

11.0 ECONOMY AND EMPLOYMENT

Economy and employment refers to the labour market and availability, employment, employment income, business income, and their aggregate influence on the local, regional and provincial economies and the provincial gross domestic product (GDP).

11.1 SCOPE OF THE REVIEW

The scope of the Comparative Environmental Review (CER) of potential interactions between the Options and economy and employment includes:

- employment of local residents and members of Aboriginal communities;
- government revenue from income taxes associated with increased employment; and
- business activities of locally-owned and Aboriginal-owned companies.

Potential interactions with the local, regional and provincial economies are included in the scope of the review. The review considers interactions that may be positive, such as increased employment and business, as well as interactions that may be negative, such as disruptions to existing economic activity.

11.1.1 Why Economy and Employment Is a Valued Component

Increased employment and business are expected within the local and provincial economies during construction for all Options, and during operation for Option 1 or 2. In addition, all Options are expected to temporarily disrupt existing employment and economic activity related to the headpond. This includes possible job losses and disruptions to recreation and tourism, fisheries and Aboriginal-owned businesses.

Potential interactions between the Options and economy and employment are of interest to local stakeholders, Aboriginal communities, and regulators. Key issues typically involve enhancing the local economic benefits and mitigating potential negative interactions with existing employment and business.

11.1.2 Regulations and Policies Relevant to Economy and Employment

Several provincial government policies and plans guide economic development with respect to renewable energy resources. These include:

- The New Brunswick Energy Blueprint (NBDE 2011) and subsequent progress reports (NBDEM 2012; NBDEM 2014); and
- Growing Together. Economic Development Action Plan 2012–2016 (Province of New Brunswick 2012).

NB Power's business plans, investment decisions and business initiatives are guided by the NB Power Strategic Plan 2011–2014 (NB Power 2011).



11.1.3 Area of Review

The area of review includes communities that are most likely to have economic interactions with the Options (Figure 11.1). For example, these communities are most likely to benefit from local and Aboriginal employment policies and to experience negative interactions through disruptions to existing economic activities.

The area of review encompasses central New Brunswick (York County and the southeastern portion of Carleton County), and includes the area between the city of Fredericton and town of Woodstock. Particular attention is paid to the community of Mactaquac and the area upstream of the Station because they are important to tourism and recreation in the area.

11.1.4 Key Issues

The key issues of concern for economy and employment are listed in Table 11.1.

Key Issue	Description			
Potential change in economy	 Includes consideration of business revenues and provincial tax contributions Construction activities may cause changes to local businesses. Long-term changes may affect provincial tax and residential property tax contributions. 			
Potential change in employment	 Disruptions or losses in employment may occur as a result of local changes in business. Long- or short-term employment opportunities may be created. Includes consideration of recreation and tourism, fisheries and Aboriginal businesses. 			

 Table 11.1
 Description of Key Issues for Economy and Employment

Each Option is expected to generate substantial employment and business for New Brunswick workers and companies. Local companies that can provide required goods and services would benefit. Also, economic spin-offs as a result of increased incomes and consumer spending are expected. Increased employment and business revenues, and associated provincial tax contributions would create a positive change in economy and employment.

However, any of the Options could also have negative interactions with economy and employment by causing disruptions to local businesses. This includes a change to the normal transportation network limiting or changing access to businesses, adverse interactions with the local tourism industry as a result of workers limiting the availability of hotel and motel accommodations for tourists to the region, and disruption to businesses currently using the headpond (e.g., marinas, campgrounds, boating operations). These interactions could result in a loss of revenue and reduced economic spin-offs because the companies would spend less on goods and services required to run their business, or in some minor cases, change the nature of their business (including some disruptions on a temporary basis as the Preferred Option is being carried out, and even some closures). Disruptions to, or permanent reductions in, the labour force of existing businesses could also affect economic spin-offs because these employees may spend less on goods and services.





Area of Review for Economy and Employment

Figure 11.1



11.2 EXISTING CONDITIONS

11.2.1 Sources of Information

Most baseline information on existing economic and business activity was collected from government sources, including:

- Statistics Canada and other agencies and departments of the Government of Canada;
- various departments of the Government of New Brunswick; and
- municipal governments.

In addition, past project assessments and technical reports were reviewed for relevant information.

Additional information was collected from interviews with selected individuals and groups at the

community and regional levels. Information was also collected through NB Power's stakeholder and Aboriginal engagement activities.

Statistics Canada data as provided are randomly rounded to a multiple of five. Because of this, totals may not sum correctly. For example, individual percentages may not sum to 100% due to rounding. Random rounding for Census Profiles is done for confidentiality concerns and prevention of the possibility of associating statistical data with any identifiable individual. The numbers, including totals, are randomly rounded either up or down to a multiple of '5' or '10' (Statistics Canada 2012a). As a result, summed or grouped data may not match the individual values since totals and subtotals were independently rounded.

11.2.2 Description of Existing Conditions

11.2.2.1 Economy

11.2.2.1.1 New Brunswick

The New Brunswick economy has traditionally been based largely on natural resources. Historically, the forestry sector was an economic driver in the province, but its economic contribution is decreasing, and several lumber and pulp and paper mills throughout the province have closed (Stantec 2012).

The natural resources sector in New Brunswick has fluctuated in terms of gross domestic product (GDP) and employment levels. The GDP associated with this sector was \$1 billion in 2010, up from \$924 million in 2000. In 2011, there were 18,600 individuals in this sector of the labour force, 15,400 of whom were employed (GNB 2012a). Agriculture is included in the natural resources sector, and is an integral part of the provincial economy (GNB 2012a).

Tourism and communications technology also contribute substantially to the provincial economy. Tourism is a catalyst for the success of New Brunswick service industries, including transportation and travelling services, accommodations, and food and beverage services (GNB 2014). In 2012, 30,220 employees worked in the tourism sector, which represented 8.6% of New Brunswick's labour force (GNB 2014a). In the same year, residents of the province contributed an estimated \$1.1 billion in tourismrelated spending, while non-resident visitor spending was estimated at \$543 million. The total effect of non-resident visitor spending on the provincial GDP was estimated at \$686 million, or 2.4% of the



provincial GDP. Consequently, tourism was a top ranking primary industry within the province, alongside agriculture, forestry and fishing (GNB 2014a). Economic activity associated with tourism sustained approximately 17,612 full-time equivalent jobs in 2012 (GNB 2014a).

Additionally, recreation is a key industry in New Brunswick and especially in the area of the Mactaquac headpond. Fishing is one of the most popular recreational activities within the reaches of the Saint John River, particularly within the area of the headpond. Its popularity is due to the proximity and ease of river access; several public boat launches and a variety of accommodations and commercial outfitting and guided services are located along the river (GNB 2008). Recreational and sport fishing for various species occur along the river and headpond during the spring, summer and fall, and fishing represents a key traditional activities. Several tournaments are held, which draw fishers from all over the province and beyond. Recreational users make use of local lodging (e.g., motels and resorts), and purchase gear, fuel, food and beverages locally.

Angling and its associated spin-offs contribute to the local economy, and are particularly vital to many small communities and rural businesses. The Canadian Sportfishing Industry Association estimated that



\$82.1 million in revenue was generated by anglers in New Brunswick in 2000 (CTC 2012).

Snowmobiling is a common recreational winter activity in New Brunswick. The New Brunswick Federation of Snowmobile Clubs, a non-profit organization, manages more than 7,000 km of trails on behalf of the Province (GNB 2010). During the 2008–2009 season, snowmobiling in New Brunswick generated \$22.5 million in economic activity, and provided an estimated \$1.4 million in

provincial tax revenues (GNB 2010). During that season, 11,683 trail permit holders took an estimated 52,000 snowmobile trips and spent an estimated \$12.3 million while on these trips, including \$5.4 million on fuel and vehicle operation expenses; \$4 million was spent on food and beverages in New Brunswick restaurants and stores, and \$1.2 million was spent on accommodations (GNB 2010). Trail permit purchases increased to approximately 16,000 permits during the 2013–2014 season (Antworth, R., pers. comm., 2014).

11.2.2.1.2 York County

York County's economy is centred on the city of Fredericton; 57.8% of county residents live in the city and most businesses are located there. Fredericton is also the provincial capital, and its economy is closely tied to the public sector. The provincial government is one of the largest employers in the county. Two publicly-funded universities are located in Fredericton: the University of New Brunswick and St. Thomas University. They are also major employers.

The forestry sector is one of the main employers in central New Brunswick, particularly in the town of Nackawic, located along the banks of the Saint John River. The town is home to one of the province's largest employers, AV Nackawic, a high-tech pulp mill that produces approximately 500 tonnes of bleached dissolving grade pulp per day. It is shipped overseas where it is used in the textile industry to manufacture rayon (GNB 2012b).



A number of farms are situated along the banks of the Saint John River and headpond. According to Property Attribute Data provided by Service New Brunswick, approximately 180 properties located upstream of the Station along the Saint John River and headpond are agricultural. These properties include a mixture of farmlands, woodlots and timberlands. Jolly Farmer Products Inc. is located in Northampton, adjacent to the headpond. Jolly Farmer operates a small mixed farm, more than 4 ha of commercial greenhouse, and a fleet of transport delivery trucks. Jolly Farmer services wholesale accounts throughout North America, and is listed as one of the major employers in the natural resources sector in New Brunswick (GNB 2012a).

11.2.2.1.3 Carleton County

The key economic activities in Carleton County are agriculture and food processing, forestry and value-added wood products, metal fabrication, and transportation. The agricultural sector produces potatoes, grain, soybeans and a range of other crops. New Brunswick's "potato belt" is located in Carleton County, and contributes approximately \$1.3 billion towards New Brunswick's economy annually (Stantec 2012). A specialty chemical plant and distribution facilities, farm equipment dealers, specialized contractors, and consulting firms are also located in the county.

11.2.2.1.4 Mactaquac Area

Businesses located immediately upstream of the Station interact with the Saint John River and headpond. They use the headpond for recreational activity, rely on water uptake for water supply (e.g., for irrigation) and access aesthetic values and attractions (e.g., those used by tourist accommodations). Table 11.2 lists some of these businesses, primarily ones that are immediately adjacent to the headpond or that derive their revenue at least in part through interaction with the headpond. Numerous other businesses are located further inland (e.g., shops and services in the towns of Nackawic and Woodstock), but they are less likely to interact with the Options.

Business/Agency	Location
Fisheries and Oceans Canada–Fish Hatchery	Mactaquac
Riverside Resort and Conference Centre	French Village
On the Pond Resort and Spa	Jewett Mills
Mactaquac Provincial Park	Mactaquac
Mactaquac Ultramar	Mactaquac
Lakeway House Boat Tours	Mactaquac
Mactaquac Provincial Park Marina	Mactaquac
TreeGo Mactaquac	Mactaquac
York Centennial Park Marina	Mactaquac
Woodstock Valley Yacht Club	Woodstock
Malarky Cabin Guiding Services	Keswick Ridge
Kings Landing Historical Settlement	Prince William
AV Nackawic Mill	Nackawic
Jolly Farmer Products Inc.	Northampton
Gray's Aqua Farms Ltd.	Northampton
Woodstock Golf and Curling Club	Woodstock
Sunset View Campground and Cottages	Hawkshaw

 Table 11.2
 Selected Inventory of Local Businesses Located Upstream of the Station



Business/Agency	Location
Cozy Cabins Campground	Woodstock
Goodine's Poultry Farm	Bear Island
Bear Island Campground	Bear Island
Big Axe Brewery and Bed and Breakfast	Nackawic
Northampton House Bed and Breakfast	Northampton
Sunset on the River Bed and Breakfast	Kingsclear
Woolastook Campground	Upper Kingsclear
Everett's Campground	Lower Queensbury
Heritage Country Camping	Lower Queensbury
Dumfries Maples	Dumfries
Dukeshire Apples	Northampton
Moonlight Inn	Nackawic
Ernie's Marine Sales	Dumfries
Nackawic Golf and Country Club	Nackawic
Hoyts Orchards	Prince William

 Table 11.2
 Selected Inventory of Local Businesses Located Upstream of the Station

The Mactaquac Country Chamber of Commerce (MCCC) represents the communities of Harvey, Keswick, Millville and Nackawic (Sloat, M., pers. comm., 2015). The MCCC is governed by a 12-member Board of Directors and includes many businesses located in one of the four communities it represents. A comprehensive inventory of members was developed as part of the Mactaquac Country Regional Profile prepared by the MCCC in 2008 (Table 11.3), though this information may now be somewhat dated.

Table 11.3Selected Inventory of Businesses in Mactaquac

Business	Location
Adsett & Associates Ltd.	Keswick Ridge
Advance Monitoring Technologies	Keswick Ridge
Atlantic Powertrain ZF Dealer	Mactaquac
Capital Computer Consultants	Keswick Ridge
Char-Ber-Lyn Therapeutic Centre	Mactaquac
Coburn Farms	Keswick Ridge
Countryside Veterinary Hospital	Keswick Ridge
CSI	Keswick Ridge
Currie's Upholstery	Keswick Ridge
Cynmar Holdings Ltd.	Keswick Ridge
Eastern Water Sports	Mactaquac
Ed's Shop	Keswick Ridge
Four Seasons Sunrooms	Keswick Ridge
Getaway RV Rentals	Keswick Ridge
Gilbey's Gallery Service	Keswick Ridge
Gourleys Auto Parts	Keswick Ridge
Jensen's Powertrain	Mactaquac
Keswick Vet Clinic	Keswick Ridge
Kewsick Ridge United Church	Keswick Ridge
Leadership Lantica Ltd.	Keswick Ridge



Business	Location
LJT Construction & Concrete Repair	Keswick Ridge
Mactaquac Auto Repair	Keswick Ridge
Mactaquac Campers Store	Mactaquac
Mactaquac Esso	Mactaquac
Mactaquac Farm Equipment Ltd.	Mactaquac
Mactaquac Generating Station	Keswick Ridge
Mactaquac Golf Course	Mactaquac
Mactaquac Provincial Park	Mactaquac
Mactaquac United Baptist Church	Mactaquac
Marway Enterprises Ltd.	Mactaquac
Mybec Builders Ltd.	Keswick Ridge
N B Transportation Maintenance Depot	Keswick Ridge
On The Pond Lodge	Jewetts Mills
Proactive Therapy Services	Keswick Ridge
Quilt Emporium	Keswick Ridge
R & H Repair Service	Keswick Ridge
Real Wood	Keswick Ridge
Saunders Studios Art Gallery	Keswick Ridge
SRS Collision Centre	Keswick Ridge
Sullivan's Well Drilling Ltd.	Mactaquac
T M Burpee Drilling Ltd.	Keswick Ridge
Tom Egers On The Level Excavating	Keswick Ridge
TreeGo Mactaquac	Mactaquac
Vernon's Painting Inc.	Keswick Ridge
Wash On Wheels	Keswick Ridge
Note: Modified from MCCC (2008).	

 Table 11.3
 Selected Inventory of Businesses in Mactaquac

Mactaquac Provincial Park (525 ha), located along the headpond, is managed by the Province of New Brunswick. The park includes a campground with about 300 campsites, two freshwater beaches, a golf course, TreeGo Mactaquac aerial adventure course, and many hiking and cycling trails. The average cost of a campsite is \$30 per night, and the sites average three person-night stays. During the 2014 season, the campground occupancy rate was 62% (MacMullin, M., pers. comm., 2014). Thousands of residents and non-residents visit the park annually.

The Mactaquac area also offers a variety of temporary accommodations. Several campgrounds in the Saint John River valley and within the Mactaquac headpond area offer fully serviced sites, private beaches, hiking trails, boat rentals, public docks and boat ramps, and a preferred fishing destination. The Riverside Resort and Conference Centre has 81 rooms, four suites and four cottages. It is situated adjacent to the headpond, just off of Route 102 in the community of French Village, near the Station. The On the Pond Resort and Spa, located in Mactaquac, offers a year-round retreat for guests, and caters to corporate functions as well as to locals and visitors by offering getaway packages.



The TreeGo Mactaquac aerial adventure park is an agility course that offers a variety of tree-to-tree obstacles, at a variety of skill levels, and includes rope swings, suspension bridges, and a zip-line that travels over part of the headpond. The course is open from May to October and averages 12,000–15,000 participants each season (LaViolette, M., pers. comm., 2014).

Kings Landing Historical Settlement, an outdoor historical museum, is located along the banks of the headpond, in the community of Prince William along Route 102. It contains a collection of salvaged and recreated buildings from around the headpond and other locations around New Brunswick. It is one of New Brunswick's five main tourist attractions (Cormier, K., pers. comm., 2014). During the 2013 season, the total number of visitors was 36,893, down 22% from the previous year (GNB 2013a). That same season, Kings Landing negotiated a six-month contract with a movie production company to shoot a \$12 million film on location. The movie generated approximately \$2 million in local economic benefits, and employed more than 500 people (GNB 2013a).

11.2.2.2 Employment

11.2.2.2.1 New Brunswick

In 2011, New Brunswick's labour force numbered 395,425 (Table 11.4), and the participation rate was 63.5%, similar to that in 2006 (63.7%) (Statistics Canada 2007a; 2013a). From 2006 to 2011, the number of persons employed in the province increased by 2.1%, from 344,770 to 351,935 (Statistics Canada 2007a; 2013a). In 2011, the employment rate in New Brunswick was 56.6%, slightly lower than the national average of 60.9% (Statistics Canada 2007a; 2013a).

Location	Labour Force	Employed	Participation Rate (%) ¹	Employment Rate (%) ²	Unemployment Rate (%) ³
New Brunswick	395,425	351,935	63.5	56.5	11.0
York County	53,750	49,330	67.2	61.6	8.2
Fredericton	31,555	29,040	67.3	62.0	8.0
Nackawic	475	445	57.2	53.6	7.4
Carleton County	14,015	12,255	63.7	55.7	12.6
Woodstock	2,470	2,235	58.1	52.6	9.5

Table 11.4 Labour Force Statistics: New Brunswick and York and Carleton Counties, 2011

Notes:

¹ The participation rate is the percentage of the working-age population employed or actively looking for employment.

² The employment rate is the number of employed persons expressed as a percentage of the total population 15 years and older.

³ The unemployment rate is the number of unemployed persons expressed as a percentage of the labour force.

Note, totals may not add due to rounding.

Statistics Canada (2013a, 2013b, 2013c)

Table 11.5 provides an overview of the experienced labour force by industry in New Brunswick in 2011 (Statistics Canada 2012b). The service-producing sector accounts for most of the labour force in New Brunswick. The retail trade sector has the largest labour force (53,800, or 15.3% of the labour force), followed by health care and social assistance (50,400, or 14.3% of the labour force) (Statistics Canada 2012).



Characteristics	Experienced Labour Force ¹ by Industry in New Brunswick, October 2011 (total)	Experienced Labour Force by Industry in New Brunswick, October 2011 (%)		
Goods-producing Sectors	79,800	22.7		
Agriculture	5,100	1.4		
Forestry, fishing, mining, quarrying, oil and gas extraction	10,300	2.9		
Utilities	4,300	1.2		
Construction	28,100	7.9		
Manufacturing	31,900	9.1		
Services-producing Sectors	272,300	77.3		
Retail Trade	53,800	15.3		
Transportation and Warehousing	17,500	5.0		
Finance, Insurance, Real Estate and Leasing	17,100	4.9		
Professional, Scientific and Technical Services	15,900	4.5		
Business, Building and other Support Services	17,000	4.8		
Educational Services	25,300	7.2		
Health Care and Social Assistance	50,400	14.3		
Information, Culture and Recreation	12,200	3.5		
Accommodation and Food Services	21,500	6.1		
Other Services	15,400	4.4		
Public Administration	26,200	7.4		
Total Experienced Labour Force (all industries)	352,000	100.0		

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The experienced labour force refers to people who, during the week of Sunday, May 1 to Saturday, May 7, 2011, were employed, and the unemployed who had last worked for pay or in self-employment in either 2010 or 2011.

Totals may not add due to rounding.

Source: Statistics Canada (2012)

11.2.2.2.2 York County

In 2011, the experienced labour force in York County numbered 53,755 (Table 11.6), and the participation rate was 67.2%, slightly lower than that in 2006 (67.7%). From 2006 to 2011, the unemployment rate rose from 7.3% to 8.2% (Statistics Canada 2007b; 2013b). The city of Fredericton has the highest percentage of employed workers of any municipality in York County (Statistics Canada 2013b).

Table 11.6 Experienced Labour Force by Industry, York County, 2011

Characteristics	Experienced Labour Force by Industry in York County, 2011 (total)	Experienced Labour Force by Industry in York County, 2011 (%)
Goods-producing Sectors	7,550	14.0
Agriculture and other resource-based industries	860	1.6
Mining, quarrying, oil and gas extraction	95	0.2
Utilities	1,090	2.0
Construction	3,345	6.3
Manufacturing	2,160	4.0



Characteristics	Experienced Labour Force by Industry in York County, 2011 (total)	Experienced Labour Force by Industry in York County, 2011 (%)
Services-producing Sectors	45,455	84.5
Wholesale Trade	1,045	1.9
Retail Trade	6,185	11.5
Transportation and Warehousing	1,890	3.5
Information and Cultural Industries	1,250	2.3
Finance and Insurance	1,710	3.2
Real Estate and Rental and Leasing	800	1.5
Professional, Scientific and Technical Services	4,300	8.0
Management of Companies and Enterprises	25	0.0
Administrative and Support, Waste Management and Remediation Services	2,300	4.3
Educational Services	5,660	10.5
Health Care and Social Assistance	5,275	9.8
Arts, Entertainment and Recreation	845	1.6
Accommodation and Food Services	3,365	4.4
Other Services	2,475	4.6
Public Administration	8,330	15.5
Total Experienced Labour Force (all industries)	53,755	100.0
Note: Totals may not add due to rounding. Source: Statistics Canada (2013b)		

 Table 11.6
 Experienced Labour Force by Industry, York County, 2011

Similar to New Brunswick as a whole, the service-producing sector accounts for most of the labour force in York County. Public administration has the largest labour force (8,330, or 15.5% of the labour force), followed by retail trade (6,185, or 11.5% of the labour force) and educational services (5,660, or 10.5% of the labour force) (Statistics Canada 2013b).

11.2.2.2.3 Carleton County

In 2011, the experienced labour force in Carleton County numbered 14,015 (Table 11.7), and most employed workers (15.9%) lived in the town of Woodstock (Statistics Canada 2013b). In 2011, Carleton County's participation rate was 63.7%, slightly lower than that in 2006 (65.0%) (Statistics Canada 2007c; 2013c). From 2006 to 2011, the unemployment rate increased from 6.8% to 12.6% (Statistics Canada 2007c, 2013c).



Characteristics	Experienced Labour Force by Industry in Carleton County, 2011 (total)	Experienced Labour Force by Industry in Carleton County, 2011 (%)		
Goods-producing Sectors	4,290	30.6		
Agriculture and other resource-based industries	1,450	10.3		
Mining, quarrying, oil and gas extraction	30	0.2		
Utilities	70	0.5		
Construction	805	5.7		
Manufacturing	1,935	13.8		
Services-producing Sectors	9,325	66.6		
Wholesale Trade	445	3.2		
Retail Trade	1,385	9.9		
Transportation and Warehousing	1,445	10.3		
Information and Cultural Industries	235	1.7		
Finance and Insurance	225	1.6		
Real Estate and Rental and Leasing	55	0.4		
Professional, Scientific and Technical Services	360	2.6		
Management Of Companies and Enterprises	0	0		
Administrative and Support, Waste Management and Remediation Services	460	3.3		
Educational Services	810	5.8		
Health Care and Social Assistance	1,505	10.7		
Arts, Entertainment and Recreation	95	0.7		
Accommodation and Food Services	625	4.4		
Other Services	705	5.0		
Public Administration	975	6.9		
Total Experienced Labour Force (all industries)	14,015	100.0		
Note: Totals may not add due to rounding. Source: Statistics Canada (2013b)				

Table 11.7	Experienced	Labour I	Force by	Industry	Carleton	County	2011
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In 2011, the manufacturing sector was the sector with the largest labour force in Carleton County (1,935, or 13.8% of the labour force). In comparison, manufacturing accounted for 4.0% of the labour force in York County and 9.1% of the labour force in New Brunswick (Statistics Canada 2013a; 2013b; 2013c).

11.3 SUMMARY OF STANDARD MITIGATION FOR ECONOMY AND EMPLOYMENT

Standard mitigation that is relevant to economy and employment includes items discussed in Section 2.6:

- implementing a robust public, stakeholder and Aboriginal engagement program, from Project planning and permitting through to construction and operation, in order to, wherever possible:
 - address concerns about the Project are accommodated in its design, construction, and operation; and
 - encourage that employment, business and other benefits are optimized and realized locally;



• traffic management and transportation mitigation.

In addition to the mitigation above, there are a number of policies and procedures that NB Power will consider as the Project proceeds to enhance economic and employment benefits (e.g., hiring and procurement policies).

11.4 POTENTIAL INTERACTIONS BETWEEN ECONOMY AND EMPLOYMENT AND THE OPTIONS

Table 11.8 provides an overview of how the each Option might interact with economy and employment.

	Option 1		Option 2		Option 3	
Phase	Potential Change in Economy	Potential Change in Employment	Potential Change in Economy	Potential Change in Employment	Potential Change in Economy	Potential Change in Employment
Construction (New facilities, Option 1 or Option 2)	~	✓	~	V		
Demolition (Existing structures, Option 1 or Option 2)	~	V	~	√		
Operation (Option 1 or Option 2)	~	\checkmark	~	\checkmark		
Decommissioning (Option 3)					~	\checkmark
Notes: ✓ = Potential interactions. Shaded cells are not applicable to the particular Option and phase.						

 Table 11.8
 Potential Interactions between Economy and Employment and the Options

11.4.1 Potential Change in Economy

11.4.1.1 Option 1

Option 1 is anticipated to result in positive interactions with the economy, requiring an estimated capital expenditure between 3 and 5 billion dollars (NB Power 2014a). Option 1 construction activities are anticipated to be 11 years in duration and involve the greatest expenditures and employment compared to the other Options, with the peak labour force estimated to be 1,750 workers. Local companies (including potentially Aboriginal companies) are expected to benefit from construction-related business contracts. Business-related benefits would extend to the provincial economy, as specialized goods and services are likely to be sourced from companies outside the area of review if they are not available locally. Government revenue would also increase, primarily through increased income taxes and sales taxes paid to the provincial and federal governments. Positive economic outcomes can be enhanced through initiatives to increase the potential for local businesses to participate in the Project.

Based on the scale of construction for Option 1, the amount of change is likely to be high. Option 1 would require supplies and services from businesses throughout New Brunswick, so the interaction would be provincial. These interactions would be long term for Option 1. The positive interactions would be continuous through construction, and to a lesser extent, operation of Option 1. A more detailed estimate of capital costs and annual operation/maintenance costs will better identify economic benefits for Option 1.

Construction employment for Option 1 could result in a population increase in the area of review if outside workers temporarily move to the area for employment. Population increase could affect the local economy through increased spending and demand for goods, services and accommodations. These changes could have both positive and negative interactions with the local economy, and will need to be carefully planned and managed to reduce negative interactions and enhance positive ones. A positive change would result from increased spending at local businesses. A negative change could occur if demand for hotel and motel accommodations negatively interacts with local tourism

businesses. For instance, should hotels and motels become occupied with workers, it is unlikely workers will engage in tourism activities and adversely affect local tourism businesses.

Option 1 is also likely to have a limited negative interaction with the economy as a result of disruptions during construction, primarily limited to transportation challenges during construction (see Sections 2.6.3 and 14). For example, tourism and outdoor recreation businesses in the area may experience economic losses if construction and transportation disruptions change the accessibility of tourism attractions and



land and resources used by recreational users. Option 1 would also result in a change to the normal operation of the transportation network in the area surrounding the Station, particularly at the link between Route 102 and 105. Alternatives for transportation are being evaluated to maintain transportation links for the public and for construction vehicles. The goal is to maintain safe access and movement of vehicles and equipment through all phases of construction and operation, and beyond. In addition to the standard mitigation noted in Section 11.3, established general practices can be implemented to reduce or avoid negative economic interactions through engagement with representatives of other industries, municipalities, Aboriginal communities, and business and labour organizations. These practices are adapted by each proponent on a project-by-project basis, based on their own corporate policies and on feedback received from engagement activities.

11.4.1.2 Option 2

Option 2 is likely to result in economic benefits similar to, but somewhat lesser than, those for Option 1, requiring an estimated capital expenditure of approximately 2 billion dollars (NB Power 2014a). The duration of construction of Option 2 is approximately ten years, and involves an estimated 1,000 workers at the peak of construction. There is also potential for limited negative economic interactions resulting from a change in the normal operation of the transportation network in the area surrounding the Station, particularly at the link between Route 102 and 105.





11.4.1.3 Option 3

Option 3 includes only one phase, decommissioning. The process of dewatering the headpond, dismantling and removing existing structures, and implementing shoreline interventions along the headpond is expected to occur over approximately seven years and require up to 300 workers during peak construction. Although this Option will be shorter in duration than Options 1 and 2, it is anticipated that the total capital expenditure would be similar magnitude to that for Option 2 (NB Power 2014a). Option 3 will also result in substantial economic benefits, such as increased business and taxes. This would result from increased value of business contracts, and tax revenues associated with increased incomes. Positive changes associated with Option 3 are anticipated to be medium in magnitude. Supplies and services are likely to be sourced from companies throughout New Brunswick, so the interaction would be regional. The change in economy is expected to be short term and would be continuous through the decommissioning activities. A more detailed estimate of capital costs will better identify economic benefits for Option 3.

Option 3 has potential to negatively affect existing businesses in the area of review. Temporary transportation disruptions would occur, and the land that was flooded to create the Mactaquac headpond would be re-exposed when the headpond is drained for the removal of the Station. This could negatively affect businesses that are based on the headpond, including tourism and recreation-based businesses. The removal of the Station would also negatively affect those businesses and service providers that currently support the operation of the existing Mactaquac Generating Station. These changes would be medium in magnitude, would extend to the area of review or region in some cases, and would be long-term and continuous. Mitigation measures noted above in Section 11.4.1.1 can be implemented to reduce potential adverse changes to businesses.

11.4.2 Potential Change in Employment

11.4.2.1 Option 1

The duration of construction and demolition for Option 1 is projected to be approximately 11 years. The peak labour force is estimated to be 1,750 workers. Option 1 is likely to result in a high amount of change in employment that would extend regionally because labour demand would likely require workers to be hired from throughout New Brunswick or elsewhere. Positive employment outcomes can be enhanced through engagement with local business, particularly understanding and communicating labour force requirements for construction and operation. The positive change in employment would be long term for Option 1. This change would be continuous throughout construction and to a lesser extent during operation of Option 1.

The transportation disruptions discussed in Section 11.4.1.1 may also interact negatively with existing employment at businesses that are temporarily disrupted during construction of Option 1. The negative interactions would occur at the site and would be long-term and continuous for the duration of construction; however, through engagement with businesses, interactions are expected to be minor in comparison to the positive change in employment.



11.4.2.2 Option 2

Construction of Option 2 would result in an estimated 1,000 workers at the peak of construction. The duration of construction and demolition with this Option would be approximately ten years. Similar to Option 1, Option 2 is expected to result in a high amount of change in employment extending regionally or potentially beyond. The positive change in employment would be long-term for Option 2. This change would be continuous throughout construction and operation of Option 2.

The negative interactions as a result of temporary disruption to existing employment at businesses would occur at the site and would be long-term and continuous for the duration of construction of Option 2.

11.4.2.3 Option 3

Option 3 is projected to require seven years to dewater the headpond, dismantle and remove existing facilities, and implement shoreline interventions and other mitigation. It is possible that additional time may be required to allow for rehabilitation and reclamation activities upstream of the Station. This Option is likely to have the lowest employment of the three Options as it involves simple decommissioning of facilities rather than the construction of new facilities that would occur with the other Options. The peak labour force is estimated to be up to 300 workers. Labour demand for Option 3 would result in a positive change in employment that would be medium in magnitude. Labour demand would likely require workers from throughout New Brunswick or beyond, so the extent of the interaction is regional. The change would be long-term and continuous through the decommissioning and demolition activities.

Option 3 has the potential to disrupt existing employment by interacting with businesses that use the headpond and adjacent area as a source of revenue. This change would be long/permanent and continuous. Other types of businesses could, however, establish to take advantage of the newly restored river (e.g., outfitters, kayaking and canoeing opportunities).

11.5 SUMMARY OF INTERACTIONS BETWEEN ECONOMY AND EMPLOYMENT AND THE OPTIONS

Several interactions between economy and employment and each of the Options are anticipated (Table 11.9). Key issues are divided by negative and positive interactions in recognition of the fact that both the positive and negative changes in economy and employment are anticipated.



Key Issue	ls the interaction negative or positive?	What is the amount of change?	What is the geographic extent?	How long does the interaction last?	How often does it occur?	Has additional mitigation been recommended?
Potential Change in Economy	,					
Option 1: Construction,	Positive	High	Province	Long	Continuous	Yes
demolition and operation	Negative	Low	Site	Long	Continuous	Yes
Option 2: Construction,	Positive	High	Province	Long	Continuous	Yes
demolition and operation	Negative	Low	Site	Long	Continuous	Yes
Option 2: Decommissioning	Positive	Medium	Region	Long	Continuous	Yes
Ophon 5. Decontinussioning	Negative	Medium	Area	Long/Permanent	Continuous	Yes
Potential Change in Employm	ent					
Option 1: Construction,	Positive	High	Region	Long	Continuous	Yes
demolition and operation	Negative	Low	Site	Long	Continuous	Yes
Option 2: Construction, demolition and operation	Positive	High	Region	Long	Continuous	Yes
	Negative	Low	Site	Long	Continuous	Yes
Option 3: Decommissioning	Positive	Medium	Region	Long	Continuous	Yes
ophon of Decommissioning	Negative	Medium	Region	Long/Permanent	Continuous	Yes
 KEY Is the interaction negative or positive. Negative. What is the amount of change? Low – a change that remains the natural variability for economy and employment be economy and employment. High – a change that occurs economy and employment. High – a change that occurs economy and employment the employment locally or regionation. What is the geographic extent? Site – the interaction is limited related activities occur Area – the interaction is limited station. Region – the interaction occur extend to other regions. 	 How long does it last? Short – the interaction occurs for less than 3 months. Medium – the interaction occurs for 3 months – 1 year Long – greater than a year. Permanent – there is no foreseeable end-date for the interaction. How often does it occur? Single – the interaction occurs once. Multiple – the interaction occurs several times, either sporadically or at regular intervals. Continuous – the interaction occurs continuously. Has additional mitigation been recommended? Yes. No. 					

Table 11.9 Summary of Interactions between Economy and Employment and the Options¹

Note:

¹ Some of the ratings for the environmental interactions in the table above have been updated from those provided in the Draft CER Report dated September 2015 (Stantec 2015b), to more accurately reflect the nature and extent of the anticipated interactions with the Options and to reflect feedback received during the public comment period.



11.5.1 Summary of Additional Potential Mitigation and Information Requirements

There are established general practices for enhancing the positive economic outcomes of a project while reducing or avoiding potential negative economic or employment interactions. These include initiatives to increase the potential for local and Aboriginal-owned businesses to participate in the Project. The potential for negative economic change may be reduced through engagement with representatives of other industries, municipalities, Aboriginal communities, and business and labour organizations. These practices are adapted by each proponent on a project-by-project basis, based on their own corporate policies and on feedback received during engagement activities (Table 11.10).

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Option	Additional Potential Mitigation	Additional Information Requirements					
Option 1: Construction, demolition, and operation	In addition to standard mitigation listed in Section 11.3, there are a	 More detailed estimates of capital costs for each Option. 					
Option 2: Construction, demolition, and operation	number of policies and procedures that NB Power will consider as the	• Estimated annual operation/ maintenance costs for Option 1 or Option 2.					
Option 3: Decommissioning	Project proceeds to enhance economic and employment benefits (e.g., hiring and procurement policies).	 More detailed estimated labour force requirements for construction for all three Options and operation of Option 1 or Option 2. 					

 Table 11.10
 Summary of Additional Potential Mitigation and Information Requirements

11.5.2 Discussion

Because interactions with economy and employment may result in positive and negative changes, measures may be implemented to enhance potential economic benefits and, where necessary, mitigate or prevent negative changes. NB Power can optimize the local benefits of the Project by implementing local and Aboriginal employment and procurement policies. These could include measures related to education, training, hiring, and supplier development.

Because of potential negative interactions with businesses related to the headpond, Option 3 is expected to require more substantial mitigation than the other Options. This would include engagement and cooperation with local and Aboriginal-owned businesses that may be affected. Loss of employment could also occur because businesses would be permanently affected.

11.5.3 Assumptions and Limitations

Assumptions and limitations associated with economy and employment relate to the limited availability and accuracy of data. Timely and relevant information on economy and employment was not available from primary or secondary sources. For instance, in most cases, recent Statistics Canada data are available only for 2011 at the time of finalizing the CER Report, and generally data are not available for smaller communities. The most recently available information regarding the labour force required for each Option and the duration of activities has been used. However, it is understood that planning is at the conceptual stage, and these early estimates are likely to change.

Statistics Canada data as provided are randomly rounded to a multiple of five. Because of this, totals may not sum correctly. For example, individual percentages may not sum to 100% due to random rounding.