in Newfoundland and Labrador in 2013 was 4.1 times the average family income in the province. Comparatively, this figure was 5.7 in Canada and averaged 3.1 in the Maritimes. In terms of price growth, the average residential home price in Newfoundland and Labrador increased by 157.5 percent between 2001 and 2012, well above the national figure (111.2 percent) (NLDF 2013, 2014).

Urban vacancy rates in Newfoundland and Labrador increased from 2.2 percent in October 2012 to 2.7 percent in October 2013. Despite this increase, rates remain historically low in the province and among the lowest in Canada. Although vacancy rates are low, rents remain affordable compared to most of Canada. In October 2013, the average monthly rent for a two-bedroom apartment in Newfoundland and Labrador was \$784, up from \$725 in October 2012. Strong labour markets, in-migration, higher housing prices and revised mortgage regulations are expected to keep vacancy rates low and place continued upward pressure on rents (NLDF 2014).

Social housing in the province is administered by NLHC, the housing arm of the provincial government. In 2010-2011, more than 16,000 households were assisted

through the province's social housing programs. During that time period, funding of \$22.8 million was allocated by the province and through the Federal/Provincial Economic Stimulus Plan to modernize and improve approximately 1,582 rental units. In addition, 259 new affordable housing units were completed, of which 167 (64.5 percent) are rentals for seniors (NLHC 2011).

In terms of emergency housing, there were 16 shelters with a total of 194 beds in Newfoundland and Labrador in 2010. Of these, 13 were women-only facilities with 161 beds available. In 2010, women-only facilities had an occupancy rate of 93.0 percent, the highest rate reported in Canada that year (Burczycka and Cotter 2011).

2.4.1.2 St. John's Area

There has been a steady growth in the St John's area housing stock and the number of occupied private dwellings increased by 23.0 percent between 2001 and 2011, from 64,830 to 79,836. In 2006, 58.8 percent of occupied dwellings were in the City of St. John's, which represents an increase of 2,228 units over 2001. In 2011, approximately 56 percent of all occupied private dwellings in the St. John's area were located in the City of St. John's (Statistics Canada 2001, 2006, 2012a).

Annual housing starts in the area have fluctuated over the last two decades, but the St. John's CMA accounts for approximately 80 percent of MLS residential sales and approximately 55 percent of housing starts in the province (CMHC 2000). Total housing starts in 2013 were 1,734, a decrease of nearly 20 percent from 2012. However, during the fourth quarter of 2013, new construction activity was up 6.3 percent compared to the same period in 2012 (CMHC 2014).

A number of new housing subdivisions are planned for the City of St. John's, including one in the City's west end, which would be one of the largest housing developments in the City's history. It is planned to involve more than 1,000 ha of land and the construction of 4,500 homes, as well as retail and industrial space. The development could take up to 20 years to complete and in March 2013, the St. John's City Council approved the first phase of the development (CBC News 2013).

The increased demand for housing has resulted in rapid residential growth in other towns within the St. John's area, particularly Torbay, Mount Pearl and Paradise. The Town of Paradise has been experiencing record development for a number of years. It has spent \$142 million on new residential developments, which include the construction of approximately 20 new subdivisions in recent years (Reid 2011). Torbay is the second-fastest growing municipality in the province, after Paradise. Annually, Torbay has averaged at least 100 new residential housing starts in recent years and in the first quarter of 2011, it recorded the highest average price for new homes in the St. John's area at \$391,478 (Robinson 2011).

While national housing prices have been stable or declining since 2008, prices in Newfoundland, especially in St. John's, continue to increase. At the end of 2007, the average house value in the Eastern Region was \$157,000 and by August 2009, the average house value had reached \$224,000 (C. Janes, pers. comm.).

Single-detached new home prices were \$395,388 at the end of 2013, up 2.1 percent from \$387,439 in 2012. Throughout the St. John's area, approximately 59 percent of new homes sold for over \$350,000. The fastest growing segment of the market was the \$350,000 to \$399,999 segment, which increased to 22.3 percent of total new home sales versus 19.9 per cent in the fourth quarter of 2012. The largest share of the market remained within the \$400,000 and higher segment at 36.5 percent (CMHC 2014).

From 2003 to 2006, apartment vacancy rates in the St. John's CMA increased from 3.1 to 5.2 percent, the highest rate since 1999. This increase has been attributed to record home buying activity, which has in part been characterized by the movement of renter households to home-ownership. Since 2006, the vacancy rate has declined and was at 1.5 percent in 2011. This has increased to 3.2 percent in October 2013, up from 2.8 percent in October 2012. This is due to recent investment in new multi-unit apartment developments for the first time in 25 years, which will slowly increase the supply of apartments into 2014 (CMHC 2012).

Units with the lowest vacancy rate in 2013 were one-bedroom apartments, while three-bedroom plus units posted the highest vacancy rate at 6.0 percent. Average rents increased for all bedroom types in 2013 over the previous year: bachelor unit average rents were \$649; one-bedroom rents were \$739; two-bedroom units posted average rents of \$864; and three-plus bedroom rents were \$870. The steady average rent increases since 2008 are a reflection of the increased activity within the overall housing market (CMHC 2012). The low vacancy rate in the St. John's area is a problem for students of MUN and local colleges, which continue to draw both local and international students, who traditionally rent within the region. Due to the lack of available rental units, some students have been forced to stay at hotels throughout the City. Approximately 1,400 students live on campus at MUN and the University has approximately 550 students on the waiting list, which numbered 300 people the previous year (CBC News 2012a). A new residence with space for 500 students opened in September 2013.

Social housing in the St John's area is provided by the City of St. John's and NLHC. As of July 2011, there were 4,572 social housing units in the St. John's area (Table 2.14). These are available only to families with a total annual household income of \$32,500 or less. The majority (approximately 62 percent) of these units are direct delivered, meaning the units are owned, operated and maintained by NLHC. Rental properties subsidized by NLHC comprise approximately 20 percent of the units. Most (approximately 87 percent) social housing in the St. John's area is located in the City of St. John's. At the end of January 2012, there were 523 families on the waiting list for

social housing in the Avalon regional area, which includes communities on the Avalon Peninsula as far as, and including, Little Harbour (J. Bowering, pers. comm.).

Table 2.14 Social Housing Units, St. John's Area, 2011

Municipality	Direct Delivered	Rent Supplement	Affordable Housing	Community Based	Co-op	Total
Bay Bulls	1	0	0	0	0	1
Conception Bay South	24	7	16	28	0	75
Mount Pearl	208	29	14	24	211	486
Paradise	1	2	5	0	0	8
Pouch Cove	1	0	0	0	0	1
St. John's	2,571	890	209	240	68	3,978
Torbay	2	2	0	10	0	14
Witless Bay	4	0	0	0	0	4
Tors Cove	0	1	0	0	0	1
Portugal Cove	0	0	4	0	0	4
Total	2,812	931	248	302	279	4,572

Note:
Direct Delivered: social housing units owned, operated and maintained by NLHC
Rent Supplement: rental properties owned and operated by private landlords. NLHC has agreement with landlords to subsidize the rent in some of these properties for eligible tenants with low incomes.
Affordable Housing Initiatives: rental properties owned and operated by private sector groups, who agree to rent the properties to eligible tenants with low to moderate incomes.
Community-Based Housing: rental properties owned and operated by non-profit volunteer boards for eligible tenants with low incomes.
Co-operative Housing: social housing owned and operated by non-profit co-operatives

Source: J. Bowering, pers. comm.

As of July 2012, there were 12 emergency shelters and transition houses in the St. John's area and five of these were for women-only or women and their children. A study of residents of Newfoundland and Labrador using supportive housing, which focused on seven of these facilities, indicated that shelter was provided to 1,161 St. John's clients in 2010. That year, 55 percent of these clients were male and 45 percent were female. It was reported that 72 percent of clients that were turned away were not able to stay due to a lack of available beds (Newfoundland and Labrador Housing and Homelessness Network 2011). In 2013, construction began on an expansion to the Iris Kirby House, a women's shelter in St. John's, which will allow an additional 10 emergency beds and four self-contained units (NLDF 2014).

There are approximately 90 hotels, motels, inns, cottages/vacation homes and bed and breakfasts in the St. John's area. More than half of these are located in the City of St. John's (Newfoundland and Labrador Tourism 2012). Construction is underway on a number of new hotels in the St. John's area, including a Hilton Garden Inn and a Sandman Signature Hotel, as well as some boutique hotels in the downtown area, to be completed by 2015 (NLDF 2014).

2.4.1.3 Argentia Area

In 2006, the Argentia area had approximately 3,500 occupied private dwellings. The majority (approximately 86 percent) of these dwellings was owned and approximately 14 percent were rented (Community Accounts, no date). By 2011, the number of occupied

private dwellings in the Argentia area had increased to approximately 4,500 (Statistics Canada 2012a).

More people have moved into the Argentia area in recent years to take advantage of employment associated with projects such as the Vale nickel processing plant in Long Harbour. There are also two major fabrication companies in the Argentia Industrial Park, employing between 150 and 200 people. As a result of this activity, housing sales have increased and it is becoming difficult to find housing to rent or buy in the Argentia area (Dooley 2011).

In 2007, there were 17 housing starts in Placentia and the surrounding area and in 2008, this number dropped to eight. In 2010, the number of housing starts rose to 19. There were 24 MLS sales in the area in 2007 and the average house price was \$68,500. By 2010, the average house price increased to \$78,352 and there were 27 MLS sales (C. Janes, pers. comm.). As of January 2012, there were approximately 25 homes for sale in the Argentia area, ranging in price from \$40,000 to \$399,000 (J. King, pers. comm.).

There are no data on vacancy rates in Placentia and the surrounding area, but the majority of rental units are reported to be currently used to house workers from the Vale nickel processing plant. At the end of 2011, there were approximately 40 rental units in the area and fewer than five of these were vacant (J. King, pers. comm.).

According to the Mayor and Deputy Mayor of the Town of Placentia, residential development is a priority for the Town and there are a number of areas within the Placentia area that could be considered for future residential development (Placentia Town Council 2011). Two areas in particular, in Dunville and southeastern Placentia, have been identified as possible areas for residential development and the Town of Placentia is looking for companies that may be interested in developing them. These two areas could accommodate up to 100 new homes (W. Hogan, pers. comm.).

A 500-person camp facility has been constructed in Long Harbour to house workers associated with the Vale nickel processing plant construction. The camp provides those workers from outside the local area with an option to remain on site versus travelling long distances or attempting to secure accommodations locally. The camp was intended to help supplement the supply of local accommodations, which has had to respond to the increased demand since construction began (Newfoundland and Labrador Department of Natural Resources 2011). However, concern has been expressed that many workers have opted to live within the local communities, rather than at the camp, creating increased demand for local housing. With mechanical construction of Phase One of the plant complete and the operations phase set to begin in 2014, it appears that the construction camp and the local community have been able to provide all of the required accommodations (Fitzpatrick 2012b).

At the outset of the plant's construction, the Town of Long Harbour-Mount Arlington Heights responded to an immediate demand for additional residential accommodation with the creation of a 28-unit mini-home development in 2010. A new 38-lot residential subdivision, called Middle Pond Ridge, is also under development in Long Harbour-Mount Arlington Heights. The sub-division could increase the number of homes in the Town by just over 20 percent from current levels. A development strategy is anticipated to be presented to the Town Council for approval, following which the lots could be offered to the public for sale (Long Harbour Development Corporation 2011).

Social housing in the Argentia area is administered by NLHC. In 2011, there were 126 social housing units in that area (Table 2.15). Almost 50 percent of these are owned, operated and maintained by NLHC and the majority (approximately 63 percent) of the units is located in Placentia. At least 95 percent of these homes are occupied and are generally only vacant while they are being prepared for new tenants (J. Bowering, pers. comm.).

Table 2.15 Social Housing Units, Argentia Area, 2011

Municipality	Direct Delivered	Rent Supplement	Affordable Housing	Community Based	Co-op	Total
Mitchell's Brook	4	0	0	0	0	4
Freshwater	9	0	0	0	0	9
Dunville	11	0	0	0	0	11
Jerseyside	4	0	0	0	0	4
Fox Harbour	1	0	0	0	0	1
Placentia	29	0	10	40	0	79
St. Bride's	0	0	0	14	0	14
Branch	2	0	0	0	0	2
Colinet	2	0	0	0	0	2
Total	62	0	10	54	0	126
Note: Direct Delivered: social housing units owned, operated and maintained by NLHC Rent Supplement: rental properties owned and operated by private landlords. NLHC has agreement with landlords to subsidize the rent in some of these properties for eligible tenants with low incomes. Affordable Housing Initiatives: rental properties owned and operated by private sector groups, who agree to rent the properties to eligible tenants with low to moderate incomes. Community-Based Housing: rental properties owned and operated by non-profit volunteer boards for eligible tenants with low incomes. Co-operative Housing: social housing owned and operated by non-profit co-operatives						

Source: J. Bowering, pers. comm.

There is no emergency shelter for women or men in the Argentia area.

There are 13 hotels, motels and bed and breakfasts in the Argentia area. These provide more than 80 rooms in total (Newfoundland and Labrador Tourism 2012). There are also two campgrounds in the Argentia Area. One of these is a recreational vehicle park called Argentia Sunset Park, opened in 2007 by the AMA. The recreational vehicle park includes 40 lots and provides all of the necessary amenities for recreational vehicle users, including water, sewer and a 30-amp electrical service (AMA, no date). The other campground, Fitzgerald's Pond Park in Dunville, also offers 24 sites for campers and recreational vehicle users (Newfoundland and Labrador Tourism 2012).

2.4.2 Ports and Airports

2.4.2.1 St. John's Area

St. John's Harbour is administered by a crown agency, the St. John's Port Authority (SJPA). Since 1999, it has undergone extensive modifications, as the result of a multi-million dollar capital investment strategy. It is now the primary offshore oil supply and service centre on Canada's east coast, one of the largest fish-handling ports in Newfoundland and Labrador, a popular international cruise ship destination and the province's primary and most advanced container terminal (SJPA 2010).

There is a total of approximately 5 km of dock face available, 51 percent of which is owned by the SJPA. This includes the container and roll-on/roll-off terminal, which handles approximately half of the cargo entering the province. Of the remaining dockage, 32 percent is privately owned and 17 percent is directly or indirectly owned by government departments and agencies.

The St. John's Dockyard (NEWDOCK), at the western end of the Port of St. John's, includes a graving dock, a marine elevator, transfer and repair berths, mobile cranes, fabrication shops, warehousing and laydown areas. NEWDOCK's capabilities include provision of marine services including ship repair, component fabrication and testing (NEWDOCK, no date).

The A. Harvey & Co. wharf (Piers 12, 14 east and west, 15 and 16), at the northeastern end of the Port, has been the base for all offshore petroleum shore-based marine services since 1997. The company has had long-term agreements to service offshore activity for Hibernia, Terra Nova and White Rose. In 1993, the company invested \$7 million to build two docks to accommodate Hibernia operations. Subsequently, to address further growth of the offshore petroleum industry, the company invested \$10 million for the construction of three new docks, completed in 2004. The company has currently five operational docks. Recently, a second crane was purchased for the wharf and the company is planning to invest more than \$7 million to redevelop Pier 12 in 2015. These investments are intended to allow the company to accommodate future projects. With current average use of the facilities at 30 percent, A. Harvey & Co. has the capacity to service additional projects (G. Cunningham, pers. comm.).

In 2004, a \$3.8 million community and tourism complex was built on Pier 7. A second, \$2 million roll-on/roll-off ramp was constructed at Pier 2 to improve loading and unloading of automobiles, trailers and containers and in 2008-2009, the SJPA invested \$1.5 million to add 2.4 ha (6 acres) to the container shipping yard. Upcoming plans for Port improvement include the replacement of Pier 20 located on the south side of the St. John's harbor with a new wharf and construction of a two-storey building on the St. John's waterfront that will house two new restaurants (NLDF 2013).

Economic activity associated with the Port of St. John's grew an estimated 25 percent from 2000 to 2005 and a further 11 percent from 2005 to 2008. In 2005, 1,250 vessels, 512 of which were petroleum industry-related, entered the Port. In 2008, while overall Port activity slightly declined with 1,053 vessels coming into the Port, the number of petroleum industry-related vessels entering in the Port increased to 538. In 2010, the number of vessels that entered the Port of St. John's increased to 1,322. The Port also hosts an increasing number of cruise ships (SJPA 2010).

Bay Bulls Marine Terminal manages and operates an International Ship and Port Facility Security-certified Marine Terminal facility located approximately 32 km south of St. John's. The facility was completed in 2005. It is the closest ice-free, deep-water port to the Grand Banks oilfields. The Terminal is also in proximity to highway linkages to St. John's and surrounding industrial parks.

The terminal has 5 ha of waterfront space suitable for light and heavy marine industrial activity, for loading and discharging vessels and for repairing and upgrading drill rigs. Bay Bulls Marine Terminal has two wharves: a 110 m long concrete quay structure; and a 90 m long sheet piled quay. There is also a launching ramp and a haul-up slipway. The terminal has over 5.7 ha of lay-down area without load restriction and storage facilities adapted for bulk, pumping and tubular handling. Approximately 800 m² of warehouse space are also available on site (Bay Bulls Marine Terminal 2007). In July 2011, the provincial government announced a \$500,000 contribution to the construction of a third dock to allow for additional projects at the terminal facility. This project is anticipated to create 15 full-time permanent jobs over three years and 23 jobs by 2015 (Newfoundland and Labrador Department of Business 2011).

The St. John's International Airport is the busiest commercial airport in the province. The St. John's International Airport Authority Inc. (SJIAA), a not-for-profit corporation, assumed control in December 1998. The airport is characterized as an "end of the line" airport in the national context, but it serves as a hub for traffic within the province. The main terminal serves scheduled national and international passenger aircraft, most charter flights and air cargo traffic. Carriers include Air Canada, Provincial Airlines, WestJet, Porter Airlines, Air Transat, Continental/United Airlines and Air Saint-Pierre.

Helicopters and some military and private aircraft use the multi-purpose Cougar Helicopters Inc. facility, adjacent to the main terminal, on the west side of the Airport. Universal Helicopters Ltd. has its terminal building and landing area, under the control of the airport control tower, but outside Airport property, on Major's Path.

Since becoming privatized in 1998, passenger traffic at St. John's International Airport has increased by more than 80 percent. In 2012, a record 1.5 million passengers travelled through the airport, an increase of 6.0 percent over the 2011 passenger count (MacEachern 2013). Anticipated passenger growth is 1.9 million by 2020 (SJIAA 2012).

In 2010, the airport's operations injected \$400 million into the economy and contributed \$80 million in tax revenue to all levels of government. In addition, it provided employment to 1,500 people (SJIAA 2010). Air cargo has declined from a peak in 1984, but has been increasing steadily in recent years. Current facilities can handle present volumes, but a site has been set aside to accommodate increased traffic when needed.

Between 1998 and 2010, the SJIAA invested \$140 million in infrastructure and capital improvements. Recently, the SJIAA invested approximately \$14 million to rehabilitate its secondary runway and to install low-visibility taxiway lighting on its principal taxiways. The investment was to improve the capability of the airfield to allow aircraft to taxi under low visibility conditions and to increase airfield safety. The first phase of this project was completed in 2007 and included the introduction of a more energy-efficient approach lighting system to the 2,125 m secondary runway (Runway 16/34). Phase two included a rehabilitation of the drainage systems, a resurfacing of its secondary runway, installation of a low visibility taxiway lighting system and installation of infrastructure to support centreline lighting on the secondary runway. The major construction work was completed in 2008. In 2009, the taxiway lighting system was installed and made operational in early 2010 (SJIAA 2009).

In 2011, the SJIAA announced a \$150 million expansion plan to accommodate growing passenger traffic. The first phase of the ten-year plan focuses on expanding the east wing of the airport and providing a new pre-board security area with a provision for optional full-body scanners, expanded departure lounge facilities, as well as enhanced passenger services. Completion of this phase is slated for 2015. Phase Two is anticipated to begin in 2016 with a focus on the west end of the Terminal Building, enabling new jet gates, an expanded baggage area, further expansion and improvements to the departure lounge and the international arrivals area. The plan also includes an expanded parking area, new passenger loading facilities, additional apron space, new cargo building and airfield upgrades (SJIAA 2011a). In 2013, a new access road to the Airport Terminal Building, which will accommodate increased vehicle traffic, was opened. The opening of this new road will also facilitate the construction of the Airport Terminal Building expansion scheduled to commence in spring 2014 (SJIAA 2013).

Also in 2011, a plan was announced to improve the accessibility of the airport during low-visibility conditions. The accessibility initiative involves the installation of a Category 3 Instrument Landing System on the airport's principal runway and a number of associated infrastructure improvements required to support this technology. This project is expected to take two years beginning in 2013 and to result in a substantial improvement in the usability of the airport during extreme fog conditions by lowering the minimum operational requirements for an aircraft to take-off and land. The addition of this technology is anticipated to increase the airport usability to 98.9 percent, putting St. John's International Airport on par with the top eight airports in Canada (SJIAA 2011b).

2.4.2.2 Argentia Area

The Port of Argentia is an ice-free, sheltered, deep-water facility. It is more than 3 km long with a wide turning basin. The Port has three wharf complexes: Navy Dock; Marine Atlantic Terminal; and Fleet Dock. The docking facilities recently had an \$8 million upgrade, which includes a 130 m extension on the south end of the dock and the addition of a 200 tonne, heavy-lift crane pad. The Port can accommodate vessels up to 300 m and offers regular shipping services, such as fuel, water and 450 ha of upland storage. It also has 46,452 m² of building space in a fully serviced industrial park. These attributes have attracted major shipping traffic to Argentia. For instance, Marine Atlantic uses the port for its ferry service between Nova Scotia and Newfoundland, and Eimskip of Iceland uses Argentia as a centre for worldwide container forwarding (AMA, no date). In March 2011, the federal government announced funding for a new roll-on/roll-off ramp at the Port of Argentia, which is expected to be completed in 2014 (Transport Canada 2011; NLDF 2012b).

2.4.3 Industrial and Commercial Land, Warehousing and Office Space

2.4.3.1 St. John's Area

There are four Industrial Land Use Zones designated by the *St. John's Development Regulations*: Commercial Industrial; Industrial General; Industrial Quidi Vidi; and Industrial Special. These sites could be used for warehousing or machine shops, depending on zoning; some areas are best suited to lay-down areas for open storage.

The dockyard in St. John's (NEWDOCK) is the main site for marine-related industrial activity in the area. Operated by St. John's Dockyard Ltd., the yard covers approximately 7.5 ha at the western end of the Port of St. John's and includes four piers, a 174 m graving dock, a marine elevator, three 100 m transfer and repair berths, a subsea testing facility, mobile cranes, fabrication shops, warehousing and laydown areas. Approximately 2 ha of laydown area are available.

Established industrial land in the area is now fully or close to fully occupied. However, there is a substantial amount of industrial and commercially zoned land available for new development within the St John's area, including Torbay Road North Commercial Area, Kelsey Drive Commercial Development Extension, Bremigens Pond Industrial area in Paradise, Kenmount Park, Freshwater Bay Industrial Area, Pippy Industrial Park, Fowlers Industrial Area in Conception Bay South and Octagon Pond Industrial Area in Paradise (T. Crosbie, pers. comm.; A. Janes, pers. comm.).

The commercial office sector has seen significant growth in recent years. Total office space in St. John's CMA grew by 23.6 percent between 2008 and 2013 as developers responded to increasing demand, mainly from requirements by oil companies and firms that support the oil industry. In 2013, total office space in St. John's CMA grew by 3.0

percent compared to 2012. Demand for office space is reflected in the average rental rate for office space in St. John's, which grew by 7.4 percent in 2013 to \$32.10 per square foot (NLDF 2014).

2.4.3.2 Argentia Area

Industrial land in the Argentia area is concentrated at the Argentia Industrial Park, which comprises two areas, the Southside and the Northside. The Southside Industrial Park occupies 1,000 ha and has 41 lots offering more than 46,452 m² of building space; 27,872 m² of this space is currently under rental/lease contracts. All lots are accessed through a paved road network and have water, sewer, electrical service and easy access to the port facilities. The Southside is fully developed and ready for immediate occupancy. The first phase of development for the Southside Industrial Park includes 24 lots and 17 of these were occupied by May 2013 (Fitzpatrick 2013b).

The Northside, which is adjacent to the Port of Argentia, is a prime location for heavy industrial projects, and includes over 445 ha of relatively flat land. The Northside was also the location for the Hydromet Demonstration Plant (AMA, no date).

Long Harbour-Mount Arlington Heights has a 16 hectare Business Park and, as of spring 2011, only 2 ha had been sold (Long Harbour Development Corporation 2011). Whitbourne also has plans to develop a light industrial/commercial park.

3.0 ASSESSMENT OF WHITE ROSE EXTENSION PROJECT EFFECTS

3.1 Introduction

This section of the SEIS provides an assessment of WREP-related socio-economic effects on the St. John's and Argentia areas and, as appropriate, the province as a whole. The primary concern of the assessment is the direct effects of the WREP, including expenditures (e.g., on labour and purchases of supplies and services) or activities (e.g., through the transportation of WREP supplies and personnel). However, as appropriate, the assessment also considers indirect effects, such as increased jobs and wages created by supplier businesses, and induced effects, including the effects of any WREP-related demographic change on the economy, community services and infrastructure.

Information on the industrial benefits associated with the WREP is provided in the White Rose Extension Project Canada-NL Benefits Plan Amendment submitted to the C-NLOPB as part of the WREP Development Application.

While the SEIS is concerned with WREP construction, operations, decommissioning and abandonment, the construction phase will be of primary concern, as this is the phase in which WREP-related socio-economic effects are most likely to occur. However, while the main socio-economic effects will occur during construction, it should be noted that the scale of such activity for the WREP will be considerably smaller than for the White Rose, Terra Nova, Hebron, or Hibernia projects. In total, the Hibernia construction phase saw approximately 41.5 million person-hours of work in Newfoundland and Labrador. The equivalent figures for Terra Nova and White Rose were 12.0 and 11.4 million person-hours, respectively. Preliminary estimates indicate that for the WHP, total employment generated by construction will be approximately 4.3 million person-hours. This estimate includes detailed engineering and construction of both the graving dock and the CGS component of the WHP. With construction-phases employment of 4.3 million person-hours, labour requirements are only 35 percent of the Terra Nova or White Rose requirements and 10 percent of that for Hibernia.

Similarly, for the Argentia area, the WREP is of a much smaller scale than the Vale nickel processing plant. Construction phase employment at the plant has been estimated at approximately 10 million person-hours, more than twice the 4.3 million person-hours of construction-phase employment associated with the WHP. While the WREP will bring substantial economic benefits to the area, WREP effects on each of the VECs are likely to be of much smaller magnitude than the Vale nickel processing plant.

Given that these other projects have been highly beneficial to the economy, or, in the case of Hebron, is expected to generate positive economic effects, it is reasonable to expect that the WREP's effects will be similar, if less in scope. As mentioned above, the

majority of socio-economic WREP effects will occur during construction. The operations phase would see reduced effects, while still generating some benefits for employment and business.

These issues are discussed in greater detail below, for each of the VECs under consideration: Employment and Business; Community Social Infrastructure and Services; and Community Physical Infrastructure.

3.2 Employment and Business

3.2.1 Newfoundland and Labrador

The WREP will have a range of positive effects for employment and business in Newfoundland and Labrador. Such economic benefits will be encouraged through Husky's commitment to Canada-Newfoundland and Labrador benefits. Husky strongly supports providing employment and business opportunities to Canada and, in particular, Newfoundland and Labrador, and wishes to optimize local benefits where practically and commercially achievable on a competitive basis. Husky is also committed to supporting diversity, and the company will continue to create initiatives providing employment and business opportunities for women and other designated groups throughout the life of the WREP.

The *Canada-Newfoundland Atlantic Accord Implementation Act* (S.C. 1987, c. 3) and the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act* (R.S.N.L. 1990, c. C-2) (collectively, the Atlantic Accord Acts) provide the legislative framework for the development of Newfoundland and Labrador's offshore resources, and require that development activity benefit Canada as a whole and Newfoundland and Labrador, in particular. Husky believes that, as was the case with the White Rose and North Amethyst projects, its proactive approach will provide substantial employment and business opportunities to the residents of Newfoundland and Labrador, including women and other designated groups, and elsewhere in Canada in a cost-effective and efficient manner.

Husky's approach to benefits has been consistent since it established operations in the province. Early in the planning phases of the White Rose project, it adopted a set of Canada-Newfoundland and Labrador benefits guidelines as a governing document. These have been integrated into the Canada-Newfoundland and Labrador Benefits Reporting and Procedure Manual, which continues to guide how Husky and its contractors conduct business.

Accordingly, the policies and procedures in the White Rose Canada-Newfoundland Benefits Plan (Husky Oil 2001) are still relevant in 2012, and they will remain unchanged as the company pursues other opportunities in the Newfoundland and Labrador offshore area. These governing documents are also aligned with Husky's belief that production

facilities can be designed to accommodate multi-pool or expanded development concepts. Such is now the case with the WREP. These policies and procedures, as described in the Benefits Plan are, in summary:

- Full and Fair Opportunity to provide Goods and Services

Husky will provide full and fair opportunity for Canadian, and in particular, Newfoundland and Labrador companies to participate in the supply of goods and services by:

- Sizing and design of packages to fit the capabilities of Canadian and in particular, Newfoundland and Labrador companies
- Development and use of vendor databases
- Investigation of labour and fabrication capabilities
- Early dissemination of information on the scope of work
- Open communication with all personnel and companies requesting non-proprietary information
- Presence of engineering, procurement and project management in Newfoundland and Labrador
- Open communication with government and industry associations to identify potential suppliers
- Assisting and advising on the development and implementation of transfer of technology and training programs for long-term cost-effectiveness.

- First Consideration to Newfoundland and Labrador and Canada

- Husky supports the principle that first consideration be given Newfoundland and Labrador for labour, goods, services, etc., where they are competitive in terms of fair market price, quality and delivery
- Residents of Newfoundland and Labrador and then other Canadians will be given early and ample opportunities for employment and related training.

- Proactivity

- Husky is proactive in its approach to Canada-Newfoundland opportunities.

With respect to diversity, the WREP will adopt the same targets and initiatives as those outlined in the White Rose Diversity Plan (Husky Energy 2003). The Diversity Plan facilitates the access of designated groups (women, Aboriginal peoples, visible minorities and persons with disabilities) to employment and training and to opportunities to bid on contracts for the supply of goods and services on the WREP. This applies to

Husky and its contractors operating or hiring on the WREP, and to both the development and operations phases of it.

Given that contractors and sub-contractors will be undertaking much of the WREP work, they must adhere to the principles and requirements of the Diversity Plan. This includes enabling members of designated groups, or groups or corporations or cooperatives owned by them, to participate in the supply of goods and services used in any proposed work or activity referred to in the Benefits Plan. Contractors and sub-contractors must set diversity targets and monitor and report to Husky their success in meeting targets, including submission of annual diversity reports.

Husky's main contractors will be responsible for collective agreements that may be required for WREP construction. A Special Project Order under the provincial *Labour Relations Act* is not necessary for the WREP and therefore, the main contractors will require appropriate labour relations framework(s) to be in place for WREP construction. The labour estimates for the WREP are preliminary and subject to change as the scope is further refined in the front-end engineering design phase. The preliminary anticipated labour requirement for the graving dock excavation is 365,000 person-hours and for CGS construction is 3.1 million person-hours. Excavation and construction opportunities could provide work for local heavy equipment operators, sheet metal workers, crane operations, truck drivers, welders, cement finishers, electricians, pipe fitters and construction inspectors.

Figure 3-1 outlines the estimated labour force (full-time equivalents) required to execute the Project at Argentia.

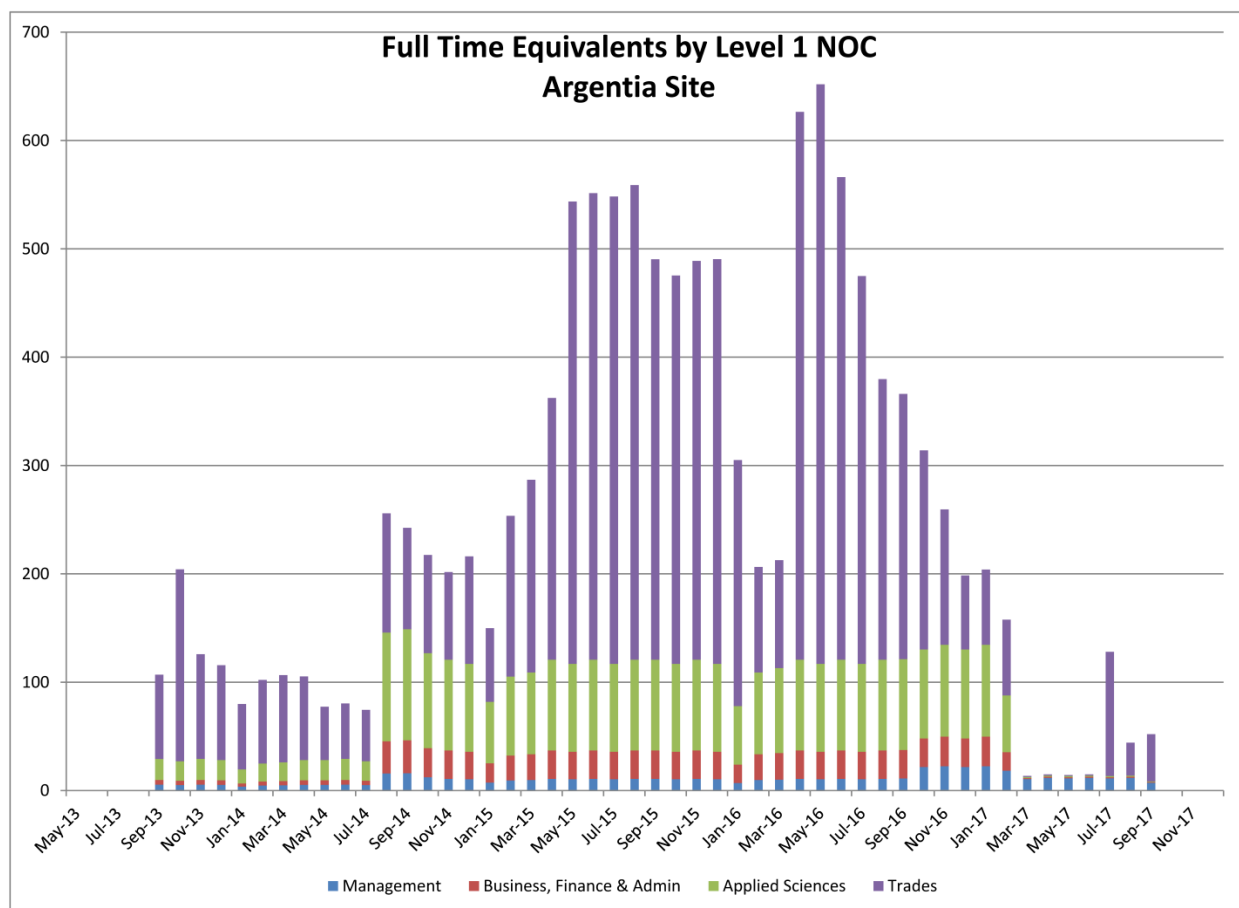


Figure 3-1 Full Time Equivalents by Level 1 NOC at Argentina

The WHP will be designed to accommodate a maximum of 144 persons. The types of employment that will be required on the WHP during operations include those related to drilling and associated handling of petroleum, as well as personnel for maintenance, catering, weather observation and medical services. The final personnel requirements will be determined during detailed design of the facility. Husky will recruit personnel with the appropriate skill sets and competency in managing and operating these facilities and systems.

Husky anticipates that there will be a requirement for a semi-submersible drilling rig during certain periods to execute exploration drilling and drilling in existing or future subsea drill centres. Employment on the semi-submersible drilling rig will be approximately 130 persons. The types of employment on a semi-submersible drilling rig will be similar to that on the WHP, with the exception of handling of petroleum for export to the *SeaRose FPSO*.

The above discussion focuses on the direct effects of the WREP on employment and business. In addition, there will be important and wide-ranging indirect and induced economic benefits. Studies of industrial benefits from the province's upstream petroleum industry (Stantec 2009, 2012) have demonstrated the total effects on provincial GDP,

personal incomes, consumer spending, employment and migration were large and widely distributed, and that they would be long-term. As is discussed in Section 2.1.1, the industry has also had a transformative effect, developing and diversifying the provincial economy.

Husky's North Amethyst project is an example of the way in which a satellite development can generate substantial benefits for employment and business. As of 2012, the North Amethyst development had generated over 2.5 million person-hours of employment; all subsea engineering for North Amethyst took place within Newfoundland and Labrador (Stantec 2012). The WREP will further contribute to the province's growing and increasingly internationally competitive industry and to the further development and diversification of the Newfoundland and Labrador economy. There is no prior evidence for potential negative economic consequences for the province, such as wage or price inflation.

3.2.2 St. John's Area

During the construction phase of the WREP, the St. John's area will see administrative, engineering, training, regulatory and supply and service activity. This will have a wide range of positive economic effects, similar to but much more modest than those experienced during development phases of Hibernia, Terra Nova and White Rose or those anticipated for Hebron. As it is Husky's intent to source goods and services from Newfoundland and Labrador businesses to the extent that capacity exists, the WREP will generate positive effects for local businesses in the St. John's area. Husky will maintain liaisons with the business community in the St. John's area through cooperation with economic development agencies and industry organizations.

During the operations phase of the WREP, the St. John's area will remain the administrative, engineering, training, regulatory and supply and service centre for the WREP. During this phase, the WREP will continue to create economic benefits related to employment and business, similar to those seen with other offshore oil projects. During the life of the WREP, economic benefits will continue to accrue to the St. John's area as the WREP adds to the contribution that the petroleum industry is making to the regional economy.

The WHP will be designed for 25 years of operation and will require a processing facility to support its operations. The operational life of the *SeaRose FPSO* may be extended beyond that envisioned in the original White Rose project or another processing facility will be brought into the field. Therefore, administrative, engineering, training, regulatory and supply and services for a processing facility will continue to be required for the life of the WHP.

3.2.3 Argentia Area

WREP-generated effects on employment and business in the Argentia area will occur during construction of the purpose-built graving dock at Argentia and the CGS component of the WHP. The Argentia site is managed by the AMA and there are multiple industrial companies occupying the surrounding area. Argentia has been the location of more than 70 years of military and industrial activities. It is currently the site of port facilities and an industrial park, which houses several fabrication operations that provide employment to the area.

There will be considerable direct economic benefits generated for the area as a result of WREP construction at the Argentia site. WREP construction will provide approximately 4.3 million person-hours, comprising approximately 365,000 person-hours for graving dock construction and 3.1 million person-hours for construction of the CGS. The graving dock will have reinforced concrete gates that will allow future re-use of the facility. The graving dock can be used for future construction of jackets and gravity based structures for offshore oil and gas, wind and marine energy sectors as well as ship/vessel building, repair and maintenance (including mobile offshore drilling units and jack-ups) and decommissioning and dismantling of offshore and marine facilities. Future management of the facility may be done by Husky or by the Argentia Management Authority. Husky also has the ability to lease the facility to a third party.

The operations phase is expected to directly employ an estimated 260 people. Workforce requirements will be partially drawn from the population of the Argentia area, providing local employment benefits. Opportunities for local businesses will continue to be provided in the same manner as for existing operations. Population increases, increased employment and higher wages related to the WREP will lead to positive induced effects on the local economy, including increased spending. Increased spending in the area by WREP employees is expected to benefit local businesses during construction.

In addition to direct employment and business opportunities, the WREP will continue to diversify the regional economy and strengthen its industrial base, while also providing an opportunity for local industrial and commercial facilities to develop and demonstrate increased expertise related to the offshore petroleum industry. As mentioned in Section 3.1.3, the economy of the Argentia area, while not as strong as that of St. John's, is diversifying and the town's proximity to several large industrial projects has enabled a stronger economy than many other rural areas of the province. In addition to developments such as the Vale nickel processing plant, the WREP will generate cumulative employment and business effects that will be positive for the regional economy.

3.3 Community Social Infrastructure

This section assesses the effects of the WREP on community social infrastructure in the areas of education, health and community services, income support and employment services, security and safety and recreation. As appropriate, it examines the effects on the St. John's and Argentia areas, and the province as a whole. Managing provision of many infrastructure and service elements is the responsibility of a wide range of government departments and private sector organizations. Husky will consult regularly with the relevant agencies and organizations to provide WREP information and to identify and discuss potential WREP-related implications for local services and infrastructure.

3.3.1 Education

3.3.1.1 Newfoundland and Labrador

The WREP effects on education at the provincial level will be limited to those associated with post-secondary training. Recognizing the opportunities for employment related to offshore projects, post-secondary institutions in the province have continued to invest in education and training programs designed to meet the demands of the industry (Stantec 2012). It is anticipated that provincial post-secondary institutions will continue to respond to the development of offshore projects. Demands from the WREP construction and operations phases will be much smaller than those from Hibernia, Terra Nova or White Rose and those expected for Hebron. In all those cases, project-related demands were accommodated with minimal difficulty, and it is therefore expected that any increased demand resulting from the WREP can be accommodated by existing provincial post-secondary institutions. Husky will continue to work with the province's post-secondary institutions to support training and education programs designed to meet the demand of the provincial oil and gas industry. The nature of the work for CGS construction will provide opportunities for the college system to respond with suitable training.

3.3.1.2 St. John's Area

The Hibernia SEIS (Mobil 1985) predicted that St. John's area schools would be able to accommodate any demands resulting from demographic changes associated with that project. In fact, the population increase resulting from that project was less than anticipated and there was no significant effect on schools. As discussed in Section 2.3.1.2, student enrolment in the St. John's area is expected to drop by 2015-2016, and most schools have the capacity for increased enrollment. Consistent with the findings of the Terra Nova and White Rose SEISs, and subsequent experience, there is no indication that a smaller-scale project such as the WREP will have any effect on education in the St. John's area. Husky will work with the Eastern School District and the NLDCYFS throughout the WREP to provide any relevant information to education capacity.

3.3.1.3 Argentia Area

Employment related to the WREP could lead to population increases during construction of the WHP. However, any construction-phase population increase will be short-term, as construction of the CGS is expected to occur over a period of 20 to 24 months. As such, it is likely that there will be little in-migration of employees accompanied by families during this phase. Any in-migration of families and school-age children should be easily accommodated by existing educational services and facilities. The number of students at local schools has decreased in recent years and the capacity will likely be able to meet any additional demands related to the WREP. With advance notice from Husky regarding labour force demand, labour sourcing and accommodation arrangements, it is likely that local education and training institutions should be able to meet any short-term demands on education and training services. Husky will collaborate with training institutions such as the CNA to align training programs with WREP timelines and labour force requirements.

3.3.2 Health

3.3.2.1 St. John's Area

While there have been no specific studies of the issue, there is no evidence that the Hibernia, Terra Nova or White Rose projects resulted in substantial new demands for health care services in the St. John's area. The population increases associated with these projects have been minimal and, in the case of Hibernia, less than expected. Generally speaking, incoming workers and their families have been relatively young and healthy and placed relatively low demands on medical facilities and services; if anything, those working are very likely net contributors to the system in terms of taxes paid relative to services used. Overall, the WREP will only have a small effect on the overall demand for St. John's area medical services.

3.3.2.2 Argentia Area

As with education, there will be potential for increased demand on health services and infrastructure in the Argentia area during construction of the CGS. As discussed in Section 2.3.2.3, there are three health centres in the Argentia area, with 24-hour emergency service available in Placentia. As any population increases due to construction phase employee in-migration are expected to be small and temporary, it is likely that existing health services and infrastructure can accommodate any increased demand during the construction phase of the WHP development option. As also mentioned above, health care capacity in the Southern Avalon area in general has been perceived as lacking primarily in long-term care, especially for seniors (Eastern Health 2007). These services will not be affected by WREP employees.

WREP-related demands on emergency health services in the Argentia area should be minimized by Husky's health, safety and environment policies. Husky is strongly

committed to protecting its employees, contractors, general public, assets and the environment in which it operates. Healthy, safe, secure, reliable, injury and incident-free operations are key to Husky's success. This commitment requires compliance with all applicable laws and regulations, facilities that are designed and operated to a high standard and the systematic identification and management of safety, health, security and environmental risks. There will be a medical clinic on-site at Argentia with a qualified medic on staff.

Husky has developed the Husky Operational Integrity Management System (HOIMS) as a systematic approach towards operational excellence. Husky requires compliance with HOIMS and regulatory requirements through the implementation of effective management systems and processes as well as the availability of adequate resources. The Atlantic Region's management system includes plans for waste management, oil spill response and contingency plans for emergency events. In addition, Husky's safety and environmental protection plans will include policies and procedures that will reduce the likelihood of accidents to as low a level as is reasonably practical. They will also include an emergency response protocol that will involve the emergency health services in Argentia. However, such events will be rare and easily accommodated. Safety orientations will be mandatory and provided for all new employees and site visitors.

With these management procedures in place, Husky will reduce the magnitude of any additional demands placed on local health and community services. Husky will communicate with Eastern Health and the health care facilities in the Argentia area to determine the need for additional primary health care resources, such as doctors and nurses, so that WREP-induced demands do not overwhelm the current health care system. Local and regional health authorities will be given sufficient time to plan for any additional demands resulting from in-migration of workers and their families to see that any effects are absorbed by existing services.

3.3.3 Income Support and Employment Services

3.3.3.1 St. John's Area

The effects of the WREP on St. John's area income support and employment services will likely be small and primarily positive. The Hibernia, Terra Nova and White Rose SEISs discussed concerns that project-related population increases would place additional burdens on the local social services system. In particular, it was thought that increases in the cost of living would generate new demands for income support, especially by those on low and fixed incomes. However, the population growth and inflation associated with these projects were considerably less than expected, and the demands on services proved not significant, except for some recent demand resulting from housing cost inflation. Given the relatively small-scale nature of the WREP's effects on the area, it is not expected to have any noticeable additional effect on demand.

3.3.3.2 Argentia Area

Similarly, the effects of the WREP on Argentia area income support and employment services will likely be small and primarily positive. As reported in Section 2.3.3.2, the number of individuals receiving income support in the Argentia area has steadily decreased in recent years, reflecting increases in employment opportunities and economic recovery following the fisheries collapse of the 1990s. WREP-related effects such as increased employment and income levels may result in less demand on income support and employment services.

3.3.4 Security and Safety

3.3.4.1 Newfoundland and Labrador

During the public consultation process for the Hibernia project, considerable concern was expressed that the project might lead to increases in organized and white-collar crime, drug-trafficking and prostitution. Similar concerns were raised during public consultations for the Hebron project. However, for the Hibernia project, it appears that communities did not experience increases in crime or anti-social behavior as a result of the project. The RNC and RCMP reported that neither the type nor the rate of criminal activity increased substantially during the project and any changes in policing requirements were not attributable to it. Similarly, the project had no effect on fire protection at the provincial level. The Terra Nova and White Rose SEISs forecast that these smaller projects would similarly have no significant effects, and this has proved to be the case thus far. It is expected that the Hebron project will not have significant effects on security and safety in the province. As a much smaller project, the same is expected to be the case with the WREP.

3.3.4.2 St. John's Area

There has been no evidence that Hibernia, Terra Nova or White Rose have directly affected the nature or level of crime, or the demands for policing services or fire protection, in the St. John's area. Likewise, it was not expected that the Hebron project would have any such effect. However, as noted in Section 2.1.2, the St. John's area has seen a rise in economic prosperity over the recent years, not least due to the cumulative economic effects of offshore projects. During public consultation for the WREP, concern was expressed over the effects of increased affluence in the St. John's area, including an increase in the sale of illegal drugs and organized gang activity. Such concerns relate to increased affluence as multiple projects have led to higher employment and wages, as well as increases in taxes and revenues, and a collaborative government-led response is required to address problems associated with rapid economic growth. While the WREP is not expected to have direct effects on safety and security in the St. John's area, Husky will provide relevant information as required to the RNC and other appropriate agencies to assist in ensuring that WREP-related effects remain minimized.

3.3.4.3 Argentia Area

As discussed in Section 3.3.2.2, Husky's HOIMS management procedures have been developed to protect its employees, contractors, general public, assets and the environment in which it operates. As such, these procedures will reduce the likelihood of emergency situations requiring fire protection and police services.

While potential population increases related to the WREP may increase demand on policing services, it is expected that these increases will be minor and will be addressed by the RCMP's usual planning procedures. However, police force capacity was raised as a potential issue for the area during public consultation. Husky will continue to communicate and collaborate with the RCMP so that any effects on safety and security are managed satisfactorily.

Some concern was expressed during WREP public consultation that the construction of the Vale nickel processing plant has led to increased traffic in the Argentia area. It has been reported that only just over 10 percent of the plant's construction workforce live in temporary accommodations provided near the site (CBC News 2012b), with the rest commuting by car, some over considerable distances. Since the WREP requires a smaller construction workforce than the Vale nickel processing plant, it is expected to generate less WREP-related traffic. Furthermore, Husky will investigate providing a free bus service that will transport workers between various pick-up points and the WREP site, thus reducing the number of cars travelling in and out of the Argentia area during WREP construction. Husky will communicate with the RCMP regarding work schedule and peak times in order to allow the RCMP to prepare for and monitor traffic. Husky will also work with the RCMP and other community stakeholders such as the Town of Placentia in order to manage any traffic increases.

There has been no suggestion that the construction of the Vale nickel processing plant and related demographic changes have resulted in widespread increases in criminal or anti-social activity. The WREP is not expected to result in large population increases; the largest potential increase would come during construction of the WHP, which would be smaller in scale than demographic changes associated with the Long Harbour project. However, public consultation has indicated that increased drug use related to increases in population and affluence remains a public concern for the Argentia area. Husky maintains a no-tolerance policy for drug use, and will work with contractors and the RCMP to reduce and report any illegal drug-related incidents.

3.3.5 Recreation

3.3.5.1 St. John's Area

The Hibernia, Terra Nova and White Rose SEISs predicted that project-related demographic changes would not result in substantial increases in demand on St. John's area recreational services and facilities. There has been no evidence to contradict this. It

was not expected that the Hebron project would substantially increase demand on such services and facilities. While the population of the St. John's area has grown steadily in the last decade, there have also been increases in the provision of recreation services and facilities, and it is expected that WREP-related demands will be readily absorbed by existing and planned services and facilities.

3.3.5.2 Argentia Area

WREP-related population growth during the construction phase is not expected to have a substantial adverse effect on recreational services and facilities in the Argentia area. The population of the area has decreased steadily over the last decade and it is anticipated that any increased demand for recreation can be met with existing services and facilities. However, the area could benefit from increased recreational facilities and services. In public consultations, the general community need for increased recreation facilities, including a swimming pool and swimming lessons, was raised.

3.4 Community Physical Infrastructure and Services

This section of the SEIS discusses the effects of the WREP on housing, ports, airports, industrial and commercial land, warehousing and office space. It focuses on the relevant geographic scale and areas, only discussing those geographic areas likely to see activity and effects.

3.4.1 Housing

3.4.1.1 St. John's Area

Data collected by HMDC and the main project contractors indicated that the Hibernia construction project had a small effect on the St. John's area housing market (Storey et al. 1996). Coming several years after the market had absorbed the initial Hibernia demand, the somewhat smaller demands of the Terra Nova and White Rose projects had only small additional effects on the St. John's area housing market. This can be attributed in part to the availability of serviced land and a responsive residential construction sector, reflected in the pace of new suburban development in such communities as Paradise, Conception Bay South and Torbay and new condominium and other housing developments in St. John's.

The WREP construction-related requirements will be smaller than for these earlier offshore projects, and the direct effects during this phase on the St. John's area are likely to be modest and short-term. Operations phase requirements will be of a longer duration, but again, more modest than those of the earlier projects. It is recognized that St. John's is experiencing some housing challenges, largely the result of the cumulative indirect and induced effects of large numbers of energy and mining projects on the region's growth and prosperity, to which the WREP will make a very minor additional contribution. These challenges include price and rent inflation and some displacement of

people on low and fixed incomes. However, increased income, business and sales taxes and resource taxes and royalties provide provincial and municipal governments with additional revenues to assist with the management of these adverse effects.

3.4.1.2 Argentia Area

There is potential for the WREP to affect housing in the Argentia area during the construction phase as a result of any related population increase. As discussed in Section 2.4.1.3, the Argentia area housing market has experienced some pressure associated with industrial development, primarily the Vale nickel processing plant. Residential development in the Town of Long Harbour-Mount Arlington Heights has increased to meet demand, and the Town of Placentia also has new construction ongoing and is considering increased residential development in response to existing demands.

It is unlikely that the WREP will put substantial increased pressure on housing in the Argentia area. Some of the WREP employees will come from the local area and already have their own accommodations, and a portion of the construction labour force currently working on the Vale nickel processing plant will gain WREP employment, further reducing new WREP-related increases on demand for local housing. In addition, as mentioned in Section 3.3.4.3, close to 90 percent of the plant's construction workforce live outside of the Argentia area and commute to the project site on a daily basis, and a similar situation is expected with the WREP. Husky is investigating facilitating this by providing a free bus service to transport workers from selected pick-up points to the WREP site.

The relatively small number of construction workers who come from distant communities, such that they cannot commute on a daily basis, will require temporary accommodations in the vicinity of the site. However, with the mechanical construction of Phase One of the Vale plant complete and the operations phase set to begin in 2014, the demand on the local housing market created by that Project can be expected to decrease. While the WREP will contribute to the demand for local accommodations, it is likely that this will be absorbed by the existing housing market. However, Husky will continue to monitor the situation and, if required, the provision of additional housing for WREP construction workers could come from continued use of the Vale nickel processing plant camp after that construction project has ended.

3.4.2 Ports and Airports

3.4.2.1 St. John's Area

The A. Harvey & Co. Ltd. supply base, already used for White Rose and other offshore petroleum operations, has existing capacity to support additional projects. However, should it be required, other potential supply base and marine support capability exists within the Port of St. John's and in Bay Bulls. The Port of St. John's also has an

adequate provision of efficient services, such as trucking, pilotage, stevedoring, water supply, ship chandling, repair and servicing shops, waste disposal and vessel traffic monitoring in support of field development, and Bay Bulls provides stevedoring, cargo marshalling, drilling rig repair and shipyard services to the offshore oil and gas industry. During WREP operations, there may be a requirement for additional vessels to provide standby duty and support services to the WHP. However, the potential increase in vessel traffic should be easily accommodated by existing services available in the Port of St. John's.

There will be minor additional scheduled air traffic as a result of the WREP; however, these minor increases should be easily accommodated by existing services.

3.4.2.2 Argentia Area

As discussed, the WREP will involve construction of a CGS in a purpose-built graving dock at Argentia. During construction there will be increased marine traffic at the Port of Argentia. There may also be some limited sea-based shipping of materials to the Port of Argentia during CGS construction. It is anticipated that existing port facilities and infrastructure will be able to accommodate the needs of the WREP. Husky will continue to work with the AMA and other appropriate agencies so that any marine traffic increases resulting from the WREP will be managed satisfactorily.

3.4.3 Industrial and Commercial Land, Warehousing and Office Space

3.4.3.1 St. John's Area

Growth of the offshore industry has resulted in increased occupancy of industrial land, particularly in Donovan's Industrial Park and industrial areas in Paradise. Such developments are beneficial to the local economy in terms of the direct and indirect employment and income effects that they generate, including taxes to municipal and other authorities.

The offshore operators, industry suppliers and contractors have and will continue to take up warehouse and office space in the St. John's area. Research in 2003 found that 18 operators and large contractors occupied offices and warehouses in the City of St. John's, with a combined assessed value of \$50.8 million, Mount Pearl had 95 businesses largely or wholly operating in the industry, and Paradise had an additional 14 such businesses (PRAC 2003).

Petroleum industry activity has also led to further investment in warehousing and other infrastructure in the St. John's area (Stantec 2009, 2012). Such investments include expansions by St. John's-based companies, including Oilfield Drilling Services and PF Collins International Trade Solutions, both of which expanded to meet industry demand during 2005 to 2007 (Stantec 2009). Pennecon Energy Marine Base has also invested in

infrastructure development and increased warehouse space at its Bay Bulls facility (Stantec 2012).

The WREP will have minor construction-phase effects on industrial and commercial land, warehousing and office space in the St. John's area, and will have no additional operations-phase effects. While the availability of industrial land and warehousing should be adequate to meet WREP demand, there has been public concern regarding a shortage of office space in the St. John's area, particularly premium, or Class A, office space. However, the market has begun to respond to increased demand, with such new developments as The Tower Corporate Campus (Littledale), the new Fortis building and 351 Water Street. Because St. John's will remain the centre of activity for engineering and management throughout the WREP, office space in the St. John's area will be required. Increased demand related to the WREP is anticipated to be small, and should be accommodated by new development.

3.4.3.2 Argentia Area

The Argentia Industrial Park has existing capacity to support any additional demand related to the WREP. It is not anticipated that the WREP will have any adverse effect on industrial and commercial land, warehousing and office space in the Argentia area.

4.0 SUSTAINABLE DEVELOPMENT

For Husky, sustainability means integrating social, environmental and economic considerations into its core business to create a lasting contribution to Newfoundland and Labrador. Engaging with key stakeholders and conducting its business in a manner that seeks to maximize the positive effects on current and future generations are core elements of Husky's sustainability commitment and values. Husky is committed to responsible corporate citizenship, operational integrity and environmental stewardship.

In delivering sustainable activities and projects, Husky adopts the principles of continuous improvement so as to meet, and often exceed, industry and government regulatory requirements. Husky strives to use initiative, leadership and expertise so that its projects meet the needs of today's economy and society while not compromising the needs of future generations, and also contribute to the development of a strong economy and society over time.

In addition to providing employment for thousands of employees and creating business opportunities for vendors and suppliers, Husky makes a substantial contribution to the economies of Canada and Newfoundland and Labrador. The health and safety of employees, contractors and the public, along with sound environmental stewardship, are core business values for Husky.

Husky's corporate 2012 Sustainability Report is available at:

<http://www.huskyenergy.com/>

downloads/aboutus/publications/sustainabledevelopment/SustainabilityReport2012.pdf.

4.1 Environmental Stewardship

Husky seeks to minimize the effects of its operations by practicing environmental stewardship.

The HOIMS reflects Husky's commitment to achieve superior performance in environmental protection. The system's focus on environmental stewardship requires that Husky "operate responsibly to minimize the environmental impact of our operations" and "leave a positive legacy behind". The HOIMS details how Husky intends to meet these goals.

4.1.1 Environmental Planning

Husky's environmental assessment of projects integrates environmental factors into planning and decision-making processes in a manner that promotes sustainable development. From the design of facilities and processes, through construction to operations, Husky's planning incorporates the values of environmental stewardship.

For example, Husky has implemented its habitat compensation program to mitigate habitat loss as a result of excavation for White Rose field drill centres. These excavated areas are designed to protect subsea equipment from the damaging effects of iceberg scour. The habitat compensation program has included the creation of a 3,800 m² artificial rock reef and over 22,000 m² of scallop habitat in 2005 and 2006. Subsequent surveys have indicated that the created habitats are having a positive effect that exceeds the expectations of Husky and other stakeholders. Husky also funded the construction of a slipway in North Harbour. This is one of only two slipways in Placentia Bay, provides a substantial convenience for local mariners, and could serve as a secondary staging area for oil spill response equipment in the bay.

In 2009, Husky placed rock berms on flowlines in the White Rose field to provide protection where they exit and enter two drill centres. This rocky substrate represents unique habitat in an area that is otherwise generally sandy with little topographic relief. Subsequent surveys since 2010 have shown that the rock berms are being used by numerous species of fish and invertebrates. Further surveys will be conducted in 2015 and 2017.

4.1.2 Environmental Protection Tools

Since 2005, Husky has used a management system called OmniSafe to track and analyze spills, safety incidents, public complaints and regulatory non-compliances. As part of this system, Husky undertakes regular safety and environmental audits to evaluate its performance relative to its own standards and those set by regulators. These audits are conducted so that improvements may be made to the company's systems to prevent injuries, illnesses, property damage, process losses and adverse environmental effects.

All Husky-operated facilities in the Atlantic Region have Environmental Protection and Compliance Monitoring Plans that outline detailed environmental protection procedures for all aspects of operations. These plans are reviewed on a regular basis and updated as required.

Husky also has contingency plans that guide response to any emergency encountered during operations. The plans outline the personnel, equipment and logistics support requirements and the procedures needed so that any emergency incident is responded to in a safe, prompt and coordinated manner. The plans are distributed to personnel with designated responsibility for emergency response actions.

The emergency response structure relies on a strong team offshore, which is in command of other teams responsible for the implementation of specific actions. Offshore personnel can be supported and complemented by regional and corporate teams should the incident require such support. A shore-based Atlantic Region emergency response team provides support for operations taking place offshore, and is responsible for

developing larger-scale response plans. Husky also has a mutual aid agreement with other Grand Banks operators, which provides for the release of personnel, vessels and equipment for logistics support, and for the exchange of operational information, in the event of an emergency.

Husky undertakes a regular program of exercises so that all personnel maintain a state of readiness. These exercises train and familiarize personnel with emergency procedures, testing their preparedness, and provide a means of developing continued improvement to emergency procedures. Husky participates with other Grand Banks operators in the annual Synergy integrated oil spill exercise. It includes an on-water demonstration of capability with Eastern Canada Response Corporation and an onshore emergency response team support function. Husky was the lead company for Synergy 2003, 2006, 2009 and 2012.

The White Rose environmental effects monitoring program monitors the effects of the project on the marine environment. It is part of a multiyear study to evaluate the project-related effects on the benthic environment, water column and fish in the White Rose field. To date, Husky has invested over \$3.5 million in this initiative.

Husky recognizes the unique importance of the Grand Banks to seabird populations and their special sensitivity to oil spills. In response, Husky has put in place initiatives to improve the understanding of the distribution of seabirds and to provide appropriate measures to rehabilitate any that are affected by oil spills. Since 2000, Husky has funded beached bird surveys at nine locations on the South Coast of Newfoundland at an annual cost of \$15,000. This research complements that carried out by the Canadian Wildlife Service for other areas, and the results are provided to, and used by, Canadian Wildlife Service to monitor seabird mortality due to oiling. As part of ongoing operations, Husky also has personnel on the *GSF Grand Banks* drilling rig conduct daily seabird observations, for 20 minutes at three intervals. This information is also provided to the Canadian Wildlife Service for analysis.

Husky is a member of One Ocean, the liaison organization established by and for the fishing and petroleum industries to provide a forum for communication and information exchange. Husky's Vice-President for Atlantic Canada Operations is a member of the One Ocean Industry Board and Husky also has representation at the working group level within One Ocean.

4.1.3 Minimizing Environmental Impacts

Greenhouse gas emissions are a substantial byproduct of both the energy industry's operations and consumer activity. Developing strategies to reduce emissions associated with all aspects of energy production and consumption is a major environmental challenge, requiring widespread collaboration and a long-term commitment of resources, talent, creativity and willpower.

Husky is addressing the challenge of climate change by: improving the energy efficiency of existing operations; providing consumers with environmentally friendly fuels; and identifying and developing new technologies that will lead to substantial improvements in energy efficiency and emission reductions in the future. Husky's environmental performance and reporting system applies financial reporting rigour to producing reports that are consistent, reproducible and auditable. Husky is implementing greenhouse gas reduction initiatives including carbon capture and storage, energy efficiency, fugitive emission reduction and flaring and venting mitigation. Between 2006 and 2010, greenhouse gas emissions from Husky's Canadian operations declined by over 19 percent. From 2009 to 2010, emissions of greenhouse gas from the *SeaRose FPSO* declined by more than 45,000 tonnes.

Since 2000, Husky has also been reporting production, environmental, health, safety and social performance data to the Canadian Association of Petroleum Producers (CAPP) under its Stewardship Initiative. For Husky and other CAPP members, this initiative provides a framework for reporting and encouraging transparency, fostering continuous improvement and ensuring that the most useful and pertinent performance indicators are measured and reported.

Minimizing environmental effects also requires focus on continuous improvement. Since 2006, Husky's Atlantic Region has annually reported on initiatives undertaken to provide continuous improvement in environmental performance for Husky's operations. The report identifies those areas of operations where management of environmental initiatives are key to meeting Husky's internal expectations, objectives and standards as well as those of external stakeholders. Husky's Atlantic Canada operation has five areas where managing environmental risk is critical:

- Chemical management
- Waste management
- Environmental incident management
- Compliance management
- Emissions management.

In each of these areas, clear goals and objectives have been established based on sustainability and business planning.

4.2 Economy and Society

As is noted in the Canada-Newfoundland and Labrador Development Plan Guidelines, a major component of sustainability is that offshore petroleum activity produce 'a lasting

economic legacy for the people of the province' (Canada-Newfoundland and Labrador Offshore Petroleum Board 2006).

Husky's approach to delivering benefits, including its approach and principles, have been described in Section 3.2.1. Together with other corporate initiatives and contributions directed at different groups and regions in the province, they are designed not to simply create work or address immediate problems, but to contribute to positive and sustainable economic and social change. This section documents these initiatives and contributions, and the ways in which they are already producing and will continue to produce such changes.

4.2.1 Employment and Training

The petroleum industry in Newfoundland and Labrador is working at the technological frontier, seeking to find and produce oil and gas in a harsh environment and increasingly deep waters, using wells of record lengths and production systems of great complexity. This has required the development of new education and training programs and facilities at MUN, the Marine Institute, CNA and private training institutions. These institutions, together with the associated cutting-edge work experience, have produced large numbers of highly-skilled residents of Newfoundland and Labrador.

Husky has honoured both the spirit and the intention of the Atlantic Accord Acts in its commitment to working with residents of Newfoundland and Labrador, and has been a strong proponent of recruiting locally and developing local talent. Since Husky began production at White Rose in 2005, employment levels for White Rose operations, including major contractors, have been approximately 1,000 positions. Husky requires that first consideration in hiring be given to qualified residents of Newfoundland and Labrador and Canada, and over 90 percent of Atlantic Region operations staff are residents of Newfoundland and Labrador.

Husky is a learning organization where employees are encouraged and supported through continued education and development. Husky has a formal policy that covers internal learning and development (e.g., business skills courses, diversity, technical learning), external learning and development (courses, seminars, conferences), apprenticeship, executive learning, career development, professional/occupational association memberships, education leave, tuition aid and masters' degree support.

Husky's intensive Leadership Development Program is structured in three streams, leadership development for managers, supervisors and new frontline supervisors. Husky also offers an intensive professional development program in project management. The Advanced Project Management Program consists of a series of 12 modules that are delivered over time, culminating in the Project Management Professional examination preparation workshop.

Through Husky's Masters' Degree Support Program, selected employees are provided a 100 percent reimbursement of the tuition costs of pursuing masters-level degrees. The same opportunity is offered for external courses and apprenticeship training.

Consistent with Husky's practice of hiring and developing local talent, Husky has supported the co-op programs at MUN, the Marine Institute and CNA since the St. John's office opened in 1997. Husky hires approximately 70 work term students per year, for placement in such areas as engineering (drilling, operations, subsea, health, safety, environment and quality, facilities), business (accounting, Canada-Newfoundland and Labrador benefits, public affairs), information technology, environment, geosciences and document control. Many of these co-op students have had opportunities to gain out-of-province experience at other Husky operations in Canada, and Husky's new graduate program provides opportunities for full-time employment and transfers based on co-op performance. In 2013, Husky hired 89 work-term students.

Husky also encourages the children of permanent employees to pursue post-secondary education by providing financial assistance through the Dependent Scholarship Program. It encourages and recognizes scholastic achievement, extra-curricular activities and community involvement.

Husky has been a supporter of Skills Canada, a program that promotes skilled trades as a career, and of the Women in Resource Development Corporation (WRDC) Techsploration program. The latter program introduces Grade 9 girls to opportunities in oil and gas technology industries. A number of Husky staff members continue to serve as Techsploration mentors. Husky also works closely with Women in Science and Engineering (WISE), providing both an annual donation and female mentors.

In the past, Husky has also:

- Sponsored the Marine Advanced Technology Education remotely operated vehicle international competition, in which high school and university students compete to design, build and operate an remotely operated vehicle
- Provided surplus computer and other equipment to local schools
- Provided funding and volunteers for the annual Junior Achievement's Economics of Staying in School program
- Provided funding to the Eastern Region Science Fair and the Association of Atlantic Universities Geo-Science Conference.

4.2.2 Research and Development

Sustainability demands a full commitment to exploring new and better ways of producing energy, including new sources of renewable energy. It is for this reason that Husky supports R&D activity across Canada.

A large amount of petroleum industry R&D work is being done in Newfoundland and Labrador. Every year, operators, contractors, government agencies, industry groups and research organizations support or participate in numerous studies related to petroleum activities in the province. This includes work in such areas as engineering and design (e.g., vessel design, mooring options), operational studies (e.g., seismic survey techniques, vessel offloading, safety equipment and procedures, ice detection and response) and environmental investigations (e.g., wave and current studies, beached bird surveys, fish habitat compensation).

This work, which has primarily occurred at MUN, the Marine Institute and the Institute for Marine Dynamics, has helped sustain and further build the local R&D community. It has also helped develop Newfoundland and Labrador as a centre of excellence in such topics as cold oceans engineering, hull testing and marine science.

Husky has been a leading initiator and supporter of R&D activity. For example, it has provided a \$2.5 million endowment for the first endowed research chair at MUN, the Husky Energy Chair in Oil and Gas Research. Husky also contributed \$200,000 to MUN for research into sustainable technology for polar ships and structures (STePS2), over \$530,000 to the Marine Institute for development of simulation technology to respond to heading control issues and offloading procedures at the White Rose field and over \$95,000 to C-CORE for comparative analysis of ice management versus trenching.

Husky continues to be an active supporter of C-CORE, an R&D organization with expertise in petroleum exploration, ice engineering and harsh environment technology. Husky has wholly, or as part of joint industry studies, funded research related to ice management and ice scour studies. Husky also contributes \$75,000 core funding to C-CORE each year, to be used towards the development of C-CORE staff and in support of general R&D targeted at the Grand Banks and other harsh offshore areas.

Husky is also an active member of research organizations such as Petroleum Research Newfoundland and Labrador (PRNL), with Husky's Senior Vice-President for Atlantic Region sitting on the Board. Since 2009, Husky has provided over \$2.3 million in funding to PRNL. The establishment and success of this provincial capacity contributes to the development of a knowledge-based economy that can continue to thrive into the future.

4.2.3 Building the Business Community and Economy

Husky has been active in Newfoundland and Labrador since the 1980s, when it first began exploration on the Grand Banks, and it continues to be one of the most active operators in the region, with more than 404,000 ha (one million acres) of exploration lands. Husky has always been proactive in seeking to involve and benefit the local business community. For example, Husky opened an office in St. John's four years before sanction of the White Rose project and ensured activities such as engineering, project management and, wherever possible, construction and fabrication were done in the province. As has been discussed above, the WREP and other future projects will employ the same approach and principles.

The Atlantic Region business unit operates within a corporate structure that allows it to customize corporate initiatives to meet the needs of local employees and requirements. The tools employed to enhance development of local capacity include Husky's Canada-Newfoundland and Labrador Benefits Reporting and Procedure Manual, which outlines benefits and contract language policies and procedures that require sub-contractors to adhere to Husky's benefits principles. Husky also provides open and timely communication with the supply community about upcoming opportunities, focuses on providing employee training using local facilities and encourages subcontractors to do the same.

Husky continues to be committed to improving the local supply capability and identifying potential opportunities where existing companies can expand or diversify their product line. A major supplier development initiative in 2009 was the design and fabrication of a daughter craft to support the diving activities for the 2009 maintenance turnaround on the *SeaRose FPSO*. The project was contracted to local company Pro-Dive Marine Ltd. and involved the construction of a fully contained diving support vessel that could be launched from a supply vessel (mother craft) and moor up to the *SeaRose FPSO*, thereby providing much greater flexibility and safety for the dive crew. Poseidon Marine Consultants Ltd. and C&W Industrial Fabrication and Marine Equipment Limited were involved in the design and fabrication of the vessel.

Pro-Dive Marine Ltd. was again contracted to execute the 2010 *SeaRose FPSO* maintenance and repair program. The 2010 program allowed local contractors to further refine their skills related to the use of this unique dive support system. The project demonstrated the capabilities of Newfoundland and Labrador companies and personnel to adapt and develop technology to meet local conditions and requirements. The project resulted in direct employment in vessel construction and program implementation, and enhanced the capabilities of local suppliers by their involvement in a unique project. The cost of the 2010 program was over \$1 million.

Other initiatives Husky and its local contractors have been involved in include:

- New painting equipment at Marystown Shipyard: Work was completed as part of a Husky contract for ballast piping replacement and established a service that was previously unavailable in the province.
- Specialized GRE (Fibreglass) Pipe Training: Several local pipefitters trained to join GRE (fibreglass) piping as a result of a requirement to replace a ballast piping section within one of the ballast tanks on the *SeaRose FPSO*.
- Shiptside Valve Inspection: A local diving contractor, Afonso Group, successfully employed a boroscope and small remotely operated vehicles to complete the in-situ inspection of shiptside valves on the *SeaRose FPSO*. This was a first for Transport Canada because this inspection normally would occur with a vessel in dry-dock. This new technique is now resident with the contractor and can be used for future inspections on the *SeaRose FPSO* and other vessels.
- Process Simulator: This simulator was established at Setpoint offices, accompanied by the development of a new integrated control and safety system communications protocol course.
- Pipeline/Flowline Route Analysis System: The Marine Institute equipped one of its leased vessels, the *Atlantic Cat*, with a Kongsberg Multi-beam Echo Sounder and a Knudsen 4 Channel CHIRP Sub-bottom Profiler System. The Marine Institute subsequently purchased the vessel and can use the onboard survey systems for future R&D projects.

Through these activities, Husky has been, and will continue to be, a very important contributor to the growth of Newfoundland and Labrador's offshore petroleum industry. The size and significance of the effects of this industry on Newfoundland and Labrador has been clearly documented in reports for PRAC (PRAC 2003, 2005; Stantec 2009) and PRNL (Stantec 2012). They demonstrate that the industry has created a new economic sector, led to exports of petroleum expertise and capabilities and sales of them to other industries and delivered increased entrepreneurship, self-confidence and ambition:

- New Economic Sector: The oil industry has in and of itself diversified the economy; a sector of the provincial economy that hardly existed 40 years ago is now responsible for one-third of the province's GDP. Oil companies are also contributing to the provincial economy by paying very substantial taxes and royalties. For example, the provincial government received approximately \$2.4 billion in the 2010-2011 fiscal year, more than was provided by personal income taxes, equalization payments or sales tax. These revenues provide the government with new flexibility in providing public services and infrastructure and supporting economic development initiatives (Stantec 2012).

- **Exporting Petroleum Expertise:** The new equipment, personnel and business practices required for petroleum work have made local firms highly competitive and affected their business cultures, attitudes, morale and ambition. Furthermore, links developed through relationships with the petroleum industry locally have provided them with an invaluable means of marketing themselves nationally and internationally. These factors have helped companies to find work on other petroleum projects in Atlantic Canada and around the world, reducing their vulnerability to fluctuations in local oil industry activity. Case studies of 18 provincial companies involved in the industry found that many of them exported products and/or services outside the province (Stantec 2012).
- **Diversifying from Petroleum Expertise:** Having been successful in the petroleum industry, many local companies have been able to apply their capabilities in, or adapt them to, other industries. This has happened in local, national and international markets. Investments in R&D infrastructure for the petroleum industry have also supported work for other industries, and thereby furthered economic diversification.
- **Entrepreneurship, Self-confidence and Ambition:** The success of local companies in the petroleum and other industries has encouraged or (through the competition they pose) required other Newfoundland and Labrador firms to become more competitive. In terms of such things as business practices and ambition, local petroleum industry companies have become role models to the business community as a whole.

Furthermore, new and improved offshore petroleum-related industrial infrastructure, such as resulted from White Rose-related investments in Marystown and would result from the construction of a WHP, reduces the costs of, and increases the likelihood of, potential Newfoundland and Labrador benefits from further projects. They may also find application in other industries. At the same time, petroleum industry-related R&D, education and training infrastructure is creating a core of expertise and learning in this province in a range of marine and engineering-related areas. Again, while put in place to support local activity, these facilities and capabilities are increasingly undertaking work for clients outside the province and outside the oil industry, further developing and diversifying the economy.

These changes are clearly sustainable in that, while they result from local offshore petroleum activity, they are developing capabilities applicable in other places and industries. Any downward fluctuations in petroleum industry activity in the Newfoundland and Labrador offshore would provide challenges for these companies and the economy as a whole, but these companies and individuals likely would continue to succeed in the petroleum industry elsewhere and in other industries. Furthermore, the increased self-confidence and ambition that has been created is arguably having effects throughout the

local economy and society. The WREP will further contribute to this process of transforming Newfoundland and Labrador.

4.2.4 Diversity

Husky has been very active in promoting and supporting workplace diversity within the local oil and gas industry, by introducing a diversity culture within the company and encouraging major contractors to make a diverse workforce part of their operations. In order to facilitate this, and pursuant to commitments made in the White Rose Development Plan, Husky developed the White Rose Diversity Plan (Husky Energy 2003).

Through this Plan, Husky has worked with a range of diversity groups. For example, since 2004, Husky has hosted an annual diversity forum attracting approximately 80 business and community partners from a variety of organizations. The forums highlight both the challenges and successes of developing a diverse workplace. Husky has supported participation of an employee on the boards of directors of the WRDC and the Canadian Institute for the Blind (CNIB). As well, a Husky representative on the Board of Petroleum Industry Human Resources Committee helped to reshape research priorities and program initiatives, with a focus on providing oil industry career information to underrepresented groups. In 2011, Husky formed a diversity advisory group comprised of organizations that represent persons with disabilities. This group will assist Husky in its efforts to develop new and creative initiatives that will encourage greater interest from this community.

In other recent initiatives, 2010 saw a Husky representative present on 'Oil and Gas Industry Career Choices' at the Newfoundland Aboriginal Women's Conference, and Husky fund the Nunatsiavut Government to allow four Aboriginal candidates to job shadow the positions of marine mammal observer and fisheries liaison officer during Husky's 2D seismic program offshore Labrador. In March 2011, Husky was a major sponsor of the 'Fuelling the Future: Women in Oil and Gas' international conference.

More than 75 people (employees and representatives from community partners) attended Husky's Diversity Forum in November 2012. Discussions focused on understanding perspectives and challenges related to gender, Aboriginals and persons with disabilities.

4.2.5 Community Investment

Education and health are the cornerstones of Husky's community giving program. Investing in these, and other charitable causes, helps people, organizations and communities grow and succeed. Husky's commitment to community unites the company, strengthens the company's reputation and creates important partnerships. This commitment extends directly from senior management to all employees.

Husky's approach is to provide direct and lasting benefits to the broadest possible audience with a focus on health, education and community service. With respect to health care investments, in 2012, Husky donated \$200,000 to the Canadian Red Cross to support training programs, \$100,000 to the Janeway Children's Hospital Foundation and \$50,000 to Daffodil Place. In 2011, Husky donated \$750,000 to the Bliss Murphy Cancer Care Foundation towards the purchase of TrueBeam radiation treatment technology and in 2009 gave \$500,000 to the Health Care Corporation towards the replacement of the catheterization laboratory in the Bliss Murphy Cancer Clinic, which will also be used for teaching and training purposes by the Faculty of Medicine at MUN.

From an environmental perspective, Husky provided funding to Nature Conservancy of Canada to support development of a Natural Area Conservation Plan for the Eastern Hyperoceanic Barrens. In 2008, Husky donated \$300,000 to the Bowring Park Foundation to help reconstruct the fountain pond and upgrade the accessibility of the children's playground.

Community service organizations in Newfoundland and Labrador have been among the primary beneficiaries of the donations program. They include the CNIB, Easter Seals Newfoundland and Labrador, Vera Perlin Society, Seniors Resource Centre, Goodlife Kids Foundation, Community Youth Network and Community Food Sharing Association. Husky has also provided funding to such arts and cultural organizations as the Kiwanis Music Festival Association, Newfoundland Symphony Orchestra, Wooden Boat Museum of Newfoundland and Labrador, Wreckhouse Jazz and Blues Festival, Festival 500 Corporation, Grand Banks Regional Theatre Festival and Garrick Theatre in Bonavista, as well as a \$2.5 million contribution to The Rooms for the establishment of the Husky Energy Gallery, which will serve as the prime exhibition area for the modern and social history of Newfoundland and Labrador.

4.2.6 Employee Participation

In addition to financial support, Husky Energy and its employees continue to make substantial in-kind contributions to the local community. Husky staff serve as members of various groups, organizations and committees including the following:

- WRDC – Board of Directors
- CNIB – Board of Directors
- Independent Living Resource Centre – Board of Directors
- Skills Canada – Board of Directors
- Canadian Council on Rehabilitation and Work's Diversity Sector Council – Stakeholder Group member

- One Ocean – Board of Directors
- CNA - Provincial IT Advisory Committee
- Local chapter of the Project Management Institute – Board of Directors
- CAPP – Atlantic Canada, Executive Policy Group
- CAPP – Training and Qualifications Committee; Atlantic Canada Environment Committee
- CAPP – Quality Review Team for BST/BST-R and OSI training courses
- CAPP Hydrocarbon Leak Prevention Task Force – Committee Chair
- CAPP Review of the Helicopter Landing Officer Training courses – Review Committee
- Newfoundland Geological Survey – Technical Advisory Committee
- Geological Association of Canada/Mineralogical Association of Canada annual meeting in St John's in 2012 – Organization Committee
- WISE-NL – Board of Directors
- WISE-NL Student Summer Employment Program – Role Models
- WRDC Techsploration Program – Role Models
- Safety Advisory Council for the Provincial Government – Employer Representative
- PRNL – Chair of Board
- C-CORE – Board of Directors
- MUN, Faculty of Business and Administration – Advisory Board
- MUN, Marine Institute – Advisory Board
- Dr. H Bliss Murphy, Cancer Care Foundation – Board of Directors
- ENFORM/CNA – Well Control Instructor for Eastern Canada
- MUN, Faculty of Engineering and Applied Science – Graduate Students Examining and Supervisory Committees

- MUN – Industry Advisory Committee
- Genesis Centre, MUN – Board of Directors
- NOIA – Conference Committee
- NOIA – Outstanding Contribution Award Committee
- 2011 Women in Oil and Gas Conference – Organizing Committee.

Husky employees in St. John's also join forces with other oil and gas operators in the annual oil and gas industry food drive; in 2013, the drive collected over 21,000 kg of food. Other community initiatives included participation in the Heart and Stroke Foundation Big Bike Fundraiser, the East Coast Trail Tely Challenge and the Tri for Health Triathlon Fundraiser for Mental Health, as well as volunteerism at the Jimmy Pratt Memorial Outreach Centre.

5.0 CONCLUSION

With the WREP, Newfoundland and Labrador will continue to experience the socio-economic benefits of offshore petroleum development, which has remained the primary provincial economic driver since the 1990s. Following Husky's White Rose and North Amethyst projects, the WREP will continue to provide benefits to the province. While smaller in scale than the White Rose, Terra Nova and Hibernia projects, the WREP represents another important step in the development of Newfoundland and Labrador's offshore oil and gas industry.

The WREP will bring substantial industrial and employment benefits to the province and will afford opportunities for local employment and business. The WREP will also help to advance the oil and gas industry in the province, providing opportunities for further development of provincial expertise and capabilities in this economically important sector. Generating positive effects on business, employment and the economy, the WREP will contribute to sustainable development in the province.

At the local level, WREP-related benefits will be delivered to both the Argentia and St. John's areas. Construction-related employment and business opportunities will have direct economic benefits, while secondary multiplier benefits will also substantially benefit the economy. During operations, the WREP will continue to provide employment and contribute both direct and indirect benefits to the St. John's and provincial economies. While the WREP may lead to some increased demand on community services and infrastructure, it is not anticipated that any such increased demand will exceed the capacity of communities to respond. Furthermore, given the smaller-scale of the WREP in relation to other industrial projects, past experience indicates that these communities will be able to meet the demands that may result from the WREP.

It is recognized that the St. John's region is experiencing some housing and other challenges as a result of growth and prosperity. However, these are principally the cumulative indirect and induced effects of numerous oil and mining industry projects, including their effects on: provincial employment and business; income, business and sales taxes; and resource taxes and royalties. These have contributed to government expenditures, and thus to the increased growth and prosperity. They also provide provincial and municipal governments with additional revenues to assist them in managing both the positive and negative effects of the growing economy.

The approaches and policies that Husky has adopted at the corporate level, and the WREP-specific policies, practices and initiatives that reflect them, will minimize the WREP's biophysical impacts. This represents sound environmental stewardship and resource conservation, again to the long-term benefit of the province and all its citizens.

6.0 REFERENCES

6.1 Personal Communications

Bowering, J., Corporate Communications and Privacy Coordinator, Newfoundland and Labrador Housing Corporation, St. John's, NL. Email January 27, 2012.

Caul, G., Town Clerk/Manager, Town of Witless Bay, NL. Email February 16, 2012.

Collins, J., Manager of Recreation, Town of Paradise, NL.

Crosbie, T., President/Broker, Coldwell Banker Commercial, St. John's, NL.

Cunningham, G., Manager of Offshore Operations, A. Harvey & Co. Ltd, St. John's, NL. Email February 15, 2012.

Hamlyn, D., Manager of Administration, St. John's Regional Fire Department, St. John's, NL.

Hogan, W., Mayor of Placentia, NL. Telephone call February 6, 2012.

Janes, A., Economic Development Director, Town of Conception Bay South, NL.

Janes, C., Senior Market Analyst, Canada Mortgage and Housing Corporation, St. John's, NL.

Janes, G., Planning Specialist, Eastern Health, St. John's, NL. Email.

Johnston, R., Chief, Royal Constabulary Police, St. John's, NL .

King, J., Clarke Real Estate, Placentia, NL. Email January 16, 2012.

Morris, G., Campus Administrator, Prince Philip Drive Campus, CAN, St. John's, NL. Email October 16, 2012.

Osmond, R., Director of Parks and Community Services, City of Mount Pearl, NL.

Patey, C., Campus Administrator, Seal Cove Campus, CAN, Conception Bay South, NL. Email October 16, 2012.

Porter, W., Office of the Fire Commissioner, Deer Lake, NL.

Power, W., Fire Chief, Placentia Fire Department, Placentia, NL. Email January 23, 2012.

Pye, I., Policy, Planning and Research Analyst, College of the North Atlantic, St. John's, NL.

Sinclair, H., Newfoundland and Labrador Department of Child, Youth and Family Services, St. John's, NL. Email

6.2 Literature Cited

ACOA (Atlantic Canada Opportunities Agency). 2013. Federal and Provincial Governments Invest in Community Infrastructure on Avalon Peninsula. Available at: <http://www.acoa-apeca.gc.ca/eng/Agency/mediaroom/NewsReleases/Pages/3909.aspx>

AMA (Argentia Management Authority). No date. Argentia Management Authority Website. Available at: <http://www.argentia.ca/>

Avalon Gateway (Avalon Gateway Regional Economic Development Corporation). 2009. 2009-2011 Strategic Economic Plan. Available at: <http://www.avalongateway.ca/uploads/file/Avalon%20Gateway%20Strategic%20Economic%20Plan%20-%202008-2011.pdf>

Avalon Gateway (Avalon Gateway Regional Economic Development Corporation). 2010. Economic. Available at: http://www.avalongateway.ca/index.php?page_id=40

BAE-Newplan Group Limited. 2010. School Facility Requirements of the Greater St. John's Area, summary and Recommendations, November 2010. Available at: http://www.esdnl.ca/aboutesd/theboard/multiyearplanning/Consultants_Report-St_Johns_Schools_2010.pdf

Bay Bulls Marine Terminal. 2007. Bay Bulls Marine Terminal Website. Available at: <http://www.baybullsmarineterminal.ca>

Beach, J., M. Friendly, C. Ferns, N. Prabhu and B. Forer. 2009. Early Childhood Education and Care in Canada 2008. Childcare Resource and Research Unit, Toronto, ON. Available at: <http://www.childcarecanada.org/ECEC2008/index.html>

Bell, N. 2008. Vale Shuts Down Argentia Plant. Article in the Telegram July 2, 2008. Available at: <http://www.thetelegram.com/Business/Economy/2008-07-02/article-1440411/Vale-Inco-shuts-down-Argentia-plant/1>

Brennan, R. 2011. Danny Millions Turns Big-Time Developer in Nfld. Article on thestar.com December 14, 2011. Available at: <http://www.thestar.com/news/article/1101950>

Burczycka, M. and A. Cotter. 2011. Shelters for Abused Women in Canada, 2010. Available at: <http://www.statcan.gc.ca/pub/85-002-x/2011001/article/11495-eng.pdf>.

Canada-Newfoundland and Labrador Offshore Petroleum Board. 2006. Development Application Guidelines: Newfoundland Offshore Area.

CBC News 2012a. Housing Crunch Leaves MUN Students Scrambling. Article, CBC News, September 10, 2012. Available at: <http://www.cbc.ca/news/canada/newfoundland-labrador/story/2012/09/09/nl-mun-housing-crunch-910.html>

- CBC News. 2012b. Bumper to Bumper in the Dark, En Route to Long Harbour. Article, CBC News, March 29, 2012. Available at: <http://www.cbc.ca/news/canada/newfoundland-labrador/story/2012/03/29/nl-long-harbour-commute-329.html>
- CBC News. 2013. Approval Given for First Phase of Glencrest. Article, CBC News Newfoundland and Labrador, March 20, 2013. Available at: <http://www.cbc.ca/news/canada/newfoundland-labrador/story/2013/03/20/nl-council-glencrest-first-phase-approval-2013-03-20.html>
- Centre for Institutional Analysis and Planning. 2012. Fact Book 2012. Available at: http://www.mun.ca/ciap/Analysis/FACT_BOOK_2012_Online.pdf
- CIHI (Canadian Institute for Health Information). 2012a. National Health Expenditure Trends, 1975-2012. Ottawa, Ontario: Canadian Institute for Health Information. Available at: https://secure.cihi.ca/free_products/NHEXTrendsReport2012EN.pdf
- CIHI (Canadian Institute for Health Information). 2012b. Supply, Distribution and Migration of Canadian Physicians, 2011. Ottawa, Ontario: Canadian Institute for Health Information. Available at: <https://secure.cihi.ca/estore/productFamily.htm?locale=en&pf=PFC1968>
- CIHI (Canadian Institute for Health Information). 2013. Regulated Nurses: Canadian Trends, 2007 to 2011. Ottawa, Ontario: Canadian Institute for Health Information. Available at: https://secure.cihi.ca/free_products/Regulated_Nurses_EN.pdf
- City of Mount Pearl. No date. City of Mount Pearl Website. Available at: <http://www.mountpearl.ca/Default.aspx?>
- City of St. John's. 2011. Roadmap 2012: A Strategic Economic Plan for St. John's. Available at: <http://www.stjohns.ca/pdfs/Roadmap2021.pdf>
- City of St. John's. 2013. State of the Economy. St. John's Metro. Available at: http://www.stjohns.ca/sites/default/files/files/publication/state%20of%20the%20economy%20mar%202013_0.pdf
- CMHC (Canada Mortgage and Housing Corporation). 2000. Historical Housing Statistics Newfoundland, St. John's, NL. Canada Mortgage and Housing Corporation, St. John's, NL.
- CMHC (Canada Mortgage and Housing Corporation). 2007. Preliminary Housing Start Data. St. John's, NL. Canada Mortgage and Housing Corporation, St. John's, NL.
- CMHC (Canadian Mortgage and Housing Corporation). 2009. Rental Market Report, St. John's CMA. Canada Mortgage and Housing Corporation, St. John's, NL.
- CMHC (Canadian Mortgage and Housing Corporation). 2010. Housing Now: St. John's CMA. Canada Mortgage and Housing Corporation, St. John's, NL. June 2010.
- CMHC (Canadian Mortgage and Housing Corporation). 2012. Housing Market Outlook St. John's CMA. Available at: http://www.cmhc-schl.gc.ca/odpub/esub/64271/64271_2012_B02.pdf?fr=1369228865513

CMHC (Canadian Mortgage and Housing Corporation). 2014. Housing Now: St. John's CMA, First Quarter 2014. Available at: http://www.cmhc-schl.gc.ca/odpub/esub/64199/64199_2014_Q01.pdf?fr=1396452219531.

CNA (College of the North Atlantic). No date. Placentia Campus. Available at: <http://www.cna.nl.ca/campus/pl/>

Community Accounts. No date. Available at: <http://nl.communityaccounts.ca/default.asp>

Department of Industry, Trade and Technology. 1998. Industrial Benefits Summary: Offshore Petroleum Activities in Newfoundland and Labrador. Report prepared by the Industrial Benefits Division. Government of Newfoundland and Labrador, St. John's, NL.

Dooley, D. 2011. "Placentia Begins to Boom". Article in the Telegram September 12, 2011. Available at: <http://www.thetelegram.com/Business/2011-09-12/article-2745805/Placentia-begins-to-boom/1>

Eastern Health. 2007. On the Path to Health and Wellness: Southern Avalon Community Health Needs Assessment. Available at: <http://www.easternhealth.ca/publicreports.aspx>

Eastern Health. 2010. Access: Charting the Course. The Northeast Avalon Community Health Needs Assessment. Available at: <http://www.easternhealth.ca/OurCommunity.aspx?d=1&id=400&p=379>

Eastern Health. 2012a. Eastern Health Website. Available at: <http://www.easternhealth.ca/Default.aspx>

Eastern Health. 2012b. Annual Performance Report 2011-2012. Available at: <http://www.easternhealth.ca/publicreports.aspx>

Eastern Health. 2012c. Proud Heritage Healthy Future: Strengthening the Ties that Bind. The Results of the Trinity-Conception Community Needs Assessment, 2012. Available at: <http://www.easternhealth.ca/publicreports.aspx>

Eastern School District. 2012. School Directory. Available at: <http://www.esdnl.ca/schools/schooldirectory/index.jsp>

Fire and Emergency Services Newfoundland and Labrador. 2013. Fire and Emergency Services Newfoundland and Labrador Annual Report 2012-13. Available at: http://www.gov.nl.ca/fes/publications/annual_report_2012_13.pdf

Fitzpatrick, A. 2012a. Road to Prosperity. Article, the Telegram, April 17, 2012. Available at: <http://www.thetelegram.com/News/Local/2012-04-17/article-2956369/Road-to-prosperity/1>

Fitzpatrick, A. 2012b. Looking toward operations at Long Harbour. Article, the Telegram, October 6, 2012. Available at: <http://www.thetelegram.com/Business/2012-10-06/article-3094084/Looking-toward-operations-at-Long-Harbour/1>

- Fitzpatrick, A. 2013a. Applications Flood Into Vale for Long-Term Jobs. Article, the Telegram, January 9, 2013. Available at: <http://www.thetelegram.com/Business/2013-01-09/article-3152966/Applications-flood-in-to-Vale-for-longterm-jobs/1>
- Fitzpatrick, A. 2013b. Placentia Pursues Prosperity-Industrial Clients Inject New Life Into former Argentina Base. Article, the Telegram, May 4, 2013. Available at: <http://www.thetelegram.com/News/Local/2013-05-04/article-3234095/Placentia-pursues-prosperity-Industrial-clients-inject-new-life-into-former-Argentina-base/1>
- Friendly, M, J. Beach and M. Turiano. 2002. Early Childhood Education and Care in Canada 2001, Childcare Resource and Research Unit, Toronto, ON, December 2002.
- Husky Oil. 2001. White Rose Oilfield Development Application Volume 1: Canada-Newfoundland Benefits Plan.
- Husky Energy. 2003. White Rose Project Diversity Plan.
- Long Harbour Development Corporation. 2011. The Long Harbour Chronicle. Volume One, Issue One. Spring 2011.
- MacDonald, E. 2012. Vale Construction Chugging Along. Horizons 2012. Available at: <http://horizons2012.wordpress.com/land/vale-construction-chugging-along/>.
- MacEachern, D. 2013. Airport Passenger Traffic Up 6 Percent in 2012. Article in the Telegram, February 7, 2013. Available at: <http://www.thetelegram.com/Business/2013-02-07/article-3172249/Airport-passenger-traffic-up-6-per-cent-in-2012/1>
- Marine Atlantic 2011. Annual Report 2010/2011. Available at: <http://www.marine-atlantic.ca/en/company/publications/MA-2010-11-Annual-Report-English.pdf>
- Mobil. 1985. Hibernia Development Project Environmental Impact Statement, Volume IV - Socio-Economic Assessment. Mobil Oil Canada, Ltd., St. John's, NL.
- NEWDOCK. No date. NEWDOCK - St. John's Dockyard Limited Website. Available at: <http://www.newdock.nf.ca/>
- Newfoundland and Labrador Department of Business. 2011. Marine Base Terminal in Bay Bulls Expands with Support from Provincial Government. News Release, July 21, 2011. Available at: <http://www.releases.gov.nl.ca/releases/2011/business/0721n03.htm>
- Newfoundland and Labrador Department of Environment and Conservation. 2010. YMCA-YWCA Goes Green in St. John's. News Release, August 20, 2010. Newfoundland and
- Newfoundland and Labrador Department of Municipal Affairs. 2009. Development of the Northeast Avalon Regional Plan Now Underway. Press Release, February 4, 2009. Available at: <http://www.releases.gov.nl.ca/releases/2009/ma/0204n01.htm>

Newfoundland and Labrador Department of Municipal Affairs. 2013. Recreation Opportunities Expanded Through Development of New Paradise Arena. Available at: <http://www.releases.gov.nl.ca/releases/2013/exec/0501n04.htm>.

Newfoundland and Labrador Department of Natural Resources. 2011. Minfo Mineral Information, Volume 17, Number 1. Summer 2011. Available at: <http://www.nr.gov.nl.ca/nr/mines/production/mrip/MINFO-Volume17Number1.pdf>

Newfoundland and Labrador English School District. 2014. District Overview. Available at: <https://www.nlesd.ca/about/districtoverview.jsp>.

Newfoundland and Labrador Housing and Homelessness Network. 2011. Newfoundland and Labrador Homelessness Data Coordination Project - Forging a Community of Practice, 2010/2011 Final Report. Available at: <http://www.nlhnn.org/HKDP-Final-Report-2011.pdf>

Newfoundland and Labrador Statistics Agency. 2012. Estimates of Demographic Components Newfoundland and Labrador, 1971-1972 to 2011-2012 Available at: <http://www.stats.gov.nl.ca/Statistics/Population/PDF/Components.pdf>

Newfoundland and Labrador Statistics Agency. 2013. Statistical Information for Newfoundland and Labrador. Available at: <http://www.stats.gov.nl.ca/statistics/>

Newfoundland and Labrador Statistics Agency. 2014. *Statistical Information for Newfoundland and Labrador*. Available at: <http://www.stats.gov.nl.ca/Statistics/>

Newfoundland and Labrador Tourism. 2012. Newfoundland and Labrador Tourism Website. Available at: <http://www.newfoundlandlabrador.com/>

NLDAES (Newfoundland and Labrador Department of Advanced Education and Skills). 2011. Provincial Post-Secondary Offerings List 2011-2012, 21st Edition. Available at: <http://www.lmiworks.nl.ca/PPSOL/PPSOL2011-12.pdf>

NLDAES (Newfoundland and Labrador Department of Advanced Education and Skills). 2012. Newfoundland and Labrador Department of Advanced Education and Skills Website. Available at: <http://www.aes.gov.nl.ca/department/contact.html#Avalon>

NLDCYFS (Newfoundland and Labrador Department of Child, Youth and Family Service). 2011. Child Care Facilities, Eastern Urban. Available at: http://www.gov.nl.ca/cyfs/childcare/eastern_urban.pdf

NLDCYFS (Newfoundland and Labrador Department of Child, Youth and Family Services). 2012a. Child Youth and Family Services Annual Report 2011-2012. Available at: http://www.gov.nl.ca/cyfs/publications/childcare/Annual_%20Report_2011_12.pdf

NLDCYFS (Newfoundland and Labrador Department of Child, Youth and Family Services). 2012b. Child Care Facilities, Central East. Available at: <http://www.gov.nl.ca/cyfs/childcare/central.pdf>

- NLDCYFS (Newfoundland and Labrador Department of Child, Youth and Family Services). 2013. Program Statistics, Child Care. Available at: <http://www.gov.nl.ca/cyfs/pdf/Child%20Care%20Statistics.pdf>.
- NLDE (Newfoundland and Labrador Department of Education). 2013. Backgrounder - Budget 2013: A Sound Plan for K-12 Education. Available at: <http://www.releases.gov.nl.ca/releases/2013/edu/0326n13.htm>.
- NLDE (Newfoundland and Labrador Department of Education). 2012. Education Statistics – Elementary-Secondary, 2011-2012. Available at: <http://www.ed.gov.nl.ca/edu/publications/k12/stats/index.html#1112>
- NLDF (Newfoundland and Labrador Department of Finance). 2006. Demographic Change Newfoundland and Labrador Issues and Implications, October 2006.
- NLDF (Newfoundland and Labrador Department of Finance). 2010. The Economy 2010. Newfoundland and Labrador Department of Finance, St. John's, NL.
- NLDF (Newfoundland and Labrador Department of Finance). 2011. The Economic Review 2011. Available at: <http://www.economics.gov.nl.ca/PDF2011/TheEconomicReview2011.pdf>
- NLDF (Newfoundland and Labrador Department of Finance). 2012a. The Economic Review 2012. Available at: <http://economics.gov.nl.ca/PDF2012/TheEconomicReview2012.pdf>
- NLDF (Newfoundland and Labrador Department of Finance). 2012b. Inventory of Major Capital Projects. Available at: <http://www.economics.gov.nl.ca/e2012/inventoryofmajorcapitalprojects.pdf>
- NLDF (Newfoundland and Labrador Department of Finance). 2013. The Economy 2013. Available at: <http://www.economics.gov.nl.ca/E2013/TheEconomy2013.pdf>
- NLDF (Newfoundland and Labrador Department of Finance). 2014. The Economy 2014. Available at: <http://www.economics.gov.nl.ca/TheEconomy2014.asp>.
- NLDF and the City of St. John's. 2013. Economic Review 2012, St. John's Metropolitan Area. Available at: <http://www.stjohns.ca/sites/default/files/files/publication/Economic%20Review%202012.pdf>
- NLDF and the City of St. John's. 2014. Economic Review 2013, St. John's Metropolitan Area. Available at: <http://www.stjohns.ca/publications/economic-review-2013>.
- NLDHCS (Newfoundland and Labrador Department of Health and Community Services). 2006. Human Resource Planning Unit. Registered Nurse Supply Report 2004-05, Newfoundland and Labrador. Newfoundland and Labrador Department of Health and Community Services, St. John's, NL.
- NLDHCS (Newfoundland and Labrador Department of Health and Community Services). 2009. Annual Performance Report 2008-2009. Newfoundland and Labrador Department of Health and Community Services, St. John's, NL.

NLDHCS (Newfoundland and Labrador Department of Health and Community Services). 2013. New Master's Program Prepares Nurse Practitioners for Advanced Nursing Roles. Press Release, April 29, 2013. Available at: <http://www.releases.gov.nl.ca/releases/2013/health/0429n04.htm>

NLHC (Newfoundland and Labrador Housing Corporation). 2011. Annual Report 2010-2011. Available at: <http://www.nlhc.nf.ca/annual/2010-11.pdf>

Pike, D. 2010. "Top-notch fire fighting service". Article in the Compass, May 25th, 2010. Available at: <http://www.cbncompass.ca/Special-section/2010-05-25/article-1501901/Top-notch-firefighting-service/1>

Placentia Area Chamber of Commerce. 2009. Regional Profile, Education. Available at: http://placentiachamber.org/guide/index_pro.htm

Placentia Lions Club. 2010. Business Plan Development - Public Swimming Pool Facility - Town of Placentia. Terms of Reference. Available at: http://placentiachamber.org/index_low.htm

Placentia Town Council. 2011. Council Meeting Minutes, December 13, 2011. Available at: <http://www.placentia.ca/wqadmin/assets/minutes/12.13.11.pdf>

Placentia Town Council. 2012. Meeting Minutes, December 11, 2012. Available at: <http://www.placentia.ca/wqadmin/assets/minutes/12.11.12.pdf>

PRAC (Petroleum Research Atlantic Canada). 2003. Socio-Economic Benefits From Petroleum Industry Activity in Newfoundland and Labrador 2001 and 2002. Report prepared by Jacques Whitford Ltd., St. John's, NL.

PRAC (Petroleum Research Atlantic Canada). 2005. Socio-Economic Benefits From Petroleum Industry Activity in Newfoundland and Labrador 2003 and 2004. Report prepared by Jacques Whitford Ltd., St. John's, NL.

RCMP (Royal Canadian Mounted Police). 2011. Placentia-Whitbourne District. Available at: http://www.rcmp-grc.gc.ca/nl/detach/placentia_whitbourne-eng.htm

Reid, M. 2011. Newfoundland and Labrador Sees Major Economic Growth. Article, The New Brunswick Beacon. April 2, 2011. Available at: <http://www.newbrunswickbeacon.ca/12054/newfoundland-and-labrador-sees-major-economic-growth/>

Robinson, A. 2011. New Homes in Torbay Priciest in Metro Region. Article, the Telegram, July 4, 2011. Available at: <http://www.thetelegram.com/News/Local/2011-07-04/article-2629062/New-homes-in-Torbay-priciest-in-metro-region/1>

SJIAA (St. John's International Airport Authority). 2009. 2008 Annual Report: Soaring Together. St. John's International Airport, St. John's, NL.

SJIAA (St. John's International Airport Authority). 2010. 2010 Annual Report. Available at: http://www.stjohnsairport.com/media_uploads/pdf/291.pdf

- SJIAA (St. John's International Airport Authority). 2011a. Airport Authority Unveils its 10-year Vision for Airport Improvements. Press Release, February 2, 2011. Available at: http://www.stjohnsairport.com/press/pressrel_detail.cfm?id=26
- SJIAA (St. John's International Airport Authority). 2011b. Airport Authority Received Funding for its \$25.8 Million Accessibility Initiative. Press Release, March 23, 2011. Available at: http://www.stjohnsairport.com/press/pressrel_detail.cfm?id=27
- SJIAA (St. John's International Airport Authority). 2012. St. John's International Airport Authority Website. Available at: <http://www.stjohnsairport.com/index/index.cfm?id=71>
- SJIAA (St. John's International Airport Authority). 2013. World Parkway Provides New Access to Airport Terminal Building. SJIAA News Release. Available at: <http://beta2.voicecms.ca/sjiaa/wp-content/uploads/2013/11/News-Release-World-Parkway.pdf>.
- SJPA (St. John's Port Authority). 2010. St. John's Port Authority. Available at: <http://www.sjpa.com/usr/pdf/Port%202010.pdf>
- Stantec Consulting Ltd. 2009. Socio-Economic Benefits From Petroleum Industry Activity in Newfoundland and Labrador, 2008-2010. Prepared for Petroleum Research Newfoundland and Labrador.
- Stantec Consulting Ltd. 2012. Socio-Economic Benefits From Petroleum Industry Activity in Newfoundland and Labrador, 2008-2010. Prepared for Petroleum Research Newfoundland and Labrador. 2012.
- Statistics Canada. 1996. 1996 Census of Canada, Newfoundland. Statistics Canada, Cat. 95-182-XPB. Ottawa, ON.
- Statistics Canada. 2001. 2001 Census of Canada, Newfoundland. Statistics Canada, Cat. 93F0053XIE. Ottawa, ON.
- Statistics Canada. 2006. 2006 Census of Canada, Newfoundland. Statistics Canada, Cat. 92-591-XWE. Ottawa, ON.
- Statistics Canada. 2008. Police Resources in Canada - 2008. Ottawa, Ontario: Statistics Canada.
- Statistics Canada. 2009. Police Resources in Canada - 2009. Ottawa, ON: Statistics Canada,
- Statistics Canada. 2010. Police Resources in Canada - 2010. Ottawa, ON: Statistics Canada.
- Statistics Canada. 2012a. 2011 Census Profiles. Available at: <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E>.
- Statistics Canada. 2012b. Police Resources in Canada - 2012. Ottawa, Ontario: Statistics Canada. Available at: <http://www.statcan.gc.ca/pub/85-225-x/85-225-x2012000-eng.pdf>

Statistics Canada. 2013a. Births and Total Fertility Rate, By Province and Territory. Available at: <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/hlth85a-eng.htm>

Statistics Canada. 2013b. National Household Survey Profiles, 2011. Available at: <http://www12.statcan.gc.ca/nhs-enm/2011/dp-pd/prof/index.cfm?Lang=E>

Statistics Canada. 2014. Police Resources in Canada, 2013. Available at: <http://www.statcan.gc.ca/pub/85-002-x/2014001/article/11914/tbl/tbl02-eng.htm>.

St. John's Regional Fire Department. 2011. St. John's Regional Fire Department website. Available at: <http://www.sjrfd.ca/>

Storey, K., M. Shrimpton and L. Grattan. 1996. Hibernia: An Interim Audit of Socio-economic Impacts. Richardson, Texas: Society of Petroleum Engineers International Conference on Health, Safety and Environment.

The College of Physicians and Surgeons of Newfoundland and Labrador. 2012. The College of Physicians and Surgeons of Newfoundland and Labrador Website. Available at: http://www.cpsnl.ca/default.asp?adv=1&com=DoctorSearch&selComm=&txtFName=&Certification_Code_Desc=Obstetrics%2FGynaecology&txtLName=&NameHidden=all&offset=0

Town of Conception Bay South. 2012. Town of Conception Bay South Website. Available at: <http://www.conceptionbaysouth.ca/>

Towns of Point Lance and St. Bride's. 2010. Integrated Community sustainability Plan for the Towns of St. Bride's and Point. Available at: <http://www.municipalitiesnl.com/userfiles/files/st%20brides,%20point%20lance%20ICSP%20reduced.pdf>

Transport Canada. 2011. The Governments of Canada and Newfoundland Announce Investments in Infrastructure. Available at: <http://www.tc.gc.ca/eng/mediaroom/releases-h031e-2011-6320.htm>

Vale. 2012a. Processing. Available at: <http://www.vbnc.com/OperationsProcessing.asp>

Vale. 2012b. Long Harbour Project Overview, March 2012. Presentation available at: <http://www.vbnc.com/Reports/LH%20Project%20Media%20Update%20March%2028%202012.pdf>