

1 **7 VALUED COMPONENTS EFFECTS ASSESSMENT**

2 **7.10 Employment and Economy**

3 Employment and Economy has been identified as a valued component (**VC**) to be assessed for the Project
4 as specified in Section 5.0 of the Application Information Requirements (**AIR**). This section describes and
5 assesses the potential effects on employment and economy from the Project during all Project phases.

6 This assessment is linked to other VC assessments, either through integration (information from other
7 VCs is incorporated into this assessment) or support (information from this assessment is incorporated
8 into the assessment of other VCs).

9 Components of this assessment integrate information from or inform the following VCs, assessments and
10 sections:

- 11 • Marine Use (Section 7.11) – the assessment of effects on employment and economy refers to the
12 marine use assessment of potential effects on commercial fisheries
- 13 • Infrastructure and Services (Section 7.12) – the assessment of effects on housing and
14 accommodations informed housing affordability and potential effects on cost of living.
15 Information from labour analysis and predicted effects on employment and economy informed
16 the Infrastructure and Services assessment
- 17 • Community Health and Wellbeing (Section 7.13) – baseline information and effect assessments
18 informed baseline conditions and the assessment of education, employment, income and income
19 inequality and the cost of living in Section 7.13.
- 20 • The assessment of effects on employment, cost of living, and income informed the Summary of
21 Human and Community Well-being (Section 21.0), including existing conditions and enhancement
22 measures for those parameters. The predicted effects for regional employment, regional business
23 and regional economy also informed Indigenous Nation assessments (Sections 11.0 through 19.0)
24 and the Summary of Effects to Current and Future Generations (Section 22.0)

25 **7.10.1 Overview**

26 This section provides a brief summary of the Employment and Economy VC assessment.

27 During all Project phases, from an employment and economy perspective, the Project is expected to
28 interact with the procurement of labour, goods, and services. This includes all Project activities and
29 physical works requiring the presence of workers and/or expenditures. The Project has the potential to
30 result in the following effects on employment and economy:

- 31 • Change in regional employment
- 32 • Change in regional business
- 33 • Change in regional economy

1 In assessing the potential effects of the Project on employment and economy, existing conditions within
2 the Project local and regional assessment area were considered. Primary and secondary data indicates
3 that:

- 4 • Men account for the greatest proportion of the population with an apprenticeship,
5 trade certificate or diploma and is the largest proportion of the labour force available to the
6 Project
- 7 • The average employment income earned by men is greater than that earned by women and is
8 greater among the non-Indigenous population than the Indigenous population

9 To reduce or avoid adverse residual effects and enhance positive residual effects, the following have been
10 identified as key mitigation:

- 11 • Develop and implement workforce strategies that support the use of a British Columbia or
12 Canadian resident construction workforce in the building of those components of the Project
13 constructed/assembled in Canada (Mitigation 7.10-1)
- 14 • Develop and maintain a database of Nisga'a businesses and contractors as well as other
15 Indigenous, local, and regional businesses and contractors. Use the database to inform businesses
16 and contractors of procurement opportunities (Mitigation 7.10-2)
- 17 • Identify potential shortages of workers with specific skill requirements and training and work with
18 local and regional training and education facilities and communities to increase opportunities for
19 Indigenous and local community members to obtain training (Mitigation 7.10-5)
- 20 • Develop and implement procurement and contracting strategies to facilitate economic
21 participation by local, regional, British Columbia and Canadian suppliers, contractors and service
22 providers (Mitigation 7.10-7)

23 With the implementation of the key mitigation measures identified above, adverse residual effects include
24 regional businesses that may face increased competition for labour and upward pressure on wages which
25 can lead to an increased cost of living and positive residual effects include an expected increase of regional
26 employment which contributes to local, regional, provincial, and federal gross domestic product (**GDP**)
27 and government revenue.

28 Other industrial and marine projects in the area have the potential to interact cumulatively with the
29 Project adverse residual effects on employment and economy, including the construction and operation
30 of both the third-party transmission line and pipeline. Adverse residual cumulative effects with the Project
31 are predicted to be high in magnitude, extend through all Project phases, and are expected to be
32 reversible. Overall, the risk to the Employment and Economy VC from cumulative effects is moderate.
33 The uncertainty of this assessment is low. No follow up or monitoring has been identified at this time.

1 7.10.2 Relevant Statutes, Policies and Frameworks

2 The management of employment and economy is subject to several statutes, policies, and frameworks.
 3 These are identified in the AIR and Table 7.10–1 provides a list of the key legislation, policy, and regulatory
 4 guidance documents applicable to the assessment of employment and economy. The British Columbia
 5 *Environmental Assessment Act (BC EAA)*, SBC 2002, c 43 also requires an assessment to consider the
 6 environmental, economic, social, heritage, and health effects of a reviewable project.
 7 The British Columbia Environmental Assessment Office (**BC EAO**) issued the ‘Human and Community
 8 Well-being Guidelines for Assessing Social, Cultural and Health Effects in Environmental Assessments in
 9 British Columbia (**BC**)’ in April 2020 (BC EAO 2020). It provides guidance on the assessment of economic,
 10 social, health and cultural VCs, including employment and economy and provides guidance on the
 11 assessment of differential effects and gender-based analysis plus (**GBA Plus**), which is a requirement of
 12 the AIR.

Table 7.10–1 – Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Employment and Economy

Regulation or Policy	Description
Federal	
<i>Coasting Trade Act</i>	“The Coasting Trade Act supports Canadian marine interests by reserving the coasting trade of Canada to Canadian registered duty paid vessels, with limited exemptions. The legislation provides a process to temporarily import a foreign or non-duty paid vessel under a coasting trade licence when a suitable Canadian-registered duty paid vessel is not available” (Transport Canada 2022).
Canadian Free Trade Agreement	“The Canadian Free Trade Agreement (CFTA) is an intergovernmental trade agreement among all provinces, territories and the federal government. It entered into force on July 1, 2017. It covers most sectors of the economy and aims to reduce and eliminate barriers to the free movement of persons, goods, services and investments within Canada and establish an open, efficient and stable domestic market” (Province of BC [PBC] 2023a).
Provincial	
<i>Labour Mobility Act</i>	Legislation that provides full labour mobility for certified workers in regulated occupations moving to BC from other Canadian jurisdictions (PBC 2023b).
<i>Trade, Investment and Labour Mobility Agreement Implementation Act</i>	Legislation aimed at increasing the free movement of goods, services and people between BC and Alberta (TILMA 2023).
<i>New West Partnership Trade Agreement Implementation Act</i>	Legislation that removes the need for extraprovincial companies and organizations to file multiple registrations and reports between BC, Alberta, Manitoba and Saskatchewan (PBC 2023c).
<i>Industry Training Authority Act</i>	Legislation that establishes the Industry Training Authority to manage and support an industry training and apprenticeship system in BC, to ensure that the industry training and apprenticeship system meets the Province's need for skilled workers, to work with the government to achieve the government's objectives respecting the industry training and apprenticeship system, to promote industry training programs, including by encouraging employers and individuals to participate in those programs.

Table 7.10–1 – Summary of Key Legislation, Policy, and Regulatory Guidance Documents for Employment and Economy

Regulation or Policy	Description
Community Charter	Provides the statutory framework for all municipalities in BC except the City of Vancouver. The Community Charter sets out municipalities' core areas of authority, including: broad powers (e.g., municipal services, public health regulation and entering into agreements), property taxation, financial management, procedures (e.g., adopting bylaws), and bylaw enforcement (PBC 2023d).
<i>Local Government Grants Act</i>	Defines how the Minister may, in accordance with the Act and the regulations, make unconditional grants to municipalities and regional districts, and conditional grants to municipalities, regional districts and prescribed related organizations.
<i>Local Government Act</i>	Primary legislation for regional districts and improvement districts, setting out the framework for governance and structure, as well as main powers and responsibilities. The Act covers important authorities for both municipalities and regional districts, such as statutory requirements for elections, and planning and land use powers. The Act also includes key provincial powers such as authority for the BC Building Code and the office of the Inspector of Municipalities (Courthouse Libraries BC).
Other Canadian Jurisdictions	
Resources from the First Nations Information Governance Centre (FNIGC)	The FNIGC conducts data-gathering initiatives that enable its partners to support First Nations governments to build culturally relevant portraits of their communities (FNIGC 2023). Information is accessible through an online data centre and library.
<i>Nisga'a Treaty</i>	The Nisga'a Treaty solidifies the Nisga'a Nation's right to practice its culture and language in BC. The treaty outlines Nisga'a land and resource ownership and utilization and includes water, timber, mineral, infrastructure, fisheries, wildlife, and waterway resources. The treaty also outlines the Nisga'a Nation's right to self-governance and provides a legal structure for interactions between the Nisga'a nation and the Government of BC and Government of Canada.
Regional growth strategy	A regional growth strategy is a strategic plan that directs long-term planning for regional district and municipal official community plans and provides the basis for decisions about implementation of provincial programs (PBC 2023e). Most regional districts within high-growth regions of BC have adopted regional growth strategies and are undertaking implementation efforts with their member municipalities (PBC 2023f).

1 The development of the AIR and this assessment was influenced by the Project’s consultation with
2 Technical Advisors, Indigenous nations, and the public. This section describes information and concerns
3 related to Employment and Economy shared through consultation with government agencies,
4 stakeholders, Indigenous nations, and community members.

5 Table 7.10–2 provides a summary of the topics, key information, including Indigenous knowledge (**IK**), and
6 concerns that the Project identified as part of its consultation and engagement efforts that relate to
7 Employment and Economy, as well as a summary of the influence that the outcomes of this consultation
8 and engagement had on the assessment.

9 **7.10.2.1 Indigenous Knowledge**

10 Where made available by Indigenous nations through consultation, information gathering, and voluntary
11 information sharing, information on IK and land use has been included.

12 Sections 11.0 to 19.0 provide information regarding the alignment of the use of knowledge shared by
13 Indigenous nations with each nation’s respective policies and protocols, consent for its use and public
14 disclosure, and views regarding the characterization of IK within the Application. Sections 11.0 to 19.0 also
15 describe, as applicable, if no feedback regarding the use, public disclosure or characterization of IK was
16 provided by an Indigenous nation. In this case and as applicable, the Application has considered publicly
17 available information and nonconfidential outcomes of Project engagement activities to date.

18 Refer to Section 6.0 for detailed methods regarding the incorporation of IK into the Application.

Table 7.10–2 – Summary of Key Information, Indigenous Knowledge, and Concerns for the Project Related to Employment and Economy

Topic	Key Information and Concerns	Influence on the Assessment
Employment and economic benefits	Indigenous groups’ access to economic benefits and opportunities and identification of mitigation measures to address long-term youth unemployment.	<p>The Proponents have proposed a series of mitigation and enhancement measures targeted at increasing positive employment effects among local populations and Indigenous groups and has committed to investing in training. Mitigation and enhancement measures have also been proposed to increase local and Indigenous business participation on the Project. Mitigation measures are presented in Table 7.10–25 and Table 7.10–30.</p> <p>In Canada, the definition of ‘youth’ is generally fluid with ages ranging from 15 to 29 (as defined by Statistics Canada), 12 to 30 (as used in Canada’s Youth Policy), and 13-36 (self-identified, as reported in the federal publication ‘Canada’s first State of youth report: for youth, with youth, by youth’) (Government of Canada [GOC] 2022a). Youth of working age 18 years and younger, not inclusive of summer students, will be required to have completed high school or have an appropriate equivalency to work on the Project, specifically operation phase employment.</p>
	Coast Mountain College noted that they have seen high demand for electricians, carpenters, heavy duty mechanics (largest increase in demand) with demand mostly associated with support industries to large projects. Trade students are of older age cohorts.	The Proponents have proposed enhancement measures that will result in the sharing of skills/occupation demand information with regional training facilities to aid in their planning of course delivery.
	Employment and Social Development Canada (ESDC) requested identification of under-represented groups and data collection requirements to undertake GBA Plus analysis.	The Assessment includes GBA Plus analysis.
	Gitxaala noted concerns about local direct and indirect economic benefits, engagement, training, and employment opportunities related to the construction of the Project.	The Assessment includes the potential Project effects on regional employment and the economy, including assessment of direct, indirect, and induced economic impacts.
	Innovation, Science and Economic Development Canada (ISED) requested that economic impacts of the Project be considered to determine employment and welfare effects on the affected populations	Employment effects are assessed in Section 7.10.9.1 with changes in economic conditions, including changes in cost of living, in Section 7.10.9.3.

Table 7.10–2 – Summary of Key Information, Indigenous Knowledge, and Concerns for the Project Related to Employment and Economy

Topic	Key Information and Concerns	Influence on the Assessment
GBA Plus	<p>ESDC requested identification of under-represented groups and data collection requirements to undertake GBA Plus analysis.</p> <p>Health Canada (HC), Northern Health (NH) and Women’s and Gender Equality Canada (WGEC) requested that GBA Plus analysis be included in the assessment.</p>	The Assessment includes GBA Plus analysis in applicable VCs.
Training	ESDC noted the need to further emphasize employment training opportunities and recommends that the Project engage with Indigenous Skills and Employment Training, the BC Skills and Partnership Fund Aboriginal Community Career Employment Services Society, Kyah Wiget Education Society.	The Assessment includes a section on Indigenous Skills and Training Programs and mitigation and enhancement measures to work with skills and training organizations.
Access to wealth generated from the Project and preferential access to jobs, training, and business opportunities	Lax Kw’alaams noted that their community must also receive a share of the wealth generated from the Project and preferential access to jobs, training and business opportunities stemming from the Project.	The Proponents have proposed a series of mitigation and enhancement measures targeted at increasing positive employment effects among local populations and Indigenous groups and has committed to investing in training. Mitigation and enhancement measures have also been proposed to increase local and indigenous business participation on the Project. Mitigation measures are presented in Table 7.10–25 and Table 7.10–30.
Economic interest	Lax Kw’alaams noted that the Project could cause economic harm to its community and economic base rather than improve its economic security.	Both positive and adverse effects have been assessed at the local assessment area level which includes Lax Kw’alamms.
Competition for labour	BC Emergency Health Services, NH and the Ksan Society noted that increased demand for skilled workers from industry is making it harder to attract and retain skilled workers. That increased competition for labour is resulting in upward pressure on wages. Industry wages are higher than public service and existing private sector wages.	The Project’s contribution to increased competition for labour and upward pressure on wages is assessed under the potential effect ‘change in regional business’. The Project’s contribution to increased cost of living, due in part to increased costs of consumables (stemming from increased labour costs), is assessed under the potential effect ‘change in regional economy’.
Cost-of-living	The North Coast Immigrant & Multicultural Society noted that there is a lot of poverty in Prince Rupert and that the cost of food has increased.	The Project’s contribution to changes in cost-of-living, including the cost of consumables, is assessed under the potential effect ‘change in regional economy’.

Table 7.10–2 – Summary of Key Information, Indigenous Knowledge, and Concerns for the Project Related to Employment and Economy

Topic	Key Information and Concerns	Influence on the Assessment
Disaggregated data (GBA Plus)	<p>The Proponents held key informant interviews with several service providers in the LAA. Generally, the data that organizations have and/or able to provide is not consistent. Some organizations do not have the capacity to pull the data to share with the Proponents and other organizations won't share due to patient confidentiality. Some organizations loosely collect GBA Plus data and other organizations don't collect it as their mandate is "to collect as little information as possible" to not place additional stressors on the clients.</p>	<p>Data has been disaggregated where possible. Where data is unavailable the Proponent has endeavored to provide qualitative data from key informant interviews to supplement publicly available data.</p>

1 **7.10.2.2 GBA Plus Considerations identified during Engagement**

2 Sub-populations/sub-groups identified in Table 7.10–3 may experience disproportionate effects from the
3 Project, and thus have been assessed using GBA Plus. These sub-populations were identified through
4 community engagement and through a literature review of relevant projects.

5 **Table 7.10–3 – Sub-Populations identified for GBA Plus Assessment**

Sub-population/Sub-group	Rationale for Incorporating GBA Plus
Indigenous persons Women+ (includes women (and/or girls), as well as some non-binary persons).	On average, Indigenous persons and women experience lower income levels than non-Indigenous men and are underrepresented in sectors and occupations likely to be required for Project construction and operation. Among these sub-populations/sub-groups Indigenous women experience the lowest income levels and are the least represented in sectors and occupations likely to be required for Project construction and operation. Therefore, Indigenous persons and women, and in particular Indigenous women, may not equitably benefit from economic opportunities associated with the Project. Indigenous persons and women, and in particular Indigenous women, would benefit from policies or programs that encourage and facilitate inclusion and diversity within the workforce.
Visible Minorities	Visible minorities experience lower income and employment levels and higher unemployment levels than non-visible minorities. Therefore, they may experience disproportionate effects with respect to the economic advantages of the Project such as job opportunities. Visible minorities would benefit from policies or programs that encourage and facilitate inclusion and diversity within the workforce.
Youth	Youth may not have the skills or experience necessary to fulfil most of the jobs associated with the Project and thus may experience disproportionate effects of the Project. Youth may benefit from training programs or policies or programs that encourage and facilitate inclusion of the younger population within the workforce.
Older adults	This population was mentioned by the Prince Rupert Unemployment Action Center, the North Coast Transition Society and the North Coast Immigrant & Multicultural Services Society. In context, it was identified that people in their late 50's and early 60's may have a harder time getting back into the workforce if they have been previously laid off. In a separate context, it was mentioned that seniors have limited services available to them in the region. This could make older adults more susceptible to potential Project-related effects related to cost of living and accommodations. Older adults may benefit from training programs or policies or programs that encourage and facilitate inclusion of the older population within the workforce. Similarly, older adults may benefit from business building opportunities that are directly or indirectly created by the Project.
Low-income households	Low-income households are at greater risk of increased economic hardship due to changes in cost of living.
Unemployed persons	Unemployed persons may be at greater risk of increased economic hardship due to changes in cost of living.

1 **7.10.3 Assessment Boundaries**

2 The spatial, temporal, administrative, and technical boundaries for the assessment of effects
3 Employment and Economy are described below.

4 **7.10.3.1 Spatial Boundaries**

5 Spatial boundaries for the assessment of potential effects considered the geographic extent over which
6 Project activities may affect employment and economy; these are described below and are shown in
7 Figure 7.10–1.

8 The **Project footprint** is the areal extent of planned onshore clearing and marine infrastructure
9 development at the Project site (**the Site**).

10 The Local Assessment Area (**LAA**) includes communities with the greatest potential to experience effects
11 (positive and adverse) related to Project requirements for labour, goods, and services. The LAA includes
12 the following Statistics Canada Census Subdivisions (**CSDs**) and Census Agglomerations (**CAs**): Nisga’a NL
13 (Nisga’a Lands, includes Nisga’a villages); Prince Rupert CA (comprised of the Prince Rupert City [**CY**],
14 Port Edward District Municipality [**DM**], Metlakatla First Nation (S1/2 Tsimpsean 2 Indigenous Reserve
15 [**IRI**]), Lax Kw’alaams Indian Band (Lax Kw’alaams 1 IRI, North Coast A regional district electoral area
16 [**RDA**]); Gitxaala Nation (Dolphin Island 1 IRI); Terrace CA (comprised of Terrace CY; Kitimat-Stikine E RDA;
17 Kitimat-Stikine C (Part 1) RDA; Kitsumkalum First Nation (Kitsumkaylum 1 IRI); Kitselas First Nation
18 (Kulspai 6 IRI, Kshish 4 IRI, and Kitselas 1 IRI)); Kitimat-Stikine A, RDA, and Stewart DM.

19 The Regional Assessment Area (**RAA**) includes the same communities as the LAA and is the area within
20 which residual Project effects may act cumulatively with similar residual effects from other projects and
21 activities on regional employment, businesses and economies.

22 As per Table 6.1 (Section 6.4) the Open Water Assessment Area and Transmission Line Assessment Area
23 are not applicable for this VC.

24 **7.10.3.2 Temporal Boundaries**

25 The temporal boundaries for the Project consist of the following phases:

- 26 • Construction and commissioning – approximately three years to four years, commencing
27 following receipt of necessary regulatory approvals and a final investment decision by the Project
- 28 • Operation – a minimum of 30 years following completion of construction and commissioning
- 29 • Decommissioning/closure – approximately 12 months following the end of operation

30 **7.10.3.3 Administrative Boundaries**

31 Administrative boundaries used in the assessment of employment and economy align with those
32 identified in Section 7.10.3.1.

1 **7.10.3.4 Technical Boundaries**

2 Technical boundaries for the assessment of employment and economy include:

- 3 • Administrative boundaries – Spatially defined boundaries established through Statistics Canada’s
4 Standard Geographical Classification (**SGC**). The SGC covers geographical regions of Canada,
5 provinces and territories, census divisions and census subdivisions (Stats Can 2018a). The SGC
6 boundaries define the LAA and are the statistical units for which census of the population (census)
7 data are published
- 8 • Timeliness of data – Published information taken from the 2021 census at the census division and
9 census subdivision level is the most up-to-date and comparable source of population and
10 demographic information for all LAA communities
- 11 • Geographic area – Because SGC boundaries are used to define the LAA, in some instances large
12 geographic areas may be included but residual effects are not expected to occur equally
13 throughout. Inclusion of these areas in the LAA is purely a limitation of the available datasets used
14 to describe the LAA
- 15 • Data suppression – Statistics Canada regularly suppresses (i.e., selectively does not disclose)
16 survey information to protect the identity of individuals and to address data quality issues.
17 The 2021 Census is subject, in part, to data suppression by Statistics Canada. Of note,
18 Indigenous profile information is not available for S1/2 Tsimpsean 2 IRI Kitimat-Stikine A, RDA,
19 and Kshish 4 IRI
- 20 • Availability of Disaggregated Data – 2021 Census data are currently presented by gender
21 (men+, women+)¹ and for Indigenous Identity. Data are not disaggregated for other vulnerable
22 groups, which poses a limitation in the assessment of effects on these groups in the GBA Plus
23 analysis

24 **7.10.4 Existing Conditions**

25 This section provides a characterization of the baseline conditions within the spatial boundaries defined
26 in Section 7.10.2.1. This includes a discussion of the influences of the past and present physical activities
27 on the VC, leading to the current conditions. An understanding of the existing conditions within the spatial
28 area being assessed is a key requirement for the prediction of potential Project effects provided in
29 Section 7.10.4. Information provided in this section provides an overview of the economic well-being of
30 individuals and communities in the LAA and RAA. Through the disaggregation of information on existing
31 conditions through a GBA Plus framework, information is presented in this section such that Project
32 effects can be assessed in consideration of social norms and power structures may impact the ability of
33 women, men, and diverse groups of people (both distinctly for each specific group and in an intersectional
34 manner) to benefit equally from employment opportunities.

¹ "Men+" includes men (and/or boys), as well as some non-binary persons. "Women+" includes women (and/or girls), as well as some non-binary persons.

1 7.10.4.1 Methods

2 7.10.4.1.1 Existing Data

3 Information on existing economic conditions was obtained from several secondary (i.e., second-hand
4 information from other researchers) sources including government sources (e.g., Statistics Canada 2016
5 and 2021 Censuses, local and regional development plans, BC Stats), publicly available data and literature
6 (including environmental impact assessments of projects within the LAA), and previously prepared
7 information submitted to the Proponents from Indigenous groups and local communities. Additional
8 information on Indigenous and non-Indigenous communities was also collected through a review of
9 literature including recent local and regional reports and community profiles from government agencies,
10 municipalities, and websites.

11 Data quality issues include those described in Section 7.10.3.3 (Administrative Boundaries) and
12 Section 7.10.3.4 (Technical Boundaries). Most secondary sources used to describe existing conditions were
13 created for purposes other than describing baseline conditions within environmental assessments. This
14 may affect the reliability of information drawn from these sources.

15 Where possible, disaggregated data has been used in baseline descriptions to specify baseline conditions
16 for diverse or distinct subgroups to support the GBA Plus analysis of effects, as described in provincial
17 guidance related to the BC EAA, and Impact Assessment Agency of Canada (**the Agency**), 2019. Both
18 qualitative and quantitative data have been used to describe baseline conditions across diverse or distinct
19 subgroups, where GBA Plus factors have the potential to be relevant to the understanding of effects.

20 To obtain information regarding the subpopulations and sub-groups that may be disproportionately
21 affected by the Project, a review of literature describing effects of other similar projects on vulnerable
22 groups was conducted, and concerns and effects were summarized and documented. This helped to
23 identify which sub-populations and sub-groups expressed concern over these projects and which groups
24 were affected. These groups were carried forward in the assessment.

25 In terms of sex and gender, most data taken from Statistics Canada’s Census of the Population is
26 aggregated (by Statistics Canada) around a two-category variable system. Prior to 2021, Census data was
27 published on the basis of sex using the variables male and female. Beginning with the 2021 Census,
28 Statistics Canada has begun to publish data on the basis of gender using the variables men+ and women+.
29 Under this system men+ includes men (and/or boys), cisgender and transgender men, as well as some
30 non-binary persons. Women+ includes women (and/or girls), cisgender and transgender women, as well
31 as some non-binary persons. Data presented in this report is presented in the form of aggregation used
32 by Statistics Canada for that data product. Project engagement results and comments from stakeholders
33 on Project documents were reviewed. Concerns and issues brought forward by members of vulnerable
34 groups were documented and these sub-populations and sub-groups were carried through the
35 assessment. In addition to the literature review, engagement methods were used that are inclusive and
36 that incorporate GBA Plus considerations

1 7.10.4.1.2 Primary Research

2 Key person interviews were undertaken with government agencies, stakeholders, and community
3 organizations in the LAA to discuss issues of interest and concern related to employment and economy
4 including information on sub-populations that may experience disproportionate adverse effects.
5 Thirty four- key agencies, stakeholders, and organizations were contacted, of which interviews were
6 undertaken with ten organizations.

7 The assessment of employment and economy has also been informed by primary research undertaken at
8 Nisga’a communities, including the Social, Economic, Resource, and Cultural (**SERC**) Survey, focus groups,
9 and key person interviews with Nisga’a Lisims Government representatives, Nisga’a village
10 representatives, and service providers.

11 **7.10.4.2 Existing Conditions Overview**

12 The Project is located on Pearse Island and its adjoining waters within the Nass Area on Category A
13 Treaty land. The Project is approximately 115 kilometres (**km**) (straight-line) northwest of the City of
14 Terrace and approximately 15 km west of the Nisga’a community of Gingolx. Employment in the
15 Northwestern BC is dependent on forestry, mining, transportation and warehousing, and construction
16 related to major infrastructure projects such as LNG Canada. Within the economic region² employment is
17 largely dependent on primary metal manufacturing, other retail trade, and elementary and secondary
18 schools (PBC 2022a).

19 At the onset of COVID-19 global pandemic, declines in goods-producing and service sectors occurred. In
20 the goods-producing sector, manufacturing and construction employment in the North Coast and
21 Nechako Region both declined by over 25% between February 2020 and June 2020, linked to workforce
22 reductions at the LNG Canada Export Terminal Project and the Coastal GasLink Project and temporary mill
23 shutdowns (Northern Development Initiative Trust [**NDIT**] 2021). In the service sector, employment in
24 accommodation and food services declined by over 40% (NDIT 2021). Between June 2020 and
25 October 2020 construction-related employment increased to levels above pre-pandemic conditions
26 (February 2019) with the resumption of work on the LNG Canada Export Terminal Project and the Coastal
27 GasLink Project (NDIT 2021). Employment in accommodation and food services remained lower than
28 pre-pandemic conditions in October 2020 (NDIT 2021).

29 The Province of BC’s Labour Market Outlook for 2021 to 2031 forecasts that employment demand in the
30 North Coast and Nechako Economic Region will increase annually at an average rate of 1.4% until 2031
31 (similar to the provincial average). Approximately 15,200 job openings will be created in the region over
32 the 10-year forecast (PBC 2022a; see Figure 7.10–2). As of 2021, the largest industries in the North Coast
33 and Nechako Economic Region by employment size were construction, other retail trade (excluding cars,

² Because the North Coast Economic Region and the Nechako Economic Region are adjacent and have relatively small populations, Statistics Canada groups the publicly-available data into one administrative unit referred to as the ‘North Coast and Nechako Economic Region’. This administrative unit includes the Bulkley-Nechako, Kitimat-Stikine, and North Coast [formally Skeena-Queen Charlotte] Regional Districts.

1 online shopping and personal care); elementary and secondary schools; and primary metal manufacturing
2 (PBC 2022a).

3 Within the LAA, Terrace and Prince Rupert serve as the service and supply centers of the region providing
4 services to residents of the LAA communities and other parts of northwest BC (City of Terrace n.d,
5 Prince Rupert 2018). Historically, Terrace has been the economic hub for forestry, fishing and mining
6 activity in of Northwestern BC (City of Terrace, n.d). Major employers in the LAA include LNG Canada and
7 its prime contractor JGC Fluor BC LNG JV, Coastal GasLink, School District 82, and Northern Health
8 Authority (PBC 2021).

9 7.10.4.2.1 Liquefied Natural Gas Industry

10 A significant portion of Canada’s natural gas resource lies in Alberta and BC, making it a potential hub for
11 Canada’s expanding liquefied natural gas (**LNG**) industry. In 2011, the Government of BC developed the
12 *Canada Starts Here: The BC Jobs Plan* (Legislative Library of BC 2011) to aid the development of the
13 BC’s LNG industry. Developing BC’s LNG industry can create many economic benefits including jobs, skills
14 training, new economic opportunities for First Nations and tax and royalty revenues. By 2020,
15 eighteen LNG export facilities had been proposed in Canada, thirteen of which were anticipated to be
16 located in BC (Natural Resources Canada 2020). Factors such as BC’s proximity to export markets, natural
17 gas supply, and availability of skilled labour contribute to the rising interest in developing BC’s LNG
18 industry (Conference Board of Canada [**CBOC**], 2020). However, existing challenges in the BC LNG
19 investment landscape such as slow regulatory processes and the unavailability of infrastructure have
20 hindered LNG investment (CBOC, 2020). As of (April) 2022, there are three proposed LNG projects and
21 one active LNG project in BC (Government of BC, n.d). In 2020, oil and gas extraction in BC accounted for
22 1.9% (\$4.8 billion) of total provincial gross domestic product (**GDP**) \$247 billion (Statistics Canada
23 2022).2022). LNG Canada is BC’s first large-scale LNG project. It is an LNG export facility located in Kitimat,
24 which will liquefy natural gas produced in northeast BC and Alberta. A positive final investment decision
25 in LNG Canada was made in October 2018 with construction beginning in 2019 with the first phase of the
26 Project expected to be complete in 2025.

27 7.10.4.2.2 Population and Demographics

28 Table 7.10–4 summarizes the change in the total populations of the LAA and BC between 2016 and 2021.
29 In 2021, the population of the LAA was 35,700 (48.9% women), an increase of 1.3% from 2016. Total
30 population increases in the LAA were less than the provincial average (7.6%).

31 Prince Rupert and Terrace are the largest cities in the LAA accounting for 34.5% and 33.7% of the total
32 LAA population respectively. In 2021, 34.6% of the LAA population identified as Indigenous compared to
33 5.8% for the province (Table 7.10–5). Unlike the overall LAA population, the Indigenous population
34 decreased by 1.1% between 2016 and 2021.

Table 7.10–4 – Total Population Change, 2016 to 2021

	2021			Percent Change (%), 2016-2021		
	Total	Men+	Women+	Total	Men+	Women+
Port Edward, DM	470	255	215	0.0	4.1	-4.4
Prince Rupert, CY	12,300	6,335	5,965	0.7	2.4	-1.2
North Coast A, RDA	45	25	20	12.5	0.0	33.3
Dolphin Island 1, IRI	295	160	135	-15.7	-8.6	-22.9
Lax Kw'alaams 1, IRI	625	330	295	-4.6	-1.5	-7.8
S1/2 Tsimpsean 2, IRI	-	-	-	-	-	-
Terrace, CY	12,015	5,975	6,040	3.2	3.4	3.1
Kitimat-Stikine C (Part 1), RDA	2,975	1,535	1,440	5.1	6.2	4.0
Kitimat-Stikine E, RDA	3,930	2,030	1,900	-1.6	-2.4	-0.8
Nisga'a, NL	1,795	960	835	-4.8	-4.5	-5.1
Kitsumkaylum 1, IRI	315	150	165	-4.5	-14.3	6.5
Kshish 4, IRI	-	-	-	-	-	-
Kulspai 6, IRI	70	35	35	-17.6	0.0	-30.0
Kitselas 1, IRI	295	145	150	11.3	11.5	11.1
Stewart, DM	520	280	240	30.0	33.3	26.3
Kitimat-Stikine A, RDA	50	30	20	-	-	-
LAA	35,700	18,245	17,455	1.3	2.1	0.4
British Columbia	5,000,880	2,457,515	2,543,365	7.6	7.9	7.3

NOTES:

- Data not available

Values shown in "Total" columns are the sum of men+ and women+ CSD subsets taken from Statistics Canada's Census Profile data products. Due to Statistics Canada rounding (Statistics Canada 2022a) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables.

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Total may not sum to 100 due to Statistics Canada rounding.

SOURCE: Statistics Canada 2017, 2022b

Table 7.10–5 – Indigenous Population Change, 2016 to 2021

	2021			Percent Change (%), 2016-2021		
	Total	Men+	Women+	Total	Men+	Women+
Port Edward, DM	225	120	105	18.4	9.1	31.3
Prince Rupert, CY	4,545	2,335	2,215	-2.6	4.2	-8.7
North Coast A, RDA	10	-	-	-	-	-
Dolphin Island 1, IRI	295	160	135	-15.7	-8.6	-22.9
Lax Kw'alaams 1, IRI	620	320	295	-1.6	0.0	-4.8
S1/2 Tsimpsean 2, IRI	-	-	-	-	-	-
Terrace, CY	2,635	1,225	1,410	-2.0	-3.2	-1.1
Kitimat-Stikine C (Part 1), RDA	510	235	275	4.1	-4.1	12.2
Kitimat-Stikine E, RDA	1,155	550	605	33.5	17.0	53.2
Nisga'a, NL	1,670	890	785	-6.2	-5.3	-6.5
Kitsumkaylum 1, IRI	295	135	160	-9.2	-22.9	6.7
Kshish 4, IRI	-	-	-	-	-	-
Kulspai 6, IRI	70	30	40	-12.5	0.0	-20.0
Kitselas 1, IRI	275	140	140	5.8	12.0	3.7
Stewart, DM	60	25	35	-36.8	-50.0	-22.2
Kitimat-Stikine A, RDA	-	-	-	-	-	-
LAA	12,365	6,165	6,200	-1.1	-0.2	-1.9
British Columbia	290,205	141,210	148,995	7.3	8.4	6.2

NOTES:

- Data not available

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Indigenous and non-Indigenous totals may not sum to equal total population counts as they are based on a 25% population sample size.

Totals may not sum across tables due to Statistics Canada data suppression and rounding.

Total may not sum to 100 due to Statistics Canada rounding.

SOURCE: Statistics Canada 2017, 2018, 2022b

1 Figure 7.10–3 shows the distribution of the 2016 and 2021 LAA total populations by age cohort, sex, and
2 gender. Individuals aged 40 to 64 made up the largest proportion of the LAA population in both 2016
3 and 2021. In 2021, there is a smaller percentage of men+ between the ages of 5 to 9, 15 to 24 and 45 to
4 59 in the LAA compared to males in 2016 (Figure 7.10–3). The percentage of women+ between the ages
5 of 5 to 9, 20 to 24 and 40 to 59 years of age was smaller in 2021 compared with females in 2016
6 (Figure 7.10–3).

7 *7.10.4.2.2.1 Visible Minority Population*

8 Table 7.10–6 presents the visible minority population of the LAA in 2016. Within the LAA, Terrace CA,
9 Nisga’a Land, Prince Rupert, and Stewart DM are reported to have visible minority populations.
10 S ½ Tsimpean 2, Lax Kw’alaams 1, Dolphin Island and North Coast A (referred to as Skeena Queen
11 Charlotte A in 2016 Census) do not have visible minority populations and information on the visible
12 minorities in Kitimat Stikine A was suppressed by Statistics Canada. The LAA’s visible minority population
13 makes up 6.7% (2,445 persons) of its total population.

14

Table 7.10–6 – Visible Minority Population, LAA, 2021

Characteristics	Nisga’a land			Prince Rupert			Terrace CA			North Coast			Port Edward			Kitimat			Kitimat-Stikine C (Part 1)			Kitimat-Stikine E			Total LAA		
	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+
South Asian	0	0	0	405	210	195	375	215	160	1000	520	475	0	0	0	155	75	75	10	10	10	20	0	15	1,965	1,030	930
Chinese	0	0	0	220	105	115	75	40	35	430	200	230	15	10	10	40	25	15	0	0	0	0	0	0	795	390	415
Black	0	0	0	65	25	40	95	55	45	285	135	145	0	0	0	80	40	40	15	10	10	0	0	0	540	265	280
Filipino	0	0	0	210	90	115	185	90	95	575	235	340	0	0	0	90	35	55	25	10	15	10	0	10	1095	460	630
Latin American	0	0	0	25	10	15	60	30	30	165	70	95	0	0	0	70	25	45	0	0	0	0	0	0	320	135	185
Arab	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	10	0
Southeast Asian	0	0	0	430	200	235	10	0	10	480	205	270	10	0	0	15	0	15	0	0	0	10	0	0	965	405	530
West Asian	0	0	0	15	10	10	15	0	10	30	15	20	0	0	0	0	0	0	0	0	0	0	0	0	60	25	40
Korean	0	0	0	10	0	10	45	20	25	80	45	35	0	0	0	30	20	10	0	0	0	0	0	0	165	85	80
Japanese	0	0	0	55	30	25	0	10	0	160	90	75	0	0	0	25	25	10	10	0	10	20	20	10	270	175	130
Visible minority; n.i.e ¹ .	0	0	0	15	10	10	0	0	10	50	20	30	0	0	0	15	0	15	0	0	0	0	0	0	80	30	65
Multiple visible minorities	0	0	0	35	25	10	10	10	0	95	55	35	0	0	0	40	20	20	0	0	0	0	0	0	180	110	65
Total visible minority population	10	10	10	1,485	710	775	890	470	420	3,355	1,590	1,765	20	10	15	555	265	290	65	30	40	60	25	35	64,60	3,120	3,365

NOTES:

¹ n.i.e = not identified elsewhere

- Data not available

Due to Statistics Canada rounding (Statistics Canada 2022a) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables.

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Totals may not sum across tables due to Statistics Canada data suppression and rounding.

Total may not sum to 100 due to Statistics Canada rounding.

SOURCE: Statistics Canada 2022b

1 7.10.4.2.3 Educational Attainment

2 Table 7.10–7 presents the educational attainment levels (by gender), by highest level achieved within the
3 total and Indigenous populations of the LAA and BC. As of 2021, 46.9% of the LAA population had obtained
4 some form of post-secondary education (i.e., education above the secondary school or equivalent level).
5 As of 2021, 32.0% of the Indigenous population had obtained some form of post-secondary education.
6 Educational attainment above the secondary level among the total and Indigenous populations of the LAA
7 were lower than provincial averages (57.0% and 39.8%, respectively).

8 In 2021, approximately 12% of the total LAA population held an apprenticeship or trades certificate or
9 diploma, 17% a college, CEGEP or other non-university certificate or diploma, 3% a university certificate
10 or diploma below the bachelor level, and 15% a university degree or certificate at or above the bachelor
11 level. In 2021, 10% of the total Indigenous population held an apprenticeship or trades certificate or
12 diploma, 14% a college, CGEP or other non-university certificate or diploma, 2% a university certificate or
13 diploma below the bachelor level, and 5% a university degree or certificate at or above the bachelor level.
14 Men account for the greatest proportion of the population with an apprenticeship or trades certificate or
15 diploma, while women account for the greatest proportion of the population with all other forms of post-
16 secondary education. Women also account for the greatest proportion of the population, total and
17 Indigenous, with secondary education.

Table 7.10–7 – Educational Attainment for Population Aged 15 Years and Over – 2021

Topic	Total Population				Indigenous Population			
	Total		% Men+	% Women+	Total		Men+ (%)	Women+ (%)
	Number	%			Number	%		
LAA								
No certificate, diploma, or degree	6,165	21.3	53.4	46.6	3,170	34.2	52.8	47.2
Secondary school diploma or equivalent	9,185	31.8	48.2	51.8	3,140	33.9	49.0	51.0
Apprenticeship or trades certificate or diploma	3,430	11.9	83.2	16.8	920	9.9	76.1	23.9
College, CEGEP or other non-university certificate or diploma	4,865	16.8	42.0	58.0	1,320	14.2	39.8	60.2
University certificate or diploma below bachelor level	815	2.8	45.4	54.6	215	2.3	37.2	62.8
University certificate, diploma or degree at bachelor level or above	4,460	15.4	40.7	59.3	510	5.5	23.5	76.5

Table 7.10–7 – Educational Attainment for Population Aged 15 Years and Over – 2021

Topic	Total Population				Indigenous Population			
	Total		%	%	Total		Men+	Women+
	Number	%	Men+	Women+	Number	%	(%)	(%)
British Columbia								
No certificate, diploma, or degree	565,665	13.5	51.6	48.4	57,640	26.2	53.3	46.7
Secondary school diploma or equivalent	1,238,005	29.5	49.3	50.7	74,840	34.0	49.3	50.7
Apprenticeship or trades certificate or diploma	323,630	7.7	75.3	24.7	20,880	9.5	72.3	27.7
College, CEGEP or other non-university certificate or diploma	711,810	16.9	40.7	59.3	36,980	16.8	34.3	65.7
University certificate or diploma below bachelor level	161,600	3.8	40.3	59.7	7,485	3.4	31.3	68.7
University certificate, diploma or degree at bachelor level or above	1,199,705	28.6	45.6	54.4	22,320	10.1	33.2	66.8

NOTES:

- Data not available

Values shown in "Total" columns are the sum of men+ and women+ CSD subsets taken from Statistics Canada's Census Profile data products. Due to Statistics Canada rounding (Statistics Canada 2022a) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables.

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Total may not sum to 100 due to Statistics Canada rounding.

SOURCE: Statistics Canada 2018, 2022b

1 7.10.4.2.4 Labour Force Characteristics

2 7.10.4.2.4.1 Labour Force Summary

3 Labour force indicators for the LAA (by gender) are summarized in Table 7.10–8. In 2021, the total size of
4 the LAA labour force was 19,130 (53.8% men, 46.2% women). The Indigenous³ LAA labour force totaled
5 5,590 persons (49.9% men and 50.1% women). The LAA unemployment rate was 9.3%, 0.9 percentage
6 points higher than the provincial average of 8.4%. Men had a higher unemployment rate than women in
7 for the total labour force (9.8% versus 8.7%). Indigenous men had a higher unemployment rate than
8 Indigenous women (18.7% versus 15.5%) (Statistics Canada, 2023). The unemployment rate for overall
9 Indigenous population of the LAA (17.2%) is notably higher than the total population LAA average (9.3%)
10 and the 2021 provincial average unemployment rate of the Indigenous labour force (12.4%). The 2021
11 participation rate of the LAA total labour force was 66.1% (60.1% among the Indigenous population).

Table 7.10–8 – 2021 LAA Labour Force Statistics by Gender, Total and Indigenous Population

Topic	Total Population			Indigenous Population		
	Total	Men+	Women+	Total	Men+	Women+
LAA						
Population aged 15 years+	28,960	14,820	14,140	9,295	4,640	4,655
Labour force	19,130	10,285	8,845	5,590	2,940	2,650
Employed	17,370	9,305	8,065	4,625	2,395	2,230
Unemployed	1,775	1,005	770	960	550	410
Not in the labour force	9,820	4,500	5,320	3,710	1,700	2,010
Participation rate (%)	66.1	69.4	62.6	60.1	63.4	56.9
Employment rate (%)	60.0	62.8	57.0	49.8	51.6	47.9
Unemployment rate (%)	9.3	9.8	8.7	17.2	18.7	15.5
British Columbia						
Population aged 15 years+	4,200,425	2,048,395	2,152,030	220,135	105,150	114,985
Labour force	2,657,275	1,378,375	1,278,900	136,970	67,980	68,990
Employed	2,433,600	1,264,715	1,168,885	119,960	59,070	60,890
Unemployed	223,670	113,655	110,015	17,005	8,910	8,095
Not in the labour force	1,543,150	670,020	873,130	83,175	37,175	46,000
Participation rate (%)	63.3	67.3	59.4	62.2	64.7	60.0

³ Statistics Canada defines Aboriginal identity as persons who self-identify as being an Aboriginal person. This includes those who are First Nations (North American Indian), Métis or Inuk (Inuit) and/or those who are Registered or Treaty Indians (that is, registered under the *Indian Act* of Canada) and/or those who have membership in a First Nation or Indian band. Aboriginal peoples of Canada are defined in the *Constitution Act*, 1982, Section 35 (2) as including the Indian, Inuit and Métis peoples of Canada.

Table 7.10–8 – 2021 LAA Labour Force Statistics by Gender, Total and Indigenous Population

Topic	Total Population			Indigenous Population		
	Total	Men+	Women+	Total	Men+	Women+
Employment rate (%)	57.9	61.7	54.3	54.5	56.2	53.0
Unemployment rate (%)	8.4	8.2	8.6	12.4	13.1	11.7

NOTES:

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SOURCE: Statistics Canada 2022b, 2023

1

2 *7.10.4.2.4.2 Unemployment Rate North Coast and Nechako Economic Region*

3 Statistics Canada does not report monthly unemployment statistics for Census Divisions (CDs) or CSDs;
4 therefore, annual unemployment rates are unavailable for the LAA. Unemployment rates for the
5 North Coast and Nechako Economic Region are used in this report to contextualize changes and trends in
6 unemployment which are assumed to be representative of those at the LAA level, compared with the
7 provincial average. Figure 7.10–4 illustrates monthly unemployment rates for the North Coast
8 and Nechako Economic Region and BC between May 2021 and July 2022. As of July 2022, the
9 unemployment rate in the North Coast and Nechako Economic Region was 4.6% (Statistics Canada 2022c;
10 see Figure 7.10–4).

11 Between May 2021 and July 2022, unemployment rates across BC and the North Coast and
12 Nechako Economic Region decreased. BC’s unemployment rates declined steadily but the changes in
13 North Coast and Nechako Economic Region’s unemployment rates were more sporadic. At the time of
14 this report, the unemployment rates for the North Coast and Nechako Economic Region are on a steady
15 increase since the last decline in May 2022.

16 In general, unemployment rates were higher and more variable in the North Coast and Nechako Economic
17 Region (one notable increase occurring between April 2022 and May 2022 [from 6.1% to 4.1%]) than
18 across the province. Between May 2021 and July 2022, the average provincial unemployment rate
19 decreased 2.5 percentage points from 7.1% to 4.6%, while the average unemployment rate in the
20 North Coast and Nechako Economic Region decreased 1.9 percentage points, from 6.5% to 4.6%.

21 *7.10.4.2.4.3 Labour Force by Sector*

22 Table 7.10–9 provides a summary (by gender) of total LAA and Indigenous employment in the North
23 American Industry Classification System (NAICS) industries. In 2021, the top employment sectors across
24 the LAA labour force were health care and social assistance (13.4% of total LAA employment),
25 transportation and warehousing (12.1% of total LAA employment), and retail trade (11.6% of total LAA
26 employment). The top three sectors employing Indigenous persons were transportation and warehousing

1 (12.6% of LAA Indigenous employment), retail trade (11.6% of LAA Indigenous employment), and public
2 administration (11.6% of LAA Indigenous employment).

3 The industries most likely to supply labour, goods and services directly and indirectly to the Project are
4 mining, quarrying and oil and gas extraction, construction, transportation and warehousing and,
5 professional, scientific and technical services. In 2021, employment in retail trade and professional,
6 scientific and technical services was relatively evenly distributed between men and women. This was also
7 seen in the Indigenous labour force. In 2021, men made up a greater percentage of employment in
8 construction and transportation and warehousing at 87.6% and 76.3% respectively for total employment.
9 Again, a similar trend is see with the Indigenous labour force (85.8% and 72.1% respectively). Employment
10 in mining, quarrying and oil and gas extraction was also dominated by men (76.9% of 2021 total
11 employment and 65.5% of Indigenous employment). Employment in health care and social assistance was
12 largely undertaken by women (82.5% of 2021 total employment and 82.1% of Indigenous employment).

Table 7.10–9 – 2021 LAA Employment by Sector and Gender, Total and Indigenous Labour Force

NAICS Code / Sector	Total Labour Force				Indigenous Labour Force			
	Total		% Men+	% Women+	Total		% Men+	% Women+
	Persons	%			Persons	%		
11 Agriculture, forestry, fishing and hunting	790	4.1	81.0	19.0	235	4.3	89.4	10.6
21 Mining, quarrying, and oil and gas extraction	325	1.7	76.9	23.1	145	2.7	65.5	34.5
22 Utilities	165	0.9	84.8	15.2	25	0.5	100.0	0.0
23 Construction	1,650	8.6	87.6	12.4	530	9.8	85.8	14.2
31-33 Manufacturing	750	3.9	80.0	20.0	180	3.3	77.8	22.2
41 Wholesale trade	365	1.9	74.0	26.0	55	1.0	63.6	36.4
44-45 Retail trade	2,215	11.6	49.7	50.3	625	11.6	49.6	50.4
48-49 Transportation and warehousing	2,320	12.1	76.3	23.7	680	12.6	72.1	27.9
51 Information and cultural industries	220	1.1	45.5	54.5	20	0.4	50.0	50.0
52 Finance and insurance	405	2.1	28.4	71.6	45	0.8	44.4	55.6
53 Real estate and rental and leasing	210	1.1	45.2	54.8	40	0.7	25.0	75.0
54 Professional, scientific and technical services	815	4.3	54.0	46.0	125	2.3	52.0	48.0
55 Management of companies and enterprises	-	-	-	-	-	-	-	-
56 Administrative and support, waste management and remediation services	645	3.4	57.4	42.6	260	4.8	55.8	44.2

Table 7.10–9 – 2021 LAA Employment by Sector and Gender, Total and Indigenous Labour Force

NAICS Code / Sector	Total Labour Force				Indigenous Labour Force			
	Total		% Men+	% Women+	Total		% Men+	% Women+
	Persons	%			Persons	%		
61 Educational services	1,535	8.0	29.6	70.4	340	6.3	19.1	80.9
62 Health care and social assistance	2,565	13.4	17.5	82.5	615	11.4	17.9	82.1
71 Arts, entertainment and recreation	310	1.6	38.7	61.3	90	1.7	50.0	50.0
72 Accommodation and food services	1,180	6.2	44.5	55.5	340	6.3	44.1	55.9
81 Other services (except public administration)	695	3.6	51.1	48.9	175	3.2	28.6	71.4
91 Public administration	1,550	8.1	56.8	43.2	625	11.6	51.2	48.8
NAICS not applicable	425	2.2	56.5	43.5	260	4.8	0.0	0.0
Total	19,135	100.0	54.1	45.9	5,410	100.0	53.5	46.5

NOTES:

- Data not available

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SOURCE: Statistics Canada 2022b, 2023

1

2 *7.10.4.2.4.4 Labour Force by Occupational Classification*

3 Table 7.10–10 provides a summary of employment (by gender) based on Statistics Canada’s National
 4 Occupational Classification [**NO**C]) for the LAA total and Indigenous populations. In 2021, employment
 5 was greatest in trades, transport and equipment operators and related occupations (accounting for 25.4%
 6 of the total labour force), sales and service (accounting for 22.9% of the 2021 total labour force), and
 7 occupations in education, law and social, community and government services (accounting for 13.9% of
 8 the total labour force). A similar trend was seen across the Indigenous population with employment in
 9 trades, transport and equipment operation (27.1%) greatest, followed by sales and service (24.8%) and
 10 education, law and social, community and government services (13.7%). Employment in sales and services
 11 was dominated by women (57.9% of the total labour force and 59.9% of the Indigenous labour force).
 12 Employment in education, law and social, community and government services was dominated by women
 13 (67.1% of the total labour force and 72.5% of the Indigenous labour force). Employment in trades,
 14 transport and equipment operators and related occupations was dominated by men (90.8% of the total
 15 labour force and 87.4% of the Indigenous labour force).

1 **Table 7.10–10 – 2021 LAA Employment by Occupation and Gender, Total and Indigenous Labour Force**

NOC Code / Occupation	Total Labour Force				Indigenous Labour Force			
	Total		% Men+	% Women+	Total		% Men+	% Women+
	Persons	%			Persons	%		
0 Management occupations	160	0.8	75.0	25.0	70	1.3	64.3	35.7
1 Business, finance and administration occupations	2,530	13.3	23.9	76.1	675	12.4	20.0	80.0
2 Natural and applied sciences and related occupations	935	4.9	74.9	25.1	170	3.1	79.4	20.6
3 Health occupations	1,385	7.3	17.3	82.7	200	3.7	5.0	95.0
4 Occupations in education, law and social, community and government services	2,645	13.9	32.9	67.1	745	13.7	27.5	72.5
5 Occupations in art, culture, recreation and sport	360	1.9	29.2	70.8	100	1.8	50.0	50.0
6 Sales and service occupations	4,370	22.9	42.1	57.9	1,345	24.8	40.1	59.9
7 Trades, transport and equipment operators and related occupations	4,855	25.4	90.8	9.2	1,470	27.1	87.4	12.6
8 Natural resources, agriculture and related production occupations	700	3.7	79.3	20.7	240	4.4	83.3	16.7
9 Occupations in manufacturing and utilities	715	3.7	84.6	15.4	225	4.1	88.9	11.1
NOC not applicable	425	2.2	56.5	43.5	260	4.8	55.8	44.2
Total	19,080	100.0	53.9	46.1	5,430	100.0	54.3	45.7

NOTES:

Values shown in “Total” columns are the sum of men+ and women+ CSD subsets taken from Statistics Canada’s Census Profile data products. Due to Statistics Canada rounding (Statistics Canada 2022a) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables.

Totals may not sum across tables due to Statistics Canada data suppression and rounding.

Total may not sum to 100 due to Statistics Canada rounding.

SOURCE: Statistics Canada 2022b, 2023

1 7.10.4.2.5 Location Quotient

2 Location quotient (**LQ**) provides a measure of the intensity of employment in a given sector in a region
3 (e.g., the LAA) compared to the level of employment in that sector to a reference region (e.g., BC)
4 (Statistics Canada 2015). Location quotients are commonly used in economic analysis to assess the
5 concentration of economic activities in a smaller area relative to an overarching region in which it is
6 located (Statistics Canada 2015; Burlington Economic Development Corporation [BEDC] 2018). Location
7 quotients for the LAA compared to BC are provided in Table 7.10–11.

8 Critical values for the LQ analysis are:

- 9 • LQ >1.0 – the LAA has a higher intensity of employment in the given sector relative to BC
- 10 • LQ = 1.0 – the LAA has the same intensity of employment in the given sector relative to BC
- 11 • LQ <1.0 – the LAA has a lower intensity of employment in the given sector relative to BC
- 12 (Statistics Canada 2015)

13 Where the LQ is greater than 1.25, the LAA is considered to have a local concentration of economic activity
14 in that sector (relative to BC) and may be an indication that the local economy is specialized in the
15 provision of associated goods/services (BEDC 2018). An LQ greater than 1.25 can also suggest that the
16 sector may be export-oriented with the supply of associated goods/services exceeding local demand;
17 conversely, an LQ of less than 1.0 may suggest that local demand exceeds supply and goods/services of
18 that sector are imported (BEDC 2018).

19 Sectors exceeding an LQ of 1.25 in the LAA, relative to the province, are as follows:

- 20 • NAICS 11, Agriculture, forestry, fishing and hunting – 1.82
- 21 • NAICS 21, Mining, quarrying, and oil and gas extraction – 1.81
- 22 • NAICS 22, Utilities – 1.55
- 23 • NAICS 48-49, Transportation and warehousing – 2.27
- 24 • NAICS 91, Public Administration – 1.51

**Table 7.10–11 – Labour Force Population Aged 15 Years and Over by Sector, Location Quotients,
2021**

NAICS Code	Sector	LAA
11	Agriculture, forestry, fishing and hunting	1.82
21	Mining, quarrying, and oil and gas extraction	1.81
22	Utilities	1.55
23	Construction	0.98
31-33	Manufacturing	0.68
41	Wholesale trade	0.63
44-45	Retail trade	1.02
48-49	Transportation and warehousing	2.27
51	Information and cultural industries	0.43

Table 7.10–11 – Labour Force Population Aged 15 Years and Over by Sector, Location Quotients, 2021

NAICS Code	Sector	LAA
52	Finance and insurance	0.59
53	Real estate and rental and leasing	0.49
54	Professional, scientific and technical services	0.47
55	Management of companies and enterprises	-
56	Administrative and support, waste management and remediation services	0.81
61	Educational services	1.11
62	Health care and social assistance	1.11
71	Arts, entertainment and recreation	0.71
72	Accommodation and food services	0.90
91	Other services (except public administration)	0.85
91	Public administration	1.51
N/A	NAICS not applicable	1.09

SOURCE: Statistics Canada 2022b

- 1
- 2 7.10.4.2.6 Worker Mobility
- 3 Worker mobility within the LAA and BC is summarized in Table 7.10–12 (total population) and
- 4 Table 7.10–13 (Indigenous population). In 2021, most resident workers of the LAA lived and worked in the
- 5 same CSD (i.e., their community of residence). Less than 30% of workers (total and Indigenous) commuted
- 6 to other communities in their own CD (i.e., their region of residence). 8.0% of workers (9.9% of Indigenous
- 7 workers) lived and worked in different CDs and/or provinces/territories than their home residence.

8 Table 7.10–12 – Total Population – Worker Mobility, 2021

	LAA		British Columbia	
	Persons	%	Persons	%
Commute within census subdivision (CSD) of residence	8,890	68.5	864,410	48.9
Commute to a different census subdivision (CSD) within census division (CD) of residence	3,045	23.5	807,835	45.7
Commute to a different census subdivision (CSD) and census division (CD) within province or territory of residence	1,000	7.7	81,750	4.6
Commute to a different province or territory	35	0.3	12,965	0.7

SOURCE: Statistics Canada 2022b

9

1 **Table 7.10–13 – Indigenous Population – Worker Mobility, 2021**

	LAA		British Columbia	
	Persons	%	Persons	%
Commute within census subdivision (CSD) of residence	2,220	67.5	42,360	53.7
Commute to a different census subdivision (CSD) within census division (CD) of residence	745	22.6	29,730	37.7
Commute to a different census subdivision (CSD) and census division (CD) within province or territory of residence	325	9.9	6,195	7.9
Commute to a different province or territory	0	0.0	525	0.7

SOURCE: Statistics Canada 2023

2

3 7.10.4.2.7 Indigenous Skills and Training Programs

4 The Indigenous Skills and Employment Training (**ISET**) Program, implemented by Employment and
5 Social Development Canada and co-developed with Indigenous partners, provides funding to Indigenous
6 service delivery organizations that design and deliver job training to First Nations, Inuit, Métis, and
7 urban/non-affiliated Indigenous people in their communities (GOC 2022b). The ISET Program incorporates
8 a new distinctions-based strategy that recognizes, respects, and reflects Canada’s Indigenous peoples,
9 specifically the First Nations, Inuit, and Métis and addresses urban/non-affiliated service delivery needs.
10 In BC, there are 23 organizations that provide ISET programs and services and provide opportunities for
11 skill development, job training, and financial aid (WorkBC 2022). In the LAA, there are two ISET
12 partnerships, Nisga’a Employment Skills and Training (**NEST**) and the Tribal Resources Investment
13 Corporation (**TRICORP**).

14 NEST provides job seekers with employment programs and services, including access to a variety of
15 training and skills upgrading programs, support and assistance with resume development, interview skills,
16 and job matching, mentorship, and can offer support for childcare and assistance with acquiring personal
17 protective equipment and workplace training (NEST 2022a, 2022b). NEST maintains a job board for which
18 application support is provided (NEST 2022c).

19 TRICORP is a lending institution owned by five First Nations’ economic development corporations: the
20 Kitkatla-Metlakatla Economic Development Corporation, Nisga’a Lisims Government, Haida Gwaii
21 Economic Development Corporation, and the Gitks’an Wet’suwet’en Development Corporation. TRICORP
22 focuses on development lending to increase the number of permanent jobs, reduce unemployment and
23 facilitate business ownership among First Nations people. Applicants must be of Aboriginal descent and
24 the activities funded must take place within the region (TRICORP 2021). Current programs offered by
25 TRICORP include: business development loans, employment skills and training services, Indigenous
26 entrepreneurship training, workplace essential skills trades training, youth employment and skills training
27 and pre-employment support programs (TRICORP 2021).

1 7.10.4.2.8 Income and Income Equality

2 *7.10.4.2.8.1 Individual Income*

3 Table 7.10–14 summarizes income information for the LAA and BC total populations in 2021 by gender.
4 In 2021, the mean total income in the LAA was \$54,360, with men earning \$63,246 and women \$45,038.
5 The mean employment income was lower at \$53,247, with men earning \$63,651 and women \$41,534.
6 Mean total incomes for men in the LAA were slightly less than the provincial means, while mean employment
7 incomes in the LAA slightly greater than the provincial means.

8 Table 7.10–15 summarizes income information for the LAA and BC Indigenous populations in 2021 by
9 gender. In 2021, the mean total income in the LAA among Indigenous persons was \$33,491, with men
10 earning \$32,260 and women \$32,280. The mean employment income was lower at \$29,355, with men
11 earning \$31,080 and women \$28,040. Indigenous men and women in LAA earned less on average than their
12 respective provincial averages. Across all income measures presented in Table 7.10–15, Indigenous persons
13 earned less than non-Indigenous persons in 2021.

14 In terms of income equity, in 2021, average total income and average employment income in the LAA
15 were lower for women than men. Disparities in income also exist within each category (total and
16 employment income) among both men and women as illustrated through differences in mean and median
17 total and employment incomes within the LAA and BC (Table 7.10–14 and Table 7.10–15).

Table 7.10–14 – Total Population, Individual Income by Gender, 2020

	Mean Total Income			Median Total Income			Mean Employment Income			Median Employment Income		
	Total - Gender	Men+	Women+	Total - Gender	Men+	Women+	Total - Gender	Men+	Women+	Total - Gender	Men+	Women+
Port Edward, DM	53,800	64,000	42,000	40,000	56,800	32,800	58,400	76,000	39,500	44,400	61,200	29,600
Prince Rupert, CY	58,900	70,400	46,720	45,200	54,000	38,400	59,000	72,200	43,840	45,200	58,000	35,200
North Coast A, RDA	-	-	-	-	-	-	-	-	-	-	-	-
Dolphin Island 1, IRI	25,000	22,800	28,000	21,000	19,800	24,000	24,800	23,000	27,000	20,200	17,600	24,000
Lax Kw'alaams 1, IRI	27,100	22,400	33,200	21,400	18,400	23,400	24,000	18,800	30,400	11,300	7,650	23,400
S1/2 Tsimpsean 2, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Terrace, CY	54,400	63,400	45,720	45,200	53,200	39,600	51,800	61,500	41,560	44,000	55,600	35,200
Kitimat-Stikine C (Part 1), RDA	56,600	65,000	47,200	45,600	56,400	37,600	52,650	62,000	42,200	42,800	53,200	34,800
Kitimat-Stikine E, RDA	52,300	61,300	42,320	44,000	55,600	36,400	51,120	62,100	37,800	42,800	59,200	30,400
Stewart, DM	56,400	67,500	41,600	48,400	62,400	39,200	52,600	60,400	41,000	44,000	61,600	36,400
Nisga'a, NL	39,920	38,800	41,200	31,600	29,200	34,400	38,600	38,400	38,800	31,000	31,000	31,000
Kitimat-Stikine A, RDA	-	-	-	-	-	-	-	-	-	-	-	-
Kitsumkaylum 1, IRI	40,400	47,000	34,000	32,400	36,400	28,000	40,400	46,000	33,500	34,400	36,800	31,000
Kshish 4, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Kulspai 6, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Kitseas 1, IRI	37,200	38,000	36,000	31,400	30,600	32,000	33,500	37,000	29,000	24,600	24,800	24,000
LAA	54,360	63,246	45,038	-	-	-	53,247	63,651	41,534	-	-	-
British Columbia	54,450	63,500	45,800	40,800	47,200	36,000	50,520	59,800	40,840	38,000	46,000	31,200

NOTES:

- Data not available

Values shown in "Total" columns are the sum of men+ and women+ CSD subsets taken from Statistics Canada's Census Profile data products. Due to Statistics Canada rounding (Statistics Canada 2022a) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables.

Totals may not sum across tables due to Statistics Canada data suppression and rounding.

Total may not sum to 100 due to Statistics Canada rounding.

SOURCE: Statistics Canada 2022b

Table 7.10–15 – Individual Income by Gender, 2020

	Mean Total Income			Median Total Income			Mean Employment Income			Median Employment Income		
	Total - Gender	Men+	Women+	Total - Gender	Men+	Women+	Total - Gender	Men+	Women+	Total - Gender	Men+	Women+
Indigenous Population												
Port Edward, DM	34,800	38,000	34,800	49,600	52,000	47,000	37,200	40,800	23,600	48,000	52,000	44,000
Prince Rupert, CY	38,400	40,800	34,800	50,040	58,850	40,920	36,400	42,800	30,400	49,920	61,250	36,900
North Coast A, RDA	-	-	-	-	-	-	-	-	-	-	-	-
Dolphin Island 1, IRI	21,200	19,800	24,600	25,000	22,800	28,400	20,600	17,600	25,600	24,800	23,000	27,000
Lax Kw'alaams 1, IRI	21,200	17,800	23,400	26,200	21,000	32,400	11,300	7,600	23,400	22,400	16,800	28,800
S1/2 Tsimpsean 2, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Terrace, CY	34,800	37,600	32,400	42,360	47,700	38,000	32,800	41,600	28,600	40,500	51,000	31,950
Kitimat-Stikine C (Part 1), RDA	39,200	34,800	44,400	46,400	47,200	45,600	33,600	29,400	36,800	42,000	43,000	41,000
Kitimat-Stikine E, RDA	37,200	41,600	34,800	45,400	53,000	37,600	32,400	45,200	25,200	43,400	53,000	31,400
Stewart, DM	48,400	X	x	56,000	60,000	52,000	31,800	x	x	48,000	52,000	48,000
Nisga'a, NL	30,600	28,000	33,600	38,000	37,000	39,200	28,000	26,000	28,800	36,000	36,000	36,000
Kitimat-Stikine A, RDA	-	-	-	-	-	-	-	-	-	-	-	-
Kitsumkaylum 1, IRI	31,400	33,600	28,000	39,600	45,000	34,000	34,400	35,200	34,000	39,600	44,000	35,000
Kshish 4, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Kulspai 6, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Kitselas 1, IRI	31,200	30,600	32,000	36,400	36,500	36,000	24,400	24,600	24,000	32,000	35,000	29,000
LAA	33,491	32,260	32,280	-	-	-	29,355	31,080	28,040	-	-	-
British Columbia	34,800	36,800	33,600	43,840	48,200	39,920	30,800	36,000	26,600	40,840	47,320	34,600

NOTES:

- Data not available

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Indigenous and non-Indigenous totals may not sum to equal total population counts as they are based on a 25% population sample size.

Totals may not sum across tables due to Statistics Canada data suppression and rounding.

Total may not sum to 100 due to Statistics Canada rounding.

SOURCE: Statistics Canada 2023

1 *7.10.4.2.8.2 Average Weekly Earnings in British Columbia by Sector*

2 Information on earning by sector is not available at the LAA level. To illustrate the range of wages paid to
3 workers in western Canada, where much of the Project’s labour force could be drawn, information has
4 been collected at the provincial level for BC and Alberta. Table 7.10–16 summarizes average weekly
5 earnings in BC and Alberta for the total population by select sector (those likely to supply labour to
6 the Project) between 2020 and 2021. Except for average weekly earnings paid to workers in the utilities
7 sector, earnings in all sectors presented in Table 7.10–16 in BC and Alberta increased between 2020 and
8 2021 (Table 7.10–16).

9 **Table 7.10–16 – Average Weekly Earnings in British Columbia and Alberta by Sector, 2020-2021**

NAICS Code / Sector or Industry	2020		2021	
	British Columbia	Alberta	British Columbia	Alberta
21 Mining, quarrying, and oil and gas extraction	2,003	2,289	2,125	2,391
22 Utilities	1,931	2,055	1,901	2,007
23 Construction	1,303	1,505	1,364	1,534
31-33 Manufacturing	1,141	1,265	1,209	1,312
48-49 Transportation and warehousing	1,202	1,300	1,230	1,358
54 Professional, scientific and technical services	1,498	1,560	1,545	1,583

10

11 *7.10.4.2.8.3 Low-Income Status*

12 Statistics Canada has adapted two standardized measures of low-income, the "low-income measure after
13 tax" (**LIM-AT**) and "low-income cut-offs after tax" (**LICO-AT**). The LIM-AT is a used to measure the
14 proportion of a population that falls below the after-tax low-income threshold (Statistics Canada 2022e).
15 The LICO-AT is used to identify the proportion of the low-income population that falls below the after-tax
16 income threshold where it is likely that an economic person/household would have to devote a larger
17 share of income than average (specifically, 20 percentage points more than average) on basic cost of living
18 expenses (i.e., food, shelter, and clothing) (Statistics Canada 2022f). Table 7.10–17 presents the number
19 of persons living below LIM-AT and LICO-AT thresholds and the prevalence of low-income (based on these
20 measures) within LAA communities and BC. Overall, LAA communities show a greater prevalence of low
21 income, as measured through the LIM-AT measure, across all age cohorts then provincial averages.
22 In terms of LICO-AT, a lower level of prevalence of low income is seen across all LAA communities and age
23 cohorts than the provincial average.

24

Table 7.10–17 – LIM-AT and LICO-AT Statistics, LAA Communities and British Columbia, 2021

	Total Age Cohorts			Prevalence (of total population)								
				Aged 0-17 years			Aged 18-64 years			Aged 65 years+		
	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+
LIM-AT												
Port Edward, DM	40	15	25	6.0	-	-	7.6	6.0	9.0	12.0	8.0	20.0
Prince Rupert, CY	1,150	550	600	12.3	11.2	13.5	7.6	7.4	7.9	13.6	11.8	15.4
North Coast A, RDA	10	5	5	-	-	-	-	-	-	-	-	-
Dolphin Island 1, IRI	125	70	55	38.0	32.0	40.0	42.0	46.0	36.0	48.0	40.0	50.0
Lax Kw'alaams 1, IRI	245	135	110	39.0	44.0	34.0	38.5	40.0	36.0	40.0	38.0	44.0
S1/2 Tsimpsean 2, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Terrace, CY	1,105	500	605	11.5	11.8	11.2	7.4	6.9	7.9	13.6	10.4	16.4
Kitimat-Stikine C (Part 1), RDA	250	130	120	9.2	10.0	8.0	6.8	6.6	7.0	13.6	12.0	15.0
Kitimat-Stikine E, RDA	375	175	200	11.0	11.6	10.0	7.6	6.3	9.0	16.4	15.6	17.5
Stewart, DM	60	30	30	12.0	-	-	8.0	5.0	10.0	18.0	20.0	16.0
Nisga'a, NL	340	200	140	23.2	25.0	21.0	17.2	19.2	14.8	18.5	22.0	15.0
Kitimat-Stikine A, RDA	5	5	-	-	-	-	-	-	-	-	-	-
Kitsumkaylum 1, IRI	60	30	30	16.0	25.0	-	19.0	22.0	16.0	20.0	-	30.0
Kshish 4, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Kulspai 6, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Kitselas 1, IRI	55	30	25	26.0	40.0	16.0	12.0	10.0	14.0	30.0	-	40.0
British Columbia	528,865	246,885	281,980	11.4	11.5	11.3	9.7	9.3	10.0	13.7	11.9	15.3

Table 7.10–17 – LIM-AT and LICO-AT Statistics, LAA Communities and British Columbia, 2021

	Total Age Cohorts			Prevalence (of total population)								
				Aged 0-17 years			Aged 18-64 years			Aged 65 years+		
	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+
LICO-AT												
Port Edward, DM	10	5	5	-	-	-	2.5	-	3.0	-	-	-
Prince Rupert, CY	315	175	140	2.4	2.2	2.8	2.9	3.4	2.4	1.5	1.4	1.6
North Coast A, RDA	5	5	-	-	-	-	-	-	-	-	-	-
Dolphin Island 1, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Lax Kw'alaams 1, IRI	-	-	-	-	-	-	-	-	-	-	-	-
S1/2 Tsimpsean 2, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Terrace, CY	295	145	150	2.4	2.4	2.4	2.8	2.9	2.7	1.5	1.0	2.0
Kitimat-Stikine C (Part 1), RDA	65	35	30	2.4	3.0	2.0	2.4	2.6	2.2	1.2	-	2.0
Kitimat-Stikine E, RDA	100	50	50	3.4	3.6	2.8	2.8	2.6	3.0	0.6	-	-
Stewart, DM	15	5	10	-	-	-	4.0	3.0	5.0	-	-	-
Nisga'a, NL	-	-	-	-	-	-	-	-	-	-	-	-
Kitimat-Stikine A, RDA	-	-	-	-	-	-	-	-	-	-	-	-
Kitsumkaylum 1, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Kshish 4, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Kulspai 6, IRI	-	-	-	-	-	-	-	-	-	-	-	-
Kitselas 1, IRI	-	-	-	-	-	-	-	-	-	-	-	-
British Columbia	279,035	139,265	139,770	5.2	5.3	5.2	6.6	6.8	6.5	3.6	3.3	3.8

Table 7.10–17 – LIM-AT and LICO-AT Statistics, LAA Communities and British Columbia, 2021

	Total Age Cohorts			Prevalence (of total population)								
				Aged 0-17 years			Aged 18-64 years			Aged 65 years+		
	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+	Total	Men+	Women+

NOTES:

- Data not available

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Total may not sum to 100 due to Statistics Canada rounding

SOURCE: Statistics Canada 2022b

1 *7.10.4.2.8.4 Gini Coefficient and P90/10 Ratio*

2 The Gini coefficient, or Gini index, is a measure of inequality that indicates how equally income is
3 distributed for a given population. It measures how much an income distribution deviates from perfect
4 equality. Values of the Gini coefficient can range from 0 to 1. A value of 0 denotes perfect equality which
5 means that income is equally divided among the population, with all units receiving equal amounts of
6 income. At the opposite extreme, a value of 1 indicates a perfectly unequal distribution, where one unit
7 in the population has all the income in the economy.

8 From a Gini Index perspective, when measured against total household income, a greater degree of
9 equality is seen across LAA communities than the provincial average (all measures below the provincial
10 average of 0.346) (Table 7.10–18). When measured against household market income all but two LAA
11 communities (Lax Kw’alaams 1 IRI at 0.596 and Nisga’a Lands at 0.490 versus the provincial average
12 of 0.449) show a greater level of income equality than the provincial average. When measured against
13 after-tax income a similar trend is seen with only Lax Kw’alaams 1 IRI showing a higher level of income
14 inequality than the provincial average (0.319 versus 0.306).

15 The P90/P10 ratio is a measure of inequality that compares the ratio of the 90th and the 10th percentile
16 of adjusted household after-tax income (i.e., it is the ratio between the top 10% of household income
17 earners to the bottom 10%). From data presented in Table 7.10–18, the LAA communities of
18 Dolphin Island 1 IRI (4.8), Lax Kw’alaams 1 IRI (4.3), Kitsumkaylum 1 IRI (4.2), and Kitselas 1 IRI (4.4) have
19 a greater degree of income inequality than the provincial average (4.0) with the top 10% of income
20 earners earning between 4.2 to 4.8 times that of the bottom 10% of the population. Income inequality in
21 Prince Rupert and Stewart align with the provincial average of 4.0. All remaining LAA communities show
22 a greater degree of income equality than the provincial average.

Table 7.10–18 – Gini Coefficients and P90/10 Ratio, LAA and British Columbia, 2021

	Gini index on adjusted household total income	Gini index on adjusted household market income	Gini index on adjusted household after-tax income	P90/P10 ratio on adjusted household after-tax income
Port Edward, DM	0.306	0.420	0.274	3.7
Prince Rupert, CY	0.324	0.428	0.287	4.0
North Coast A, RDA	-	-	-	-
Dolphin Island 1, IRI	0.324	0.572	0.320	4.8
Lax Kw'alaams 1, IRI	0.332	0.596	0.319	4.3
S1/2 Tsimpsean 2, IRI	-	-	-	-
Terrace, CY	0.300	0.399	0.268	3.6
Kitimat-Stikine C (Part 1), RDA	0.301	0.395	0.272	3.7
Kitimat-Stikine E, RDA	0.285	0.403	0.258	3.4
Stewart, DM	0.311	0.420	0.282	4.0
Nisga'a, NL	0.309	0.490	0.282	3.8
Kitimat-Stikine A, RDA	-	-	-	-
Kitsumkaylum 1, IRI	0.294	0.380	0.284	4.2
Kshish 4, IRI	-	-	-	-
Kulspai 6, IRI	-	-	-	-
Kitselas 1, IRI	0.272	0.424	0.252	4.4
British Columbia	0.346	0.449	0.306	4.0

SOURCE: Statistics Canada 2022b

1

2 7.10.4.2.9 Cost of Living

3 7.10.4.2.9.1 Bank of Canada Consumer Price Index

4 The Bank of Canada maintains a consumer price index (**CPI**), based on data from Statistics Canada, that

5 illustrates changes in the cost of consumer prices of a fixed basket of goods and services over time

6 (compares prices from one month with those from the same month the year before; Bank of Canada

7 2022). Figure 7.10–6 illustrates the ‘Total CPI’ measure published by the Bank of Canada from

8 January 1, 2019, to July 1, 2022. The ‘Total CPI’ measure is an indicator of the overall change in the general

9 level of consumer prices, or the rate of inflation, experienced by Canadian consumers (Bank of Canada

10 2022). Illustrated in Figure 7.10–5, the year-over-year percent change in consumer prices increased from

11 approximately 1-2% in February 2021 to over 5-7% as of July 1, 2022. Prior to February 2021, the percent

12 change in CPI was relatively stable at approximately 2% between January 2019 to January 2020, followed

13 by a decrease of approximately 1-2% (depending on measure) through much of 2020; attributable to

14 economic impacts of COVID-19 and measures implemented by governments to impede the spread of

15 SARS-CoV-2.

1 Table 7.10–19 illustrates changes in CPI values at these periods in time (January 1, 2019 [indexed at 100],
2 February 1, 2020, and July 1, 2022), based on basket category, at the provincial level (CPI data is not
3 available for CSDs comprising the LAA). Shown in Table 7.10–19, from January 1, 2019, in BC the overall
4 cost ('Total CPI') of a fixed basket of food and services increased 4% by February 1, 2020, and 10% by
5 July 1, 2022. Of the eight basket categories included in the overall cost, recreation, education and reading
6 increased the most between January 1, 2019, and July 1, 2022, at 26%, followed by transportation at 24%
7 (largely attributable to changes in the cost of gasoline which increased 93%), clothing and footwear at
8 14% and food at 12%. Between January 1, 2019, and February 1, 2020, shelter costs increased 104%;
9 however, as of July 1, 2022, shelter costs returned to levels seen in January 1, 2019.

10 **Table 7.10–19 – CPI, by basket category, at Select Dates, British Columbia**
11 **(January 1, 2019 indexed at 100)**

Measure	January 1, 2019	February 1, 2020	July 1, 2022
All-items (Total CPI)	100	104	110
▪ Food	100	105	112
▪ Shelter	100	104	100
▪ Household operation, furnishings and equipment	100	101	105
▪ Clothing and footwear	100	101	114
▪ Transportation	100	108	124
▪ Gasoline	100	115	193
▪ Health and personal care	100	104	105
▪ Recreation, education and reading	100	102	126
▪ Alcoholic beverages, tobacco products and recreational cannabis	100	102	101
All-items excluding food and energy ³	100	103	107
All-items excluding energy ³	100	104	108
Energy	100	108	158
Goods	100	104	117
Services	100	104	104

SOURCE: Statistics Canada 2022i

1 *7.10.4.2.9.2 WorkBC Cost of Living Calculator*

2 Table 7.10–20 provides a summary of the monthly cost-of-living in Terrace, Prince Rupert and Stewart and
3 four reference communities (Kitimat, Smithers, Prince George, and Fort St. John) across northern BC.
4 Estimates were taken from the province of BC’s online Cost-of-Living Calculator (PBC 2022b) from WorkBC
5 with the following variables:

- 6 • Annual household income of \$109,000 (the weighted average household income in 2020 for
7 Terrace, Prince Rupert and Stewart was \$108,607; Statistics Canada 2022b)
- 8 • Average household size of three persons comprised of two adults and one dependent
9 (the average household size in 2021 for Terrace, Prince Rupert and Stewart was 2.9;
10 Statistics Canada 2022b)
- 11 • Housing – Own/rent an average size house of 2,000 sq. ft. (the weighted average square footage
12 of dwellings in 2018 for Terrace, Prince Rupert and Stewart was 1,720 sq. ft.;
13 Statistics Canada 2022b)
- 14 • For owners, a 20% mortgage down payment
- 15 • Transportation – One car; daily commute of 14.5 km (5,292.5 km/year) (Statistics Canada 2017)

16 Based on the above variables, on average, housing costs account for 30% of the monthly estimated
17 cost-of-living expenses among owner-occupied households. For renters, housing costs account for 25%
18 (26% among reference communities) of monthly estimates cost-of-living expenses. Transportation costs
19 account for 4% of monthly cost-of-living expenses for both owners and renters. For owners, consumables
20 account for 37% of monthly cost-of-living expense compared to 40% among renters. Health costs are
21 constant across both owner and renters accounting for 3% of monthly cost-of-living expenses, whereas
22 taxes account for 27% of monthly costs among owners and 29% among renters.

23 From an index perspective (holding Terrace as reference [index score of 100]), the most affordable
24 community included in Table 7.10–20 for homeowners is Kitimat (index score of 92) followed by Smithers
25 (index score of 97) and Prince Rupert and Stewart (index score of 98). At the high-end, the cost of living
26 in Fort St. John (index score of 102) is 2% greater than that in Terrace. For renters, the most affordable
27 community is also Kitimat (index score of 99) followed by Prince Rupert and Smithers (index score of 100)
28 and Stewart (index score of 101). At the high-end, the cost of living in Fort St. John is 3% (index score
29 of 103) greater than in Terrace.

Table 7.10–20 – Cost of Living Estimate (Family of three with a household income of \$109,000, in a 2,000 sq. ft dwelling and having one car [daily commuter of 14.5 km/year]) – WorkBC Calculator Estimates, LAA and Reference Communities

	LAA Communities						Reference Communities							
	Terrace		Stewart		Prince Rupert		Kitimat		Smithers		Prince George		Fort St. John	
	Own	Rent	Own	Rent	Own	Rent	Own	Rent	Own	Rent	Own	Rent	Own	Rent
Housing	2,763	2,039	2,499	1,973	2,558	2,010	2,078	1,952	2,476	2,018	2,788	2,192	2,859	2,208
Transportation	343	343	346	346	344	344	348	348	344	344	333	333	333	333
Consumables	3,193	3,193	3,301	3,301	3,185	3,185	3,182	3,182	3,216	3,216	3,118	3,118	3,271	3,271
Health	223	223	222	222	223	223	224	224	223	223	222	222	220	220
Taxes	2,313	2,313	2,313	2,313	2,313	2,313	2,313	2,313	2,313	2,313	2,313	2,313	2,313	2,313
Total Cost of Living	8,835	8,111	8,681	8,155	8,623	8,075	8,145	8,019	8,572	8,114	8,774	8,178	8,996	8,345
Cost of living differential, by tenancy type, compared to average of LAA communities	-	-	-154	44	-212	-36	-690	-92	-263	3	-61	67	161	234
Cost of Living Index, by tenancy type (Average of LAA Communities=100)	100	100	98	101	98	100	92	99	97	100	99	101	102	103

SOURCE: PBC 2022b

1 7.10.4.2.10 Government Revenues

2 BC's posted revenue for the fiscal year ended March 31, 2022, is valued at \$72.4 billion (Ministry of
3 Finance (MOF) 2022). Over half of BC's 2021–2022 revenue is attributed to taxation revenues
4 (\$40.7 billion). This was followed by contributions from the federal government (\$11.9 billion) and fees
5 and licences (\$4.6 billion). Total expenses for the Province of BC were \$71.1 billion with health
6 (\$27.6 billion) and education (\$15.8 billion) the largest expense items.

7 Municipal and regional government revenue and expenses for 2020 is as follows:

- 8 • Town of Port Edward – total revenue of \$46.2 million with expenses totaling \$36.2 million
- 9 • City of Prince Rupert – total revenue of \$78.3 million with expenses totaling \$40.9 million
- 10 • Town of Stewart – total revenue of \$8.4 million with expenses totaling \$3.6 million
- 11 • City of Terrace – total revenue of \$35.3 million with expenses totaling \$27.3 million
12 (Ministry of Municipal Affairs [MMA] 2021a, MMA 2021b)
- 13 • Kitimat-Stikine Regional District - total revenue of \$21.2 million with expenses totaling
14 \$17.2 million
- 15 • North Coast Regional District - total revenue of \$5.9 million with expenses totaling \$5.3 million
16 (MMA 2021c, 2021d)

17 Except for the Town of Stewart which realized the greatest revenues from provincial government transfers
18 (\$4.8 million), the Town of Port Edward, City of Prince Rupert, and City of Terrace realized the most
19 revenue through own purpose taxation and grants in lieu (\$1.1 million, \$25.4 million, and \$16.6 million,
20 respectively). In the cities of Terrace and Prince Rupert protective services were the largest expense
21 category (\$11.0 million and \$7.2 million, respectively) while expenses associated with transportation and
22 transit were the largest expense categories for the towns of Port Edward and Terrace (\$1.1 million each).

23 Indigenous government revenue and expenses for 2021 is as follows:

- 24 • Nisga'a Nation - total revenue of \$145.6 million with expenses totaling \$31.9 million
25 (Nisga Lisims Government 2021)
- 26 • Metlakatla First Nation – total revenue of \$9.9 million with expenses totaling \$7.1 million
27 (Carlye Shepherd & Co. 2021a)
- 28 • Lax Kw'alaams Band – total revenue of \$35.0 million with expenses totalling \$23.8 million
29 (Carlye Shepherd & Co. 2021b)
- 30 • Gitxaala Nation – total revenue of \$37.0 million with expenses totalling \$17.2 million
31 (Carlye Shepherd & Co. 2021c)
- 32 • Kitselas First Nation – total revenue of \$15.9 million with expenses totalling \$10.1 million
33 (Carlye Shepherd & Co. 2021d)
- 34 • Kitsumkalum Indian Band – total revenue of \$33.6 million with expenses totalling \$13.3 million
35 (Kitsumkalum Indian Band 2021)

1 For Nisga’a Nation, revenue from fiscal financing agreements and related funding (\$84.9 million) was the
 2 largest revenue source in 2021. Funding received from Indigenous Services Canada was the largest
 3 revenue source for Metlakatla First Nation (\$5.1 million), Lax Kw’alaams Band (\$18.0 million), and
 4 Kitselas First Nation (\$4.4 million) while funding from the Province of BC was the largest revenue source
 5 for Gitxaala Nation (\$12.3 million) and Kitsumkalum Indian Band (\$16.5 million). The largest expense
 6 category for Nisga’a Nation and Kitselas First Nation in 2021 was administration (\$7.1 million and
 7 \$1.6 million, respectively); for Metlakatla First Nation, strategic initiatives (\$3.0 million) was the largest
 8 expense category; for Lax Kw’alaams Band, community project funds (\$5.9 million) was the largest
 9 expense category; for Gitxaala Nation, local services, economic development and fisheries (\$7.3 million)
 10 was the largest expense category; and for Kitsumkalum, education (\$2.6 million) was the largest expense
 11 category.

12 7.10.4.2.11Gross Domestic Product

13 Table 7.10–21 provides a summary of provincial and territorial GDP between 2017 and 2021 for BC and
 14 Canada. GDP estimates are not available at the LAA level. In 2021 the GDP of BC was estimated at
 15 \$262.2 billion, up from \$246.9 billion in 2020 and \$255.7 billion in 2019.

16 **Table 7.10–21 – Provincial / Territorial GDP Estimates, 2017-2021 (Millions)**

Geography	2017	2018	2019	2020	2021
British Columbia	239,205.8	248,162.8	255,697.7	246,927.4	262,187.0
Canada ¹	1,892,927.0	1,946,805.8	1,980,464.20	1,876,362.2	1,966,049.5

NOTE:

¹ Calculated as the sum of GDP estimates of all provinces and territories.

SOURCE: Statistics Canada 2022j

17

18 **7.10.4.3 Summary of Baseline Information on Sub-Populations for Gender Based Analysis Plus**

19 The following section summarizes baseline status considerations for identified sub-populations/
 20 sub-groups that may be relevant in the GBA Plus analysis.

21 Within the LAA, men generally account for the largest proportion of the employed labour force in most
 22 occupations likely to provide the majority of goods, services, and labour to the Project (NOC 0, 2, 7, and 9;
 23 see Section 7.10.4.2.4). Men also account for the greatest proportion of the population with an
 24 apprenticeship or trades certificate or diploma (see Section 7.10.4.2.3), education required for
 25 occupations with the most demand during all Project phases (i.e., those within NOC 7 and 9;
 26 see Section 7.10.4.2.4.3).

27 Average employment income (both mean and median) earned by men is greater than that earned by
 28 women within the LAA and is greater among the non-Indigenous population than the
 29 Indigenous population. In terms of low-income status, the prevalence of households falling below the
 30 low-income threshold in the LAA is greater than the provincial average; however, fewer households fall
 31 below the income cut-off threshold.

1 Disaggregated labour force information is not available for population subgroups, including youth,
2 ‘older adults’, visible minorities, or for persons or household falling below low-income thresholds.

3 **7.10.5 Selection of Potential Effects and Indicators/Measurable Parameters**

4 The potential effects of the Project on Employment and Economy identified in Table 7.10–22 were
5 established in the AIR. For each effect, pathways and indicators/measurable parameters have been
6 identified to facilitate the quantitative or qualitative measurement of change in Project-specific and
7 cumulative effects potentially caused by the Project.

8 Where possible, the assessment of potential effects on Employment and Economy used measurable
9 indicators, such as estimated direct, indirect, and induced economic impacts. Effects that could not be
10 predicted quantitatively are assessed qualitatively using characterization criteria and supported by
11 descriptive evidence based on primary and secondary research.

Table 7.10–22 – Potential Effects, Effects Pathways and Indicators/Measurable Parameters for Employment and Economy

Potential Effect	Effect Pathway	Indicator and/or Measurable Parameter(s) and Units of Measurement
Change in regional employment	<ul style="list-style-type: none"> ▪ Project demand for labour has the potential to result in positive effects on regional employment. Effects may not be equitably distributed across subpopulations. Positive effects result from increased local employment and income during construction, operation, and decommissioning. 	<ul style="list-style-type: none"> ▪ Qualified labour supply, participation and unemployment rates, household and individual income, estimates of direct, indirect and induced employment with reference to affected industries and occupations where applicable. ▪ Identification and information on sub-populations that may experience disproportionate effects.
Change in regional business	<ul style="list-style-type: none"> ▪ Project expenditures on materials, equipment and services have the potential to result in positive and adverse effects on regional business. ▪ Positive effects include increased business revenue, which can support capital investment and hiring, thereby increasing capabilities and capacity among local businesses. Spending of income by direct and indirect workers contributes to positive effects on local businesses, primarily within the service sector, resulting in induced employment effects. 	<ul style="list-style-type: none"> ▪ Value of local and regional spending, existing wage levels, estimates of direct, indirect and induced labour income.

Table 7.10–22 – Potential Effects, Effects Pathways and Indicators/Measurable Parameters for Employment and Economy

Potential Effect	Effect Pathway	Indicator and/or Measurable Parameter(s) and Units of Measurement
	<ul style="list-style-type: none"> ▪ Adverse effects relate to Project contributions to labour drawdown (i.e., workers leave current employers to secure employment with the Project due to wage differentials or a desire to work on the Project) and wage inflation (i.e., to attract and retain workers local employers may need to increase compensation paid to workers, contributing to local inflation). 	
Change in regional economy	<ul style="list-style-type: none"> ▪ Project expenditures on materials, equipment and services have the potential to result in positive and adverse effects on regional business. ▪ Project expenditures on labour, materials, equipment and services will result in increased economic activity (e.g., contributing to gross domestic product [GDP] in the LAA, BC and beyond). ▪ During operation, the Project will pay income and property taxes to various governments contributing to the local, regional and provincial tax bases. ▪ The Project has the potential to contribute to an increased cost of living in the LAA. ▪ Economic activity and increased demand for labour has the potential to drive up wages and increase business costs. ▪ Increased business costs could result in the need for businesses to raise prices ▪ Large differentials between existing employment income and estimated Project workforce wages could result in upward pressure on wages in the LAA, increasing labour costs and potentially driving up prices of local goods and services. ▪ Should the Project rely heavily on a non-local workforce, in-migrating workers could increase demand for housing and accommodations contributing to upward pressure on the price of housing and accommodations. 	<ul style="list-style-type: none"> ▪ Federal, provincial, and Nisga’a Lisims Government tax and gross domestic product contributions. ▪ Cost-of-living.

1 **7.10.6 Project Employment and Economy Interactions**

2 Table 6.4-1, Section 6.4, identifies the potential interactions between the Project’s components and
3 physical activities with Employment and Economy. These interactions are consistent with Table 6.4-1 of
4 the AIR. Table 7.10–23 lists the potential effects on Employment and Economy. Interactions that have
5 been identified (ranked as 1 or 2) are carried forward and assessed within this section. Each of the
6 effects identified are discussed in detail, in the context of effects pathways, mitigation/enhancement,
7 and residual effects.

Table 7.10–23 – Potential Project Interactions and Effects on Employment and Economy

Project Activities and Physical Works	Potential Project Effects		
	Change in regional employment	Change in regional business	Change in regional economy
Construction			
Procurement of labour, goods, and services	1/+	1/+	1/+
Site preparation and clearing	0	0	0
Construction of temporary and permanent land-based infrastructure (includes transmission line within the TLAA, if applicable)	0	0	0
Construction of temporary and permanent marine-based infrastructure (includes transmission line within the TLAA, if applicable)	0	0	0
Marine transport of workforce, and construction materials to the Site	0	0	0
Land transportation of workforce and construction materials from Terrace to Gingolx or Prince Rupert (for marine transport to Site)	0	0	0
Waste management	0	0	0
Operation			
Procurement of labour, goods, and services	1/+	1/+	1/+
Natural gas pre-treatment, liquefaction, storage and offloading of LNG and NGL products (condensate) at the FLNG barges (includes storage of NGL)	0	0	0
LNG carrier and NGL product carrier loading	0	0	0
Marine shipping and transportation (includes tugs) from Prince Rupert and/or Gingolx to Site	0	0	0
Land transportation of workforce to Gingolx (for marine transport to Site)	0	0	0
Facility and infrastructure maintenance (includes transmission line within the TLAA, if applicable)	0	0	0
Waste management	0	0	0
Temporary on-Site power generation on barges	0	0	0

Table 7.10–23 – Potential Project Interactions and Effects on Employment and Economy

Project Activities and Physical Works	Potential Project Effects		
	Change in regional employment	Change in regional business	Change in regional economy
Decommissioning			
Procurement of labour, goods and services	1/+	1/+	1/+
Decommissioning or re-purposing of land-based infrastructure (includes transmission line within the TLAA, if applicable)	0	0	0
Decommissioning of marine-based infrastructure (includes transmission line within the TLAA, if applicable)	0	0	0
Land transportation of workforce to Gingolx (for marine transport to Site)	0	0	0
Marine transport of decommissioned infrastructure	0	0	0
Waste management	0	0	0
Key:			
0 = Negligible or no effect expected; no further consideration warranted.			
1 = Potential adverse effect that warrants consideration, and requires mitigation through current legal or policy management, best management practice(s) and/or Project-specific mitigation.			
2 = Potential adverse effect of particular importance or concern that warrants further detailed assessment			
+ = Potential positive effect that can be enhanced; warrants further consideration.			

1
2 Because every Project component and physical activity will involve the procurement of labour, goods and
3 services, Project interactions with change in regional employment, business and economy are considered
4 in the overall context of Project construction, operation, and decommissioning phases; is not practical or
5 appropriate to assess in isolation the effects of components or physical activities. For this reason, and
6 based on input provided by Indigenous nations, regulators, community members and current
7 understanding of the conceptual Project design, all interactions have been ranked 1/+ (i.e., ‘potential
8 adverse effect that warrants consideration, and requires mitigation through current legal or policy
9 management, best management practice(s) and/or Project-specific mitigation’ and/or ‘potential positive
10 effect that can be enhanced and warrants further consideration’).

11 **7.10.7 Project Interactions on Sub-Populations for Gender Based Analysis Plus**

12 In the absence of mitigation, because Indigenous persons, visible minorities and women are
13 underrepresented in sectors and occupations likely to be required for Project construction and operation
14 it is possible that benefits of the Project, in terms of employment and income, could be inequitably
15 realized by these sub-populations/sub-groups. In the absence of targeted mitigation and enhancement
16 measures youth could be encouraged to drop out of school early to seek employment with the Project
17 and both youth (with secondary education or equivalent) and ‘older adults’ could experience difficulty

1 securing employment, as noted through key informant interviews. Given existing Indigenous-run
2 businesses in the LAA and their likely capacity to accommodate service and supply contracts for industrial
3 construction projects, it is also possible that Indigenous-run business may experience disparate benefits
4 from Project spending and procurement. Indigenous persons, women and Indigenous-run business would
5 likely benefit from policies or programs that encourage and facilitate inclusion and diversity within the
6 workforce and within the Project's supply chain. Increases in the cost-of-living in the LAA could
7 disproportionately affect individuals and families that fall within low-income brackets who would be more
8 likely to experience the greatest economic hardship from such changes.

9 **7.10.8 Assessment Methods**

10 **7.10.8.1 Analytical Assessment Techniques**

11 Economic impacts (i.e., labour income, employment, GDP, and taxes on products and production) of
12 Project construction, operation, and decommissioning were estimated at the provincial level using
13 Statistics Canada's 2018 detail level provincial input-output multipliers (derived from its Interprovincial
14 Input-Output Model [IPIOM]). The IPIOM does not provide estimates of personal income taxes; therefore,
15 no multipliers are available. Personal income taxes were estimated by applying federal and provincial
16 effective tax rates, based on income bracket and province, to modelled (from multipliers) labour income
17 (per Person-year [PY] of employment) adjusted to represent personal income. Estimates of annual
18 corporate income tax are not provided. Modelled direct impacts of labour and labour income stemming
19 from turnarounds were not estimated.

20 Known limitations in the use of input-output modelling (e.g., fixed technical production coefficients,
21 lack of inflation and interest variables [BC EAO 2020]) and the approach used to estimate personal income
22 taxes have been accounted for in the overall prediction confidence of the assessment
23 (see Section 7.10.9.5). Because Statistics Canada does not provide regional or local multipliers, economic
24 impacts in the LAA were estimated using multipliers derived from a custom input-output model developed
25 by regionalizing (through the use of location quotients - see Section 7.10.4.2.5) Statistics Canada's 2018
26 provincial (BC; 'summary level' aggregation) direct requirements matrix. Due to data limitations,
27 provincial level data was used to inform employment, labour, and GDP coefficients. Known limitations
28 (e.g., lack of cross handling of industry inputs/outputs and assumptions that regional technical production
29 coefficients are the same as provincial coefficients) in this approach to estimating regional impacts have
30 been accounted for in the overall prediction confidence of the assessment (see Section 7.10.9.5).

31 Economic impacts are described in terms of direct, indirect, and induced effects, where:

- 32 • Direct effects result from labour, materials, and services demand from the Proponents and its
33 contractors during Project construction (e.g., construction labour, project management)
- 34 • Indirect effects result from contractor expenditures on goods and services (e.g., employment with
35 suppliers/manufacturers of materials used during construction)
- 36 • Induced effects result from spending by direct and indirect workers on consumer goods and
37 services (e.g., restaurant servers, retail positions)

1 Outside of results from the SERC Survey of Nisga’a citizens, the availability of the LAA labour force to
2 respond to and meet the skills and experience requirements of Project-related labour demand is generally
3 unknown. To estimate the potential available labour force the general unemployment rate for the
4 North Coast and Nechako Economic Region (which as of July 2022, was 4.6%) was applied to LAA
5 occupational employment at the Broad Occupational Classification level for NOCs 0, 1, 2, 6, 7 and 9.
6 Because unemployment rates are likely to vary by occupation, this is considered an approximation of the
7 available labour force. The available labour force was then compared to the estimated labour demand by
8 the Project (also at the Broad Occupational Classification level) determined by applying construction,
9 operation and turnaround (scheduled shutdown of the facility to perform routine maintenance)
10 workforce estimates to industry average workforce composition estimates.

11 7.10.8.1.1 Cost Estimate Assumptions

12 Project spending estimates by location (‘LAA’, ‘Other BC’, ‘Other Canada’, and ‘Foreign’) are based on 2022
13 Canadian dollars. Based on spending profiles observed from other regional projects (e.g., LNG Canada) it
14 was estimated that for decommissioning, 75% of expenditures could occur in LAA communities and 25%
15 in other parts of BC.

16 The economic impact assessment considers only those expenditures that will likely occur in Canada
17 because economic impacts of overseas expenditures will occur outside of Canada. For example, because
18 the floating liquefied natural gas production, storage and offloading facility (**FLNG**) will be constructed
19 offshore, the economic impact of the expenditure on the FLNGs is excluded from the analysis. For capital
20 cost expenditures during construction, two scenarios are considered:

- 21 • Base Case Capital Cost Scenario 1: connection to the BC Hydro grid is available prior to the start
22 of commercial operation
- 23 • Power Barge Capital Cost Scenario 2: temporary power barges are required to provide electrical
24 power for operation until the BC Hydro grid is established

25 Similarly, for operation, two cost scenarios have been modelled:

- 26 • Base Case Operation Cost Scenario 1: connection to the BC Hydro grid is available for the start of
27 commercial operation
- 28 • Operation Cost Scenario 2: temporary power barges are required to provide electrical power for
29 the start of commercial operation until the BC Hydro grid is established

30 For operation, cost estimates exclude the cost of natural gas.

31 7.10.8.1.1.1 Capital Cost Estimate

32 The Base Case capital cost to construct the Project is \$9.9 billion. Should power barges be required, the
33 estimated capital cost is \$11.8 billion. The construction cost estimate is based upon preliminary cost
34 estimates provided by engineering contractors involved in the early design of the Project.

1 *Annual Operation Cost Estimate*

2 The Base Case Annual operation costs are estimated at \$677 million. Under the power barge scenario, the
3 estimated annual operation cost is \$3324 million. Annual operation cost estimates are based on other
4 LNG facility studies (OIES, 2018), plus the cost of electricity from the BC Hydro and Power Authority
5 **(BC Hydro)** electrical grid.

6 *Decommissioning Cost Estimate*

7 Decommissioning costs at the end of the facility life are estimated to be \$415 to \$450 million or
8 approximately 5% of estimated construction capital costs, in line with industry norms. The Project
9 anticipates decommissioning costs to be at the lower range as the FLNG barges are towed away for
10 refurbishment and redeployment, leaving minimal domestic decommissioning or land restoration
11 required. It is anticipated that 75% of decommissioning costs will occur in the LAA with the remaining 25%
12 occurring in other parts of BC.

13 **7.10.8.2 Residual Effects Characterization**

14 Table 7.10–24 presents definitions and criteria that are used to characterize the adverse residual effects
15 on Employment and Economy.

Table 7.10–24 – Characterization of Residual Effects

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories
Magnitude	The amount of change in measurable parameters or the VC relative to existing conditions.	<p>No Measurable Change – no measurable change in the residual effect can be noted.</p> <p>Low – a measurable change but residual effects cannot be distinguished from existing conditions within a normal range of variability (based on existing conditions).</p> <p>Moderate – a measurable change where residual effects approach but do not exceed a normal range of variability (based on existing conditions).</p> <p>High – a measurable change where residual effects exceed a normal range of variability (based on existing conditions).</p>
Geographic Extent	The geographic area in which a residual effect occurs.	<p>Project footprint – residual effects are restricted to the Project footprint.</p> <p>LAA – residual effects extend into the LAA.</p> <p>RAA – residual effects extend into the RAA.</p>
Timing	Considers when the residual effect is expected to occur. Timing considerations are noted in the evaluation of the residual effect, where applicable or relevant.	<p>Not Applicable – seasonal aspects are unlikely to affect residual effects on employment and economy.</p> <p>Applicable – seasonal aspects may affect residual effect on employment and economy.</p>

Table 7.10–24 – Characterization of Residual Effects

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories																					
Duration	The time required until the measurable parameter or the VC returns to its existing condition, or the residual effect can no longer be measured or otherwise perceived.	<p>Short-term – the residual effect is restricted to no more than the duration of the construction phase (three to four years) or the duration of the decommissioning phase.</p> <p>Medium-term – the residual effect extends through the life of the Project.</p> <p>Long-term – the residual effect extends beyond the life of the Project.</p>																					
Reversibility	Pertains to whether a measurable parameter or the VC can return to its existing condition after the Project activity ceases.	<p>Reversible – the residual effect is likely to be reversed after activity completion and reclamation.</p> <p>Partially reversible – the residual effect can be partially reversed.</p> <p>Irreversible – the residual effect is unlikely to be reversed.</p>																					
Frequency	How often the residual effect occurs and how often during the Project or in a specific phase.	<p>Single event - effect occurs once.</p> <p>Multiple irregular event – occurs at no set schedule.</p> <p>Multiple regular event – occurs at regular intervals.</p> <p>Continuous – occurs continuously.</p>																					
Potential for Disproportionate effects	Potential for disproportionate positive or adverse effects to sub-populations/sub-groups.	<p>Low – low potential that sub-populations/sub-groups would experience disproportionate effects.</p> <p>High – high potential that sub-populations/sub-groups would experience disproportionate effects.</p>																					
Risk (likelihood and consequences)		<p>Consequences: are assessed as minor, moderate or major based primarily on a combination of Magnitude and Geographic Extent as:</p> <table border="1" data-bbox="771 1213 1414 1738"> <thead> <tr> <th colspan="2" data-bbox="771 1213 1062 1434"></th> <th colspan="2" data-bbox="1062 1213 1414 1255">Geographic Extent*</th> </tr> <tr> <th colspan="2" data-bbox="771 1434 1062 1738"></th> <th data-bbox="1062 1262 1230 1434">Project Footprint or LAA (if different from RAA)</th> <th data-bbox="1230 1262 1414 1434">RAA and/or OWAA</th> </tr> </thead> <tbody> <tr> <td data-bbox="771 1434 846 1738" rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">Magnitude</td> <td data-bbox="846 1434 1062 1507">No Measurable Change</td> <td data-bbox="1062 1434 1230 1507">Minor</td> <td data-bbox="1230 1434 1414 1507">Minor</td> </tr> <tr> <td data-bbox="846 1507 1062 1581">Low</td> <td data-bbox="1062 1507 1230 1581">Minor</td> <td data-bbox="1230 1507 1414 1581">Minor or Moderate</td> </tr> <tr> <td data-bbox="846 1581 1062 1654">Moderate</td> <td data-bbox="1062 1581 1230 1654">Minor or Moderate</td> <td data-bbox="1230 1581 1414 1654">Moderate</td> </tr> <tr> <td data-bbox="846 1654 1062 1738">High</td> <td data-bbox="1062 1654 1230 1738">Moderate or Major</td> <td data-bbox="1230 1654 1414 1738">Major</td> </tr> </tbody> </table> <p data-bbox="771 1745 1414 1877">*Where relevant, Duration is also taken into consideration (e.g., a high Magnitude event within the LAA may be Moderate or Major in Consequence and Duration could be considered)</p>			Geographic Extent*				Project Footprint or LAA (if different from RAA)	RAA and/or OWAA	Magnitude	No Measurable Change	Minor	Minor	Low	Minor	Minor or Moderate	Moderate	Minor or Moderate	Moderate	High	Moderate or Major	Major
		Geographic Extent*																					
		Project Footprint or LAA (if different from RAA)	RAA and/or OWAA																				
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	High	Moderate or Major	Major																				

Table 7.10–24 – Characterization of Residual Effects

Characterization	Description	Quantitative Measure or Definition of Qualitative Categories																							
		<p>Likelihood: as defined in the Risk table below</p> <p>Risk:</p> <p>Low: Low risk/uncertainty of effect prediction</p> <p>Moderate: Moderate risk/uncertainty of impact prediction</p> <p>High: High risk/uncertainty of impact prediction</p> <table border="1" data-bbox="769 520 1412 835"> <thead> <tr> <th colspan="2" data-bbox="769 520 1036 567"></th> <th colspan="3" data-bbox="1036 520 1412 567">Consequence</th> </tr> <tr> <th colspan="2" data-bbox="769 567 1036 613"></th> <th data-bbox="1036 567 1179 613">Major</th> <th data-bbox="1179 567 1315 613">Moderate</th> <th data-bbox="1315 567 1412 613">Minor</th> </tr> </thead> <tbody> <tr> <th data-bbox="769 613 841 835" rowspan="3">Likelihood</th> <td data-bbox="841 613 1036 684">High (>80% chance)</td> <td data-bbox="1036 613 1179 684">High</td> <td data-bbox="1179 613 1315 684">Moderate</td> <td data-bbox="1315 613 1412 684">Low</td> </tr> <tr> <td data-bbox="841 684 1036 756">Medium (40-80% chance)</td> <td data-bbox="1036 684 1179 756">High</td> <td data-bbox="1179 684 1315 756">Moderate</td> <td data-bbox="1315 684 1412 756">Low</td> </tr> <tr> <td data-bbox="841 756 1036 835">Low (<40% chance)</td> <td data-bbox="1036 756 1179 835">Moderate</td> <td data-bbox="1179 756 1315 835">Low</td> <td data-bbox="1315 756 1412 835">Low</td> </tr> </tbody> </table>			Consequence					Major	Moderate	Minor	Likelihood	High (>80% chance)	High	Moderate	Low	Medium (40-80% chance)	High	Moderate	Low	Low (<40% chance)	Moderate	Low	Low
		Consequence																							
		Major	Moderate	Minor																					
Likelihood	High (>80% chance)	High	Moderate	Low																					
	Medium (40-80% chance)	High	Moderate	Low																					
	Low (<40% chance)	Moderate	Low	Low																					
Uncertainty	The degree of uncertainty as assessed for the data and methods including potential effectiveness of mitigation that have been used in the assessment of effects.	<p>Low – good understanding of the pathway to effect(s) on the VC due to the Project activities and/or physical works and sufficient data is available to support the assessment. Uncertainty associated with data and/or modelling is low. The effectiveness of the selected mitigation is expected to be moderate to high. Overall, uncertainty in the predicted residual effect is low.</p> <p>Moderate – potential uncertainty associated with the pathway to effect(s) on the VC due to the Project activities and/or physical works, e.g., due to unknown external variables or incomplete data. Potential for uncertainty associated with data and/or modelling. The effectiveness of mitigation is expected to be moderate to low. Uncertainty in the predicted residual effect is considered moderate.</p> <p>High – higher uncertainty of the pathway to effect(s) on the VC due to the Project activities and/or physical works. May be unknown external variables and/or data for the Project is incomplete. Modelling results may vary considerably with inputs. The effectiveness of the mitigation may be expected to be low or is unproven. Overall there is a high degree of uncertainty associated with the predicted residual effect.</p>																							

1 **7.10.9 Assessment of Residual Effects**

2 **7.10.9.1 Assessment of Change in Regional Employment**

3 7.10.9.1.1 Project Pathways

4 Project demand for labour can result in positive effects on regional employment. Positive effects
5 stemming from Project demand for labour included increased local employment and income during
6 construction, operation, and decommissioning. Based on existing labour force conditions positive effects
7 may not be equitably distributed across subpopulations.

8 7.10.9.1.2 Mitigation and Enhancement Measures

9 Table 7.10–25 provides a summary of mitigation and enhancement measures for change in regional
10 employment during construction, operation, and decommissioning. Mitigation and enhancement
11 measures were selected based on provincial and federal regulations and policies, on management
12 practices and guidelines, and relevant peer-reviewed literature.

13

Table 7.10–25 – Mitigation and Enhancement Measures Proposed for Change in Regional Employment

Mitigation/Mitigation Mechanism	Rationale for Selection	Expected Success/Risks and Uncertainty	Timing	Management and/or Compensation Plans
<p>Enhancement Measure 7.10-1: Develop and implement workforce strategies to use a BC or Canadian resident construction workforce in the building of those components of the Project constructed/assembled in Canada.</p> <p>Mechanism: Increase local content and enhance positive effects of the Project on local communities.</p>	<p>The use and effectiveness of local content strategies targeted at increasing local participation and procurement as well as other benefits is well understood and practical (see the World Bank’s Study – Local Content Policies in the Oil and Gas Sector [Tordo et al. 2013]) and aligns with The Global Oil and Gas Industry Association of Environmental and Social Issues (IPIECA) guidance document Social Responsibility - Local Content Strategy (2011). The measure also aligns with recommendations for employment and training enhancement measures identified in the document “Mitigation and Enhancement Measures for Health, Social & Economic Effects. Prepared for the Impact Assessment Agency of Canada” (Asia Pacific Foundation for Climate and Health. (2023)).</p>	<p>Expected Success: There is a moderate to high likelihood that this enhancement measure will be effective. The Proponents and its contractor(s) have control over the purchase of many goods and services (within reason and as influenced by the availability of goods/established supply chains, practicality and cost-effectiveness) as evidenced through local content reporting from LNG Canada (LNG Canada 2022a, 2022b) and Coastal GasLink (Coastal GasLink 2022). With respect to labour, due to the short duration of construction activities, the Proponents can only inform local populations of job opportunities and required skill sets and educational attainment required for Project-related work. Should individuals choose not to work for the Project or have insufficient skills or education, the ability of the Project to employ local workers is lowered. Therefore, there is a moderate degree of likelihood that the enhancement will be effective at increasing local participation with the Project.</p>	<p>Project Phase: All phases</p> <p>Effectiveness: Effective over the short to long term once implemented.</p>	<p>N/A</p>

Table 7.10–25 – Mitigation and Enhancement Measures Proposed for Change in Regional Employment

Mitigation/Mitigation Mechanism	Rationale for Selection	Expected Success/Risks and Uncertainty	Timing	Management and/or Compensation Plans
		<p>Risk and Uncertainty:</p> <p>There is moderate uncertainty over the success of this enhancement, because it does not guarantee that local and regional workers/firms will be willing to compete for or be successful in obtaining Project-related employment/contracts.</p>		
<p>Enhancement Measure 7.10-2: Develop and maintain a database of Nisga'a businesses and contractors as well as other Indigenous, local and regional businesses and contractors. Use the database to inform businesses and contractors of procurement opportunities.</p> <p>Mechanism: Increase local content and enhance positive effects of the Project on local communities.</p>	<p>The use and effectiveness of local content strategies targeted at increasing local participation and procurement as well as other benefits is well understood and practical (see the World Bank’s Study – Local Content Policies in the Oil and Gas Sector [Tordo et al. 2013]) and aligns with The Global Oil and Gas Industry Association of Environmental and Social Issues (IPIECA) guidance document Social Responsibility - Local Content Strategy (2011). The measure also aligns with recommendations for employment and training enhancement measures identified in the document “Mitigation and Enhancement Measures for Health, Social & Economic Effects. Prepared for the Impact Assessment Agency of Canada” (Asia Pacific Foundation for Climate and Health. (2023)).</p>	<p>Expected Success:</p> <p>There is a moderate to high likelihood that this enhancement measure will be effective. The Proponents and its contractor(s) have control over the purchase of many goods and services (within reason and as influenced by practicality and cost-effectiveness). Therefore, there is a high likelihood that the enhancement will be effective at increasing local procurement. With respect to labour, due to the short duration of construction activities the Proponents can only inform local populations of job opportunities and required skill sets and educational attainment required for Project-related work. Should individuals choose not to work for the Project or have insufficient skills or education, the ability of the Project to employ local workers is lowered. Therefore, there is a moderate degree of</p>	<p>Project Phase: All phases</p> <p>Effectiveness: Effective over the short to long term once implemented.</p>	<p>N/A</p>

Table 7.10–25 – Mitigation and Enhancement Measures Proposed for Change in Regional Employment

Mitigation/Mitigation Mechanism	Rationale for Selection	Expected Success/Risks and Uncertainty	Timing	Management and/or Compensation Plans
		<p>likelihood that the enhancement will be effective at increasing local participation with the Project.</p> <p>Risk and Uncertainty: There is moderate uncertainty over the success of this enhancement, because it does not guarantee that local and regional workers/firms will be willing to compete for or be successful in obtaining Project-related employment/contracts.</p>		
<p>Enhancement Measure 7.10-3: Work with government agencies, educational institutions and contractors to implement on-the-job training and apprenticeship programs.</p> <p>Mechanism: Enhance local benefits by providing necessary occupational training to under-skilled, underexperienced, and underrepresented workers.</p>	<p>Insufficient education is a recognized barrier to securing employment among certain subpopulations in the LAA. This enhancement measure will enhance local employment and facilitate the upskilling of workers otherwise qualified for Project work. The measure also aligns with recommendations for employment and training enhancement measures identified in the document “Mitigation and Enhancement Measures for Health, Social & Economic Effects. Prepared for the Impact Assessment Agency of Canada” (Asia Pacific Foundation for Climate and Health. (2023)).</p>	<p>Expected Success: There is a moderate degree of likelihood that the enhancement measure will be effective because success will partially depend on the extent to which target populations choose to engage and seek employment with the Project.</p> <p>Risk and Uncertainty: There is low risk because the enhancement measures are well understood and easy to implement.</p>	<p>Project Phase: All phases</p> <p>Effectiveness: Effective over the short to long term once implemented.</p>	<p>N/A</p>

Table 7.10–25 – Mitigation and Enhancement Measures Proposed for Change in Regional Employment

Mitigation/Mitigation Mechanism	Rationale for Selection	Expected Success/Risks and Uncertainty	Timing	Management and/or Compensation Plans
<p>Mitigation Measure 7.10-4: Encourage high school completion among Indigenous and other local residents.</p> <p>Mechanism: Promote high school completion with Indigenous and other community partners by helping to create incentives, supports and alternate pathways for Indigenous youth and others to complete high school.</p>	<p>Incompletion of high school and insufficient education is a recognized barrier to securing employment among certain subpopulations in the LAA. This mitigation measure will encourage young people to complete their education.</p>	<p>Expected Success: There is a moderate degree of likelihood that the mitigation measure will be effective as success is largely dependent on the extent to which local residents choose to participate in Project-sponsored incentives, supports and alternative pathways to high school completion</p> <p>Risk and Uncertainty: There is moderate uncertainty over the success of this mitigation measure because it does not guarantee that local residents will choose to complete high school as opposed to seeking employment with the Project.</p>	<p>Project Phase: All phases</p> <p>Effectiveness: Effective over the long term once implemented.</p>	<p>N/A</p>

Table 7.10–25 – Mitigation and Enhancement Measures Proposed for Change in Regional Employment

Mitigation/Mitigation Mechanism	Rationale for Selection	Expected Success/Risks and Uncertainty	Timing	Management and/or Compensation Plans
<p>Enhancement Measure 7.10-5: Identify potential shortages of workers with specific skill requirements and training and work with local and regional training and education facilities and communities to increase opportunities for Indigenous and local community members to obtain training.</p> <p>Mechanism: Enhance local benefits by working with stakeholders to understand and address gaps in skills and training needed to gain employment with the Project</p>	<p>Best management practice for working with local communities and educational institutions to enhance the capacity of a local workforce. The measure also aligns with recommendations for employment and training enhancement measures identified in the document “Mitigation and Enhancement Measures for Health, Social & Economic Effects. Prepared for the Impact Assessment Agency of Canada” (Asia Pacific Foundation for Climate and Health. (2023)).</p>	<p>Expected Success: There is a moderate to high likelihood that this enhancement measure will be effective because it will increase the number of Indigenous community members and local residents with the skills needed to obtain employment on the Project.</p> <p>Risk and Uncertainty: There is moderate uncertainty over the success of this enhancement measure because success will depend on cooperation and capacity of training and education facilities, as well as willingness of individuals to complete training programs</p>	<p>Project Phase: All phases</p> <p>Effectiveness: Effective over the short to long term once implemented.</p>	<p>N/A</p>
<p>Enhancement Measure 7.10-6: Develop and implement gender equity and diversity policies that focuses on hiring Nisga’a Nation members, local and Indigenous persons, and women to increase Project employment among underrepresented populations.</p> <p>Mechanism: Enhance local benefits among underrepresented populations by specifically targeting select populations and working to reduce employment barriers.</p>	<p>Increase benefits of the Project among Nisga’a Nation, other Indigenous nations, and among underrepresented groups in the oil and gas industry. The measure also aligns with recommendations for employment and training enhancement measures identified in the document “Mitigation and Enhancement Measures for Health, Social & Economic Effects. Prepared for the Impact Assessment Agency of Canada” (Asia Pacific Foundation for Climate and Health. (2023)).</p>	<p>Expected Success: There is a moderate degree of likelihood that the enhancement measure will be effective because success will partially depend on the extent to which target populations choose to engage and seek employment with the Project.</p> <p>Risk and Uncertainty: There is low risk because the enhancement measures are well understood and easy to implement.</p>	<p>Project Phase: All phases</p> <p>Effectiveness: Effective over the short to long term once implemented.</p>	<p>N/A</p>

Table 7.10–25 – Mitigation and Enhancement Measures Proposed for Change in Regional Employment

Mitigation/Mitigation Mechanism	Rationale for Selection	Expected Success/Risks and Uncertainty	Timing	Management and/or Compensation Plans
<p>Enhancement Measure 7.10-7: Develop and implement procurement and contracting strategies to facilitate economic participation by local, regional, BC, and Canadian suppliers, contractors, and service providers.</p> <p>Mitigation Mechanism: Increase local content and enhance positive effects of the Project on local communities.</p>	<p>The use and effectiveness of local content strategies targeted at increasing local participation and procurement as well as other benefits is well understood and practical (see the World Bank’s Study – Local Content Policies in the Oil and Gas Sector 2013) and aligns with The Global Oil and Gas Industry Association of Environmental and Social Issues guidance document Social Responsibility – Local Content Strategy (2011). The measure also aligns with recommendations for employment and training enhancement measures identified in the document “Mitigation and Enhancement Measures for Health, Social & Economic Effects. Prepared for the Impact Assessment Agency of Canada” (Asia Pacific Foundation for Climate and Health. (2023)).</p>	<p>Expected Success: There is a moderate to high likelihood that this enhancement measure will be effective. The Proponents and its contractor(s) has/have control over the purchase of many goods and services (within reason and as influenced by practicality and cost-effectiveness). Therefore, there is a high likelihood that the enhancement measure will be effective at increasing local procurement.</p> <p>Risk and Uncertainty: There is moderate uncertainty over the success of this enhancement measure, because it does not guarantee that local and regional firms will be willing to compete for, or be successful in obtaining, Project-related contracts.</p>	<p>Project Phase: All phases</p> <p>Effectiveness: Effective over the short- to long-term once implemented.</p>	<p>N/A</p>

1 7.10.9.1.3 Gender Based Analysis Plus Considerations for Impact Management

2 Visible minorities, Indigenous persons, and women experience lower income levels, on average, than
3 non--Indigenous men and are underrepresented in sectors and occupations likely to be required for
4 Project construction and operation. The equitability of Project benefits will be increased by implementing
5 gender equity and diversity policies and by identifying potential shortages of workers with specific skill
6 requirements and training and working with local and regional training and education facilities and
7 communities to increase opportunities for Indigenous and local community members to obtain training
8 required for Project participation. ‘Older adults’ are also expected to benefit from the implementation of
9 gender equity and diversity policies. The Project would thereby aid in diversifying the local employment
10 base, decrease unemployment, and increase job security for LAA residents.

11 Because insufficient education and experience is a recognized barrier to securing employment among
12 certain subpopulations (e.g., youth, women, visible minorities) in the LAA, on-the-job training is proposed
13 as an enhancement measure. To mitigate the likelihood that youth drop out of secondary school with the
14 aim of securing Project employment, workers (not inclusive of summer students) 18 years and younger
15 will be required to have completed high school or have an appropriate equivalency to work on the Project.
16 Not only will this measure enhance local employment, but it will facilitate the upskilling of workers
17 otherwise qualified for Project work.

18 7.10.9.1.4 Project Residual Effect

19 *7.10.9.1.4.1 Economic Impact and Workforce Size*

20 Estimated direct impacts on labour, in full-time equivalents (FTEs), and associated labour income from
21 construction (overall) and operation (annual) of the Project at the LAA, BC, and Canada--wide level for
22 both scenarios (utility powered and power barges) are provided in Table 7.10–26. Direct impacts on jobs
23 and labour income from decommissioning are presented in 7.10-54. For decommissioning, no
24 expenditures are anticipated to occur outside BC. Modelled direct impacts of labour and labour income
25 stemming from turnarounds were not estimated (Section 7.10.8.1).

26 Depending on the electricity supply scenario, construction-phase expenditures are estimated to result
27 in 3,055-3,275 FTEs of direct employment in BC, generating \$366-\$393 million in labour income
28 (Table 7.10–26). Approximately 46% of BC employment and labour income impacts are estimated to occur
29 in the LAA resulting in 1,355-1,545 FTEs of direct employment and \$163-\$185 million in labour income.

30 Depending on electrification scenario, operation expenditures will create an estimated 465-945 FTEs of
31 direct labour and \$53-\$109 million in labour income annually in the BC (Table 7.10–26). Under the
32 temporary power barge scenario, 64% of domestic employment and labour income impacts are estimated
33 to occur in the LAA. Under the utility power scenario 28% of employment and labour income impacts are
34 estimated to occur in the LAA. Estimated annual direct employment in the LAA ranges from 265-295 FTEs
35 with \$30-\$34 million in labour income.

1 **Table 7.10–26 – Direct Employment (FTEs) and Labour Income (\$M) Estimates, Construction and**
 2 **Operation (annual) – LAA, British Columbia, and Canada**

Phase	Base Case			Power Barge		
	LAA	BC	Canada	LAA	BC	Canada
Jobs (FTEs)						
Construction	1,355	3,055	5,155	1,545	3,275	5,530
Operation (annual)	265	945	1,055	295	465	595
Labour Income (\$M)						
Construction	163	366	619	185	393	664
Operation (annual)	30	109	121	34	53	68

3
 4 For decommissioning, a total of 1,055 FTEs of direct labour with \$126 million in labour income are
 5 estimated in BC (see Table 7.10–27). Of this, approximately 50% of impacts or 525 FTEs and \$63 million in
 6 labour income is estimated to occur in the LAA.

7 **Table 7.10–27 – Direct Employment (FTEs) and Labour Income (\$M) Estimates, Decommissioning –**
 8 **LAA, and British Columbia**

Impact	LAA	BC
Employment (FTEs)	525	1,055
Labour Income (\$M)	63	126

9
 10 The Proponents estimate that an average direct workforce of 450 persons will be required (working 60- to
 11 70-hour weeks) over the three-to-four-year construction phase of the Project. The workforce is estimated
 12 to peak at 800 persons (during year two or three of construction) with the peak workforce anticipated to
 13 be sustained for approximately one year. Estimated workforce loading by construction phase is
 14 illustrated in Figure 7.10–6. Early estimates of the number of permanent operation workers are between
 15 150–250 persons at Site and 50-100 persons at other offices within BC. In addition to the regular
 16 operation workforce, a turnaround workforce of 75-150 persons is also anticipated to be required every
 17 three to five years to perform scheduled shutdown and maintenance work on the FLNG and supporting
 18 infrastructure. At the time of writing decommissioning workforce estimates were not available.

1 *7.10.9.1.4.2 Labour Force Availability*

2 Detailed information regarding the composition of the Project’s construction, turnaround and
3 decommissioning workforces by occupation is not available; however, comparable workforce
4 compositions (i.e., for the construction of an oil exporting marine terminal in BC and Canadian industry
5 averages for the operation of an LNG facility) are available through published reports (Trans Mountain
6 Expansion Project 2017, Energy Safety Canada’s Petroleum Labour Market Information [PetroLMI] 2016).
7 Estimates of the Project’s operational workforce by occupation is available. Table 7.10–28 provides a
8 summary of average workforce composition, by broad occupational classification (NOC), for the
9 construction of an oil exporting marine terminal in BC (used to represent Project construction workforce
10 composition) and for the operation of the Project. Publicly available information on the composition of
11 turnaround and decommissioning workforces at the same level of detail is unavailable; however, the
12 Proponent understands the composition of these workforces to be generally similar to that of construction
13 phase workforces.

14 Based on data presented in Table 7.10–28, occupations falling in NOC 7 “trades, transport and equipment
15 operators and related occupations” and NOC 2 “natural and applied sciences and related occupations”
16 account for the greatest proportion of occupations required to construct an oil export marine terminal at
17 69% and 14% of the workforce, respectively. In terms of operating the Project, occupations in NOC 6 “sales
18 and service” and NOC 9 “occupations in manufacturing and utilities” account for the greatest proportion
19 of the workforce (25.0% and 21.9%, respectively) followed by those in NOC 7 “trades, transport and
20 equipment operators and related occupations” (15.6%) and NOC 2 “natural and applied sciences and
21 related occupations” (12.5%).

Table 7.10–28 – Workforce composition, NOC Broad Occupational Classification and Unit Groups, Construction of an Oil/Gas Marine Terminal, and Operation of an LNG Facility

NOC Broad Occupational Classification	Construction – Oil/Gas Export Marine Terminal ¹		LNG Facility Operation	
	NOC Unit Groups (Name and Code)	Percent (%) of Workforce Composition	NOC Unit Groups (Name and Code)	Percent (%) of Workforce Composition
0: Management	Purchasing manager (0113), construction managers, superintendents and foreman (0711), facility operation and maintenance managers (0714)	8.8	Chief financial director, corporate risk manager (0013), president (0016), financial manager (0111), director human resources (0112), site materials manager, commercial & contracting manager, commercial lead (0113), environmental and permitting compliance manager, director HSE, security manager, general services manager, training manager (0114), manager government and public affairs (0131), technical services manager (0211), chief information officer, IT manager (0213), facility operation and maintenance managers/supervisors (0714), building maintenance manager (0911)	5.9
1: Business, finance and administration	Financial auditors and accountants (1111), administrative officers (1221), purchasing agent and officers (1225), administrative assistants (1241), general office support workers (1411), payroll clerks (1432), shippers and receivers (1521), purchasing and inventory control workers (1524)	4.8	Financial auditors and accountants (1111), financial analyst and controller (1112), public & stakeholder relations (1123), office manager, administration manager, general services manager, document control manager (1211), materials & logistics manager, inventory manager, project controls manager (1215), executive assistant (1222), communications manager, community engagement & sustainability coordinator, human resources assistant (1223) purchasing agent and officers, commercial assistant, contract administrator (1225), administrative assistants, maintenance clerk, human resources assistant (1241), document control specialist (1253), Receptionist (1414), accounts payables/receivables (1431), maintenance/turnaround planner, CMMS analyst, logistics coordinator, project controls, performance reporting lead (1523), materials management system coordinator, purchasing agent (1524)	15.1
2: Natural and applied sciences	Civil engineers (2131), mechanical engineers (2132), electrical and instrumentation engineers (2133), land surveyors (2154), instrumentation technicians (2243), drafting technologist and technician (2253), non-destructive testers and inspectors (2261), inspectors in public and environmental health and safety (2263), construction inspectors (2264), engineer officers/deck engineers (2274), project engineers (variety of engineering disciplines [213X])	14.0	Lab supervisor (2112), senior telecommunication & security system engineer (2131), lead mechanical/electrical/ rotating equipment engineers, mechanical engineers, senior rotating equipment engineer, fire & safety systems engineer, static equipment engineer, piping engineer, (2132), electrical/instrumentation/ telecommunications/ control systems engineers, lead instrumentation & control engineer (2133), chemical/ process/ reliability engineers, lead process/ process safety engineers (2134), site engineering manager, senior facility engineer, senior project engineer (2141), software systems engineer (2173), lab technician (2211), instrumentation technicians (2243), safety training coordinator, environmental inspector, safety specialist, emergency response coordinator (2263), IT support/manager, assistant IT manager (2281)	12.5
3: Health Occupations	-	-	Physician/PA (3112), EMT or nurse (3234)	0.9
4: Education, Law and Social, Community and Government Services	-	-	Legal counsel (4112), legal assistant (4211), firefighter/EMT (4312)	2.6
5: Art, Culture, Recreation and Sport	-	-	Fitness/wellness coordinator (5254)	0.5
6: Sales and service	Security guards and related security service occupations (6541)	0.9	Accommodation manager and assistant manager (6313), canteen/mess hall staff (6513), security supervisor/personnel, marine security personnel (6541), warehouse supervisor/personnel (6642), social coordinator, accommodation O&M staff, transportation and travel coordinator (6721), custodial staff (6733)	25.0
7: Trades, transport and equipment operators	Trade contractors and supervisors (7201, 7202, 7203, 7204, 7205), mechanics (7321), boilermaker (7234), iron workers (7236), welders and related machine operators (7237), industrial electricians and electricians (7241, 7242), steamfitters and pipefitters (7252), carpenters (7271), concrete finishers (7282), construction millwrights and industrial mechanics (except textile) (7311), heavy duty equipment mechanic (7312), crane operators and hoisting equipment, including riggers (7371), Truck drivers (7511), heavy equipment operators (except crane) (7521), Construction trades helpers and labourers (7611)	69.3	Maintenance supervisor (7202), maintenance-in-training, equipment technician, maintenance contractors (7205), electricians (7242), mechanic (7312)	15.6

Table 7.10–28 – Workforce composition, NOC Broad Occupational Classification and Unit Groups, Construction of an Oil/Gas Marine Terminal, and Operation of an LNG Facility

NOC Broad Occupational Classification	Construction – Oil/Gas Export Marine Terminal ¹		LNG Facility Operation	
	NOC Unit Groups (Name and Code)	Percent (%) of Workforce Composition	NOC Unit Groups (Name and Code)	Percent (%) of Workforce Composition
9: Occupations in manufacturing and utilities	Industrial painter (9536)	2.2	Shift superintendent, marine operations supervisor and assistant supervisor, hull systems operators/technicians, HSSE manager (9212), DCS and field operators, mooring systems operators/technicians, operators in training (LNG Facility), training coordinator, OTS training coordinator, skills training (9232)	21.9

¹ SOURCE: PetroLMI 2016, 2020; Trans Mountain Expansion Project (TMEP) 2017

1 Except for results from the SERC Survey of Nisga’a citizens, the availability of the LAA labour force to
2 respond to and meet the skills and experience requirements of Project-related labour demand is generally
3 unknown (see Section 11.0 Nisga’a Nation). To estimate the potential available labour force, the general
4 unemployment rate for the North Coast and Nechako Economic Region (4.6% as of July 2022) was applied
5 to LAA occupational employment at the broad occupational classification level for NOCs 0, 1, 2, 3, 4, 5, 6,
6 7 and 9⁴. The available labour force was then compared to estimated occupational demand determined
7 by applying construction, operation, and turnaround workforce estimates to workforce composition
8 estimates provided in Table 7.10–28. Results of this analysis are presented in Table 7.10–29. Given the
9 timing of decommissioning, a quantitative analysis of labour supply and demand for decommissioning has
10 not been completed.

11 Based on data presented in Table 7.10–29, the Project’s demand for construction labour is expected to
12 exceed available supply among NOC 2 ‘natural and applied science’ and 7 ‘trades, transport and
13 equipment operators’ occupations with tight supply among NOC 0 ‘management’ and 9 ‘manufacturing
14 and utilities’ occupations, at peak. During operation, the Project’s demand for labour is anticipated to
15 exceed available supply among NOC 9 ‘manufacturing and utilities’ occupations. A sufficient supply of
16 labour is anticipated for turnarounds.

Table 7.10–29 – Estimated LAA Labour Force Availability compared to Estimated Occupation Demand

NOC Broad Occupational Classification	Existing LAA Labour Force	Project Workforce				Estimated Available LAA Labour Force ⁵	Potential LAA Hire			
		Construction		Operation			Construction		Operation	
		Average ¹	Peak ²	Annual ³	Turnaround ⁴		Average	Peak	Annual	Turnaround
0: Management	1,765	40	75	14	13	80	40	75	14	13
1: Business, finance and administration	2,175	25	40	37	7	95	25	40	37	7
2: Natural and applied sciences	920	65	115	31	21	40	40	40	31	21
3: Health occupations	1,385	-	-	2	-	60	-	-	2	-
4: Education, law and social, community and government services	2,645	-	-	6	-	120	-	-	6	-
5: Art, culture, recreation and sport	360	-	-	1	-	15	-	-	1	-
6: Sales and service	4,500	5	10	62	1	200	5	10	62	1
7: Trades, transport and equipment operators	4,000	315	555	39	103	180	180	180	39	103

⁴ Because unemployment rates are likely to vary by occupation, this is considered an approximation of the available labour force.

Table 7.10–29 – Estimated LAA Labour Force Availability compared to Estimated Occupation Demand

NOC Broad Occupational Classification	Existing LAA Labour Force	Project Workforce				Estimated Available LAA Labour Force ⁵	Potential LAA Hire			
		Construction		Operation			Construction		Operation	
		Average ¹	Peak ²	Annual ³	Turnaround ⁴		Average	Peak	Annual	Turnaround
9: Manufacturing and utilities	580	10	20	54	3	25	10	20	25	3
Total ⁶	18,150	460	815	246	148	815	300	365	217	148

NOTES:

¹ Based on an average workforce of 450 persons.

² Based on a peak workforce of 800 persons.

³ Based on a workforce of 250 persons.

⁴ Based on a workforce of 150 persons.

⁵ Estimates are based on 2021 labour force employment data by broad occupational category and the July 2022 average unemployment rate for the North Coast and Nechako Economic Region (see Section 7.10.4.2.4.2).

⁶ Project workforce totals do not exactly match workforce estimates (average construction 450, peak construction 800, operation 250 and turnaround 150) due to rounding.

1

2 While the above analysis is limited in its ability to assess the availability of occupations at the 4-digit NOC,
3 or unit code level, and does not account for specific skillsets, training, or experience among occupations,
4 it is useful in illustrating that a percentage of the Project's direct workforce will need to be comprised of
5 non-local workers; in particular, specialized labour. Other factors, including contractor(s) use of preferred
6 labour and the degree to which workers choose to seek employment with the Project will also affect the
7 final composition of project workforces.

8 7.10.9.1.4.3 Characterization of Residual Effects

9 Direct impacts on employment (FTEs) and labour income resulting from Project expenditures during
10 construction, operation, and decommissioning are inherently beneficial to the LAA. Economic modelling
11 completed for the Project suggests that construction could result in 1,355-1,545 FTEs of direct
12 employment, depending on electrification scenario, in the LAA. During operation, 265-295 FTEs of annual
13 direct labour could occur in the LAA. Decommissioning could result in 525 FTEs of direct employment in
14 the LAA. Wages associated with Project employment are likely to be greater than average wages within
15 the LAA as average individual employment income in 2021 was \$53,247 versus modelled direct labour
16 income/FTE of approximately \$120,000 during construction, turnarounds and decommissioning and
17 \$115,000 during operation.

1 The extent to which modelled impacts result in new employment/income in the LAA relies on several
2 considerations including but not limited to the availability of adequately skilled and experienced workers,
3 their willingness to seek employment with the Project, and the extent to which contractors use preferred
4 labour from outside the region.

5 The Project's average construction workforce size is currently estimated at 450 persons with a peak
6 construction workforce of 800 persons. Early estimates of the number of permanent operation workers
7 are between 150 and 250 persons at Site and 50 to 100 persons at other offices within BC. The estimated
8 size of the turnaround workforce is 75 to 150 persons. Comparing workforce occupational demand to
9 existing labour force conditions suggests that an insufficient supply of adequately experienced/skilled
10 labour currently exists within the LAA to satisfy Project demand. Specifically, shortages are anticipated in
11 occupations grouped under the NOC 2 'natural and applied science', 7 'trades, transport and equipment
12 operators', and 9 'manufacturing and utilities' broad occupational classifications. Because labour demand
13 is projected to exceed supply for some job categories, workers from outside the region will need to be
14 hired.

15 The Proponents will implement mitigation measures identified in Table 7.10–25 which are targeted at
16 increasing local content and participation among underrepresented groups (e.g., women and persons of
17 Indigenous identity) within the oil and gas industry. Should estimates of local hire occur as presented in
18 Table 7.10–29, an average of 300 existing LAA residents (65% of the total construction workforce), peaking
19 at 365 residents (45% of the peak workforce), could be employed during Project construction. A total of
20 217 resident (88% of the total operation workforce) could be hired during operation and 148 residents
21 during turnarounds (100% of the workforce). This level of employment would account for 0.8-1.9% of the
22 existing LAA labour force, respectively. In the unlikely event that all of the Project's demand for labour is
23 satisfied by LAA workers, Project employment would account for 0.8-4.3% of the existing LAA labour force,
24 respectively.

25 As the Project transitions from construction through decommissioning demand for labour will fluctuate.
26 The transition from construction to operation will see a reduction in employment; however, this loss of
27 labour will be known and anticipated by Project workers as the four-year construction phase will be
28 communicated at early stages. As the Project transitions from operation into decommissioning an increase
29 in labour demand will likely occur. It is anticipated that some operation positions will transition into
30 decommissioning. Following the completion of decommissioning, labour demand from the Project will
31 cease. However, the skills, experience, and improved qualifications gained through Project employment
32 will help workers secure work with other employers.

33 Because direct impacts on jobs (FTEs) and labour income are inherently beneficial to the LAA, residual
34 effects on regional employment during all phases of the Project are expected to be positive in direction.
35 Positive effects are not characterized further.

36 The likelihood of residual effects occurring as assessed is medium. Positive effects in the form of direct,
37 indirect, and induced economic impacts (employment and labour income) will occur and can be enhanced
38 through proposed management measures. Imperfect information, including gaps in existing data

1 (namely the timeliness of data), uncertainty related to the extent to which local residents will seek and
2 secure employment with the Project, known limitations in the effectiveness of mitigation and
3 enhancement measures, and inherent limitations in the use of input-output multipliers
4 (see Section 7.10.8) and the use of pre-front end engineering and design cost estimates (which are subject
5 to change) limit a potential high likelihood characterization.

6 7.10.9.1.5 Effects on Sub-populations identified through Gender Based Assessment Plus

7 Indigenous persons and women are underrepresented in occupations likely required for Project
8 construction, operation, turnarounds and decommissioning and experience lower income levels than non-
9 Indigenous men. While disparities (inequality) in employment and income is evident at the LAA level,
10 similar, albeit not as pronounced, trends are also seen across genders and between persons of Indigenous
11 and non-Indigenous identity at the provincial level.

12 To address Project contributions to employment and income inequality, mitigation and enhancement
13 measures identified in Table 7.10–25 targeted at increasing local content and participation among
14 underrepresented groups (e.g., women and persons of Indigenous identity) will be implemented.
15 Moderate to high levels of success are anticipated with respect to the effectiveness of these mitigation
16 measures (as seen with LNG Canada and Coastal Gas Link [LNG Canada 2022a, 2022b; Coastal GasLink
17 2022]). Nevertheless, despite mitigation and enhancement measures it is likely that more men, specifically
18 more non-Indigenous men, than women will be employed by the Project. While mitigation and
19 enhancement measures are expected to have a positive effect on employment and income equality at the
20 Project level, given the size of the Project’s construction, operation, turnaround and decommissioning
21 workforces relative the size of the LAA labour force, the Project is not expected to measurably reduce
22 measures of employment and income inequality (low-income status, Gini coefficient, P90/10 Ratio) across
23 genders or between persons of Indigenous and non-Indigenous identity within the LAA, because of the
24 small size of the Project workforce relative to the size of the LAA labour force.

25 During operation, only those workers directly involved in running the facility will be regularly located
26 on-Site in rotational positions. All other operation positions will be located off-Site in local communities
27 in BC. Off-Site employment opportunities (including direct, indirect and induced employment) may be
28 more attractive to various subgroups (e.g., primary caregivers and persons with mobility restrictions) and
29 could work to increase employment equity across the Project. In some cases, off-Site employment could
30 mitigate potential increased demand on services (e.g., childcare) resulting from changes in individual and
31 household employment.

32 The likelihood of residual effects on sub-populations/sub-groups occurring as assessed is high. Indigenous
33 persons and women are underrepresented in occupations likely required for Project construction,
34 operation, turnarounds and decommissioning and experience lower income levels than non-Indigenous
35 men. Mitigation and enhancement measures specifically targeted at increasing local content and
36 participation among underrepresented groups (e.g., women and persons of Indigenous identity) will be
37 implemented to increase the equitability of Project benefits across these subgroups.

1 **7.10.9.2 Assessment of Change in Regional Business**

2 7.10.9.2.1 Project Pathways

3 Project expenditures on materials, equipment and services could result in both positive and adverse
4 effects on regional business. Positive effects include increased business revenue, which can support
5 capital investment and hiring, thereby increasing capabilities and capacity among local businesses.
6 Spending of income by direct and indirect workers contributes to positive effects on local businesses,
7 primarily within the service sector, resulting in induced employment effects. Adverse effects include
8 labour drawdown (i.e., workers leave current employers to secure employment with the Project due to
9 wage differentials or a desire to work on the Project) and wage inflation (i.e., to attract and retain workers
10 local employers may increase compensation paid to workers).

11 7.10.9.2.2 Mitigation and Enhancement Measures

12 Mitigation and enhancement measures were selected based on provincial and federal regulations and
13 policies, on management practices and guidelines, and relevant peer-reviewed literature. Mitigation and
14 enhancement measures were also informed through primary research, including results of the
15 SERC Survey which show that leading barriers to securing contract work with the Project include
16 challenges in hiring skilled labour, not having equal opportunity to access direct award contracts,
17 and having limited capital to start and maintain early stages of contracts. Mitigation and enhancements
18 were selected to address Project interactions that affect regional business during all Project phases.
19 Table 7.10–30 provides a summary of the mitigation and enhancement measures for regional business.

Table 7.10–30 – Mitigation and Enhancement Measures Proposed for Change in Regional Business

Mitigation/Mitigation Mechanism	Rationale for Selection	Expected Success/Risks and Uncertainty	Timing	Management and/or Compensation Plans
<p>Enhancement Measure 7.10-7: Develop and implement procurement and contracting strategies to facilitate economic participation by local, regional, BC, and Canadian suppliers, contractors, and service providers.</p> <p>Mitigation Mechanism: Increase local content and enhance positive effects of the Project on local communities.</p>	<p>The use and effectiveness of local content strategies targeted at increasing local participation and procurement as well as other benefits is well understood and practical (see the World Bank’s Study – Local Content Policies in the Oil and Gas Sector 2013) and aligns with The Global Oil and Gas Industry Association of Environmental and Social Issues guidance document Social Responsibility – Local Content Strategy (2011). The measure also aligns with recommendations for employment and training enhancement measures identified in the document “Mitigation and Enhancement Measures for Health, Social & Economic Effects. Prepared for the Impact Assessment Agency of Canada” (Asia Pacific Foundation for Climate and Health. (2023)).</p>	<p>Expected Success: There is a moderate to high likelihood that this enhancement measure will be effective. The Proponents and its contractor(s) has/have control over the purchase of many goods and services (within reason and as influenced by practicality and cost-effectiveness). Therefore, there is a high likelihood that the enhancement measure will be effective at increasing local procurement.</p> <p>Risk and Uncertainty: There is moderate uncertainty over the success of this enhancement measure, because it does not guarantee that local and regional firms will be willing to compete for, or be successful in obtaining, Project-related contracts.</p>	<p>Project Phase: All phases</p> <p>Effectiveness: Effective over the short- to long-term once implemented.</p>	<p>N/A</p>

Table 7.10–30 – Mitigation and Enhancement Measures Proposed for Change in Regional Business

Mitigation/Mitigation Mechanism	Rationale for Selection	Expected Success/Risks and Uncertainty	Timing	Management and/or Compensation Plans
<p>Enhancement Measure 7.10-2: Develop and maintain a database of Nisga'a businesses and contractors as well as other Indigenous, local and regional businesses and contractors. Use the database to inform businesses and contractors of procurement opportunities.</p> <p>Mechanism: Increase local content and enhance positive effects of the Project on local communities.</p>	<p>The use and effectiveness of local content strategies targeted at increasing local participation and procurement as well as other benefits is well understood and practical (see the World Bank’s Study – Local Content Policies in the Oil and Gas Sector [Tordo et al. 2013]) and aligns with The Global Oil and Gas Industry Association of Environmental and Social Issues (IPIECA) guidance document Social Responsibility - Local Content Strategy (2011). The measure also aligns with recommendations for employment and training enhancement measures identified in the document “Mitigation and Enhancement Measures for Health, Social & Economic Effects. Prepared for the Impact Assessment Agency of Canada” (Asia Pacific Foundation for Climate and Health. (2023)).</p>	<p>Expected Success: There is a moderate to high likelihood that this enhancement measure will be effective. The Proponents and its contractor(s) have control over the purchase of many goods and services (within reason and as influenced by practicality and cost-effectiveness). Therefore, there is a high likelihood that the enhancement will be effective at increasing local procurement. With respect to labour, due to the short duration of construction activities the Proponents can only inform local populations of job opportunities and required skill sets and educational attainment required for Project-related work. Should individuals choose not to work for the Project or have insufficient skills or education, the ability of the Project to employ local workers is lowered. Therefore, there is a moderate degree of likelihood that the enhancement will be effective at increasing local participation with the Project.</p> <p>Risk and Uncertainty: There is moderate uncertainty over the success of this enhancement, because it does not guarantee that local and regional workers/firms will be willing to compete for or be successful in obtaining Project-related employment/contracts.</p>	<p>Project Phase: All phases</p> <p>Effectiveness: Effective over the short to long term once implemented.</p>	<p>N/A</p>

1 7.10.9.2.3 Gender Based Analysis Plus Considerations for Impact Management

2 Several management measures identified in Table 7.10–30 are specifically aimed at increasing economic
3 participation among local and Indigenous businesses. These are: targeted procurement strategies;
4 developing and maintaining a database of Nisga’a, Indigenous and local businesses and contractors;
5 providing operation supply contract opportunities to regional suppliers with a focus on Indigenous
6 businesses; and by developing work packages that consider the capacity and capabilities of local and
7 regional businesses. Management measures that enhance economic participation and capacity building
8 by Indigenous businesses could help address employment and other economic inequities experienced by
9 Indigenous communities.

10 7.10.9.2.4 Project Residual Effect

11 *7.10.9.2.4.1 Economic Impact of Regional Spending*

12 Estimated indirect and induced impacts on jobs (FTEs) and associated labour income from construction
13 (overall) and operation (annual) of the Project at the LAA, BC, and Canada-wide level for both scenarios
14 (Base Case scenario and power barge scenario) are provided in Table 7.10–31 (employment) and
15 Table 7.10–32 (labour income). Indirect and induced impacts on jobs and labour income from
16 decommissioning are presented in Table 7.10–33.

17 Depending on electrification scenario, Project construction is estimated to result in 2,495-2,725 FTEs of
18 indirect labour with \$170-\$185 million in labour income and 1,885-2,035 FTEs of induced labour, with
19 \$94-\$101 million in labour income in BC (Table 7.10–31 and Table 7.10–32). Approximately 20% of
20 BC impacts are predicted to occur in LAA with 525-595 FTEs of indirect labour associated with
21 \$36-\$41 million in labour income, and 400-455 FTEs of induced labour with \$19-\$21 million in labour
22 income estimated.

23 Annually and depending on electrification scenario, operation expenditures are predicted to result
24 280-785 FTEs of indirect labour with \$16-\$49 million in labour income and 245-545 FTEs of induced labour
25 with \$12-\$27 million in labour income in BC (Table 7.10–31 and Table 7.10–32). Under the Base Case
26 scenario an estimated 11-14% of BC impacts (indirect and induced) are predicted to occur in the LAA.
27 Under the power barge scenario roughly 25-50% of impacts occur in the LAA. Depending on electrification
28 scenario, 95-100 FTEs of indirect labour with \$7-\$8 million in labour income and 65-70 FTEs of induced
29 labour with \$3 million in labour income is estimated to occur in the LAA.

1 **Table 7.10–31 – Indirect and Induced Employment (FTEs) Estimates, Construction and Operation**
 2 **(annual) – LAA, British Columbia, and Canada**

Impact	Base Case			Power Barge		
	LAA	BC	Canada	LAA	BC	Canada
Construction						
Indirect	525	2,495	4,950	595	2,725	5,350
Induced	400	1,885	3,730	455	2,035	4,005
Operation (annual)						
Indirect	95	785	910	100	280	420
Induced	65	545	630	70	245	345

3
 4 **Table 7.10–32 – Indirect and Induced Labour Income (\$M) Estimates, Construction and Operation**
 5 **(annual) – LAA, British Columbia, and Canada**

Impact	Base Case			Power Barge		
	LAA	BC	Canada	LAA	BC	Canada
Construction						
Indirect	36	170	338	41	185	364
Induced	19	94	187	21	101	201
Operation (annual)						
Indirect	7	49	56	8	16	24
Induced	3	27	31	3	12	17

6
 7 For decommissioning, a total of 910 FTEs of indirect labour with \$61 million in labour income and 665 FTEs
 8 of induced labour with \$33 million in labour income is estimated for BC (Table 7.10–33). Approximately
 9 22% of decommissioning impacts in BC are estimated for the LAA with 205 FTEs of indirect labour with
 10 \$13 million in labour income and 150 FTEs of induced labour with \$7 million in labour income estimated.

11 **Table 7.10–33 – Indirect and Induced Employment (FTEs) and Labour Income (\$M) Estimates,**
 12 **Decommissioning – LAA, and British Columbia**

Impact	LAA		BC	
	Employment (FTEs)	Labour Income (\$M)	Employment (FTEs)	Labour Income (\$M)
Indirect	205	13	910	61
Induced	150	7	665	33

13

1 *7.10.9.2.4.2 Mean Project-Case Direct Wages/Salaries*

2 Adverse effects of Project spending and increased economic activity on regional businesses include
3 contributions to labour scarcity and increased labour costs. Table 7.10–34 provides a comparison of
4 existing employment income in the LAA with projected Project-case wages and salaries.

5 Wages paid to the Project’s direct workforce are estimated to be higher than the average wage rate in the
6 LAA. Construction and turnaround phases wages are estimated to be 125% greater than existing mean
7 employment wages in the LAA (89% greater than existing wages paid to men and 189% greater than existing
8 wages among women). Operation phase wages are estimated to be 116% greater (81% greater than existing
9 wages paid to men and 177% greater than existing wages paid to women).

10 While the Project’s wage rates are measurably greater than LAA averages, and even more so among
11 women, they are expected to align with current annual average wages earned by western Canadian
12 workers (see Table 7.10–16) in sectors engaged in oil and gas activities (\$111,000-\$124,000).

13 **Table 7.10–34 – Existing Employment Income and Projected Project-Related Wages/Salaries, LAA**

Phase	Existing Mean Employment Income (\$)			Mean Project-Case Direct Wages/Salaries (Base Case and Power Barge) ¹
	Total	Men	Women	
Construction/turnaround	53,247	63,651	41,534	120,000
Operation				115,000

NOTE:

¹ Based on economic modelling, see Section 7.10.8.1.1

14

15 *7.10.9.2.4.3 Characterization of Residual Effects*

16 Project expenditures represent economic potential for local and regional businesses. The degree to which
17 LAA businesses will benefit from contracting and supply opportunities throughout the Project’s lifecycle
18 depends on several factors, including their size, capability, and capacity to accommodate Project and
19 workforce (consumer) requirements. Where businesses are successful in securing contracting
20 opportunities with the Project or can secure additional business because of increased consumer spending
21 from the Project’s workforce, beneficial effects on revenues would occur.

22 In addition to beneficial effects on revenues, increased regional spending can lead to increased
23 employment and positive impacts on employment income through indirect and induced effects. The
24 extent to which predicted impacts are realized depends on the extent to which new businesses are
25 established and existing businesses are expanded (by increasing workforces) to meet Project and
26 consumer demands. To increase local employment, the Project will implement enhancement measures
27 identified in Table 7.10–30 which are targeted at increasing local content and participation in Project
28 contracting opportunities by underrepresented groups (e.g., Indigenous-owned businesses).

1 Given existing conditions, businesses within the LAA are likely well positioned to respond to Project and
2 consumer demands for goods and services within the transportation and warehousing (NAICS 48-49),
3 utilities (NAICS 22), construction (NAICS 23), mining, quarrying and oil and gas extraction (NAICS 21), and
4 retail trade (NAICS 44-45) sectors (see Section 7.10.4.2.4.3). Among these sectors, businesses operating
5 in the transportation and warehousing and utilities sectors may have a localized specialization in the
6 provision of associated goods and services. Should all indirect and induced labour impacts occur as
7 modelled (see above section ‘Economic Impact of Regional Spending’), and assuming impacts result in
8 new employment, depending on electrification scenario, the LAA labour force would increase by
9 4.0%-4.4% (annualized) from baseline conditions over the three- to four-year construction period,
10 0.8%-2.9% from baseline conditions during operation, and 2.5% from baseline conditions during the
11 one-year decommissioning phase.

12 As the Project transitions from construction through to decommissioning Project spending on materials,
13 goods and services will fluctuate. As it transitions from construction to operation phase spending on
14 materials goods and services will decrease. As the Project transitions to decommissioning, operation
15 expenditures will decrease but expenditures on earth and civil works will increase. Ultimately, aside from
16 any care and maintenance expenditures, spending will cease following the completion of
17 decommissioning.

18 Project construction and operation will likely result in increased revenues for existing businesses within
19 the LAA and has the potential to stimulate economic activity through the expansion of existing businesses
20 and the establishment of new businesses. Ultimately, earned revenues and increased capacities and
21 capabilities realized by businesses that responded to Project opportunities will likely prove beneficial to
22 better positioning them to competitively respond to future opportunities.

23 While Project spending could contribute to increased regional employment, increase revenues for local
24 businesses and stimulate economic activity in the LAA, there is also potential for the Project to result in
25 adverse effects on the ability of local employers to attract and retain skilled workers. Higher wages paid
26 to the direct Project workforce combined with the potential for Project-related employment to be
27 perceived as being more desirable than other forms of employment could lead to increased difficulty for
28 local businesses to recruit or retain qualified workers. In the extreme, increased competition to attract
29 and retain qualified workers could lead to upward pressure on wages. Given the short duration of
30 construction and the relatively small size of potential direct employment impacts (see Section 7.10.9.1),
31 upward pressure on wages across the LAA due to the Project is conservatively assessed as moderate in
32 magnitude.

33 With the implementation of mitigation and enhancement measures, and in consideration of current and
34 anticipated economic conditions, Project residual effects on regional business are expected to be both
35 positive and adverse in direction. Positive effects stem from increased business revenues, the creation of
36 indirect and induced employment and labour income, and contributions to increased business revenue
37 and increased economic activity in the LAA. Positive effects are not characterized further. Adverse effects
38 stem from increased competition for labour and upward pressure on wages. Adverse effects related to

1 increased competition for labour and wage inflation are predicted to be moderate in magnitude. Adverse
2 residual effects are anticipated to extend throughout the LAA. Seasonal aspects are unlikely to affect
3 adverse residual effects and therefore timing is not applicable. Adverse residual effects are short-term in
4 duration during construction and decommissioning and medium-term in duration during operation.
5 Adverse residual effects are reversible following activity completion and reclamation. Adverse residual
6 effects occur as multiple-regular events coinciding with Project spending and labour demand associated
7 with each phase of the Project. There is a high potential for disproportionate adverse effects on
8 sub-populations/groups (see Section 7.10.9.2.5). There is low risk in the residual effect prediction and
9 uncertainty is moderate given limitations in existing data and modelling.

10 The likelihood of residual effects occurring as assessed is moderate. Positive effects in the form of direct,
11 indirect, and induced economic impacts (employment and labour income) will occur and can be enhanced
12 through proposed management measures. Imperfect information, including gaps in existing data
13 (namely the timeliness of data), uncertainty related to the extent to which local businesses and
14 contractors will seek and secure contracts with the Project, known limitations in the effectiveness of
15 mitigation and enhancement measures, and inherent limitations in the use of input-output multipliers
16 (see Section 7.10.8.1) and the use of pre-front end engineering and design cost estimates (which are
17 subject to change) limit a potential high likelihood characterization.

18 7.10.9.2.5 Effects on Sub-populations identified through Gender Based Assessment Plus

19 By implementing measures specifically aimed at increasing economic participation among local and
20 Indigenous businesses a disproportionate amount of Project contracting and procurement in BC is
21 expected to be realized by these groups. Reported by LNG Canada in its 2021 Community Level
22 Infrastructure and Services Management Plan Annual Report, targeted contracting and procurement
23 policies resulted in over 77% of that project's BC contracts and procurement having been awarded to
24 Indigenous and local area businesses (LNG Canada 2022a, 2022b). While mitigation and enhancement
25 measures are expected to have a positive effect on Indigenous and local procurement at the Project level,
26 the Project is not expected to measurably reduce inequalities across within the LAA.

27 The likelihood of residual effects occurring as assessed is moderate. Mitigation and enhancement
28 measures are specifically targeted at increasing local content and participation among Indigenous and
29 local businesses.

1 **7.10.9.3 Assessment of Change in Regional Economy**

2 7.10.9.3.1 Project Pathways

3 Project expenditures during construction, operation and decommissioning will result in economic activity
4 (e.g., GDP) in the LAA, BC and beyond. During operation, the Project will also pay income and property
5 taxes to various governments contributing to the local, regional, provincial, and federal tax base.
6 Increased economic activity and demand for labour can drive up wages and increase business costs
7 (see Section 7.10.9.1.4). Increased business costs could result in the need for businesses to raise prices
8 resulting in increases in the cost of consumables, contributing to an increase in the cost of living. Transient
9 and in-migrating workers associated with the Project could increase demand for housing and
10 accommodations contributing to upward pressure on the price of housing thereby contributing to an
11 increase in the cost of living.

12 7.10.9.3.2 Mitigation and Enhancement Measures

13 Mitigation and enhancement measures identified in Table 7.10–25 (Mitigation and Enhancement
14 Measures Proposed for Change in Regional Employment) and Table 7.10–30 (Mitigation and
15 Enhancement Measures Proposed for Change in Regional Business) also apply to the assessment of
16 change in regional economy. They are not reproduced in this section.

17 7.10.9.3.3 Gender Based Analysis Plus Considerations for Impact Management

18 GBA Plus considerations for impact management identified in Section 7.10.8.1.2 (Assessment of Change
19 in Regional Employment) and Section 7.10.8.2.3 (Assessment of Change in Regional Business) also apply
20 to the assessment of change in regional economy. They are not reproduced in this section.

21 7.10.9.3.4 Project Residual Effect

22 *7.10.9.3.4.1 Economic Impact*

23 Direct, indirect, and induced GDP contributions from Project construction and operation for both
24 scenarios (utility powered and power barges) at the Canada, BC, and LAA levels are provided in
25 Table 7.10–35. GDP contributions from decommissioning are presented in and Table 7.10–36.
26 GDP contributions and government revenues stemming from turnarounds were not estimated
27 (Section 7.10.5.1).

28 Depending on electrification scenario, total GDP contributions from Project construction are estimated at
29 \$1-\$1.1 billion in BC (see Table 7.10–35). Approximately 21% of construction GDP impacts are estimated
30 to occur in the LAA (\$210-\$245 million). During operation, \$125-\$515 million in annual GDP contributions
31 are estimated in BC. Approximately 5% of annual GDP contributions occur in the LAA under the utility
32 powered scenario (\$25 million) while 34% of annual GDP contributions (\$43 million) occur in the LAA
33 under the power barge scenario.

1 **Table 7.10–35 – Direct, Indirect and Induced GDP (\$M) Contributions, Construction and Operation**
 2 **(annual) – LAA, British Columbia, and Canada**

Impact	Base Case			Power Barge		
	LAA	BC	Canada	LAA	BC	Canada
Construction						
Direct	140	515	860	160	560	925
Indirect	45	260	520	55	280	560
Induced	25	225	430	30	245	460
Total	210	1,000	1,810	245	1,085	1,945
Operation (annual)						
Direct	25	375	395	29	70	95
Indirect	5	75	90	9	25	35
Induced	4	65	75	5	30	40
Total	25	515	560	43	125	170

3
 4 For decommissioning, a total of \$350 million in GDP contributions from expenditures in BC is estimated
 5 (see Table 7.10–36). Approximately 21% of BC impacts occur in the LAA with \$75 million in GDP estimated.

6 **Table 7.10–36 – Direct, Indirect and Induced GDP (\$M) Contributions, Decommissioning – LAA, and**
 7 **British Columbia**

Impact	LAA	BC
Direct	50	180
Indirect	15	90
Induced	10	80
Total	75	350

8

1 Table 7.10–37, Table 7.10–38, and Table 7.10–39 provide estimates of Project contributions to
2 federal, provincial, and municipal tax revenues stemming from expenditures on products and
3 production associated with construction and operation spending. Table 7.10–37 provides estimates under
4 the Base Case scenario while Table 7.10–38 provides estimates under the power barges scenario.
5 Table 7.10–39 provides tax estimates associated with decommissioning. Tax contributions stemming from
6 turnarounds were not estimated (Section 7.10.8.1).

7 Total (direct, indirect, and induced) modelled taxes arising from expenditures made in BC during
8 construction are estimated at \$242-\$270 million, comprised of \$76-\$86 million in federal government
9 taxes, \$166-184 million in provincial taxes, and \$890,000-\$970,000 in municipal taxes (Table 7.10–37).

10 Total modelled annual taxes arising from expenditures made in BC during operation are estimated at
11 \$26-\$84 million, comprised of \$11-\$23 million in federal government taxes, \$15-\$60 million in provincial
12 taxes, and \$215,000-\$1.1 million in municipal taxes (Table 7.10–38).

13 Total modelled taxes arising from expenditures made in BC during decommissioning are estimated at
14 \$89 million, comprised of \$28 million in federal government taxes, \$61 million in provincial taxes, and
15 \$33,000 in municipal taxes (Table 7.10–39).

Table 7.10–37 – Direct, Indirect and Induced Contributions to Government Revenues (\$M) - Construction, Operation (annual) – Utility Powered – British Columbia and Canada

Government	Type	British Columbia				Canada			
		Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Construction									
Federal	Personal income tax	47.0	16.0	6.0	69.0	80.4	32.3	13.6	126.3
	Sales and other (e.g., gas, excise, duty, air) tax on expenditures	5.0	<0.1	2.0	7.0	13.4	3.0	12.3	28.7
	Total	52.0	16.0	8.0	76.0	93.9	35.3	25.9	155.0
Provincial	Personal income tax	21.0	6.0	2.0	29.0	40.1	15.9	7.0	63.0
	Sales and other (e.g., gas, environmental) tax on expenditures	82.0	10.0	45.0	137.0	111.1	19.2	81.0	211.3
	Total	103.0	16.0	47.0	166.0	151.2	35.1	88.0	274.3
Municipal	Other taxes	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.2
	Property tax	NE	NE	NE	NE	NE	NE	NE	NE
	Total	0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.2
Total		155.1	32.0	55.0	242.1	245.2	70.4	114.0	429.6

Table 7.10–37 – Direct, Indirect and Induced Contributions to Government Revenues (\$M) - Construction, Operation (annual) – Utility Powered – British Columbia and Canada

Government	Type	British Columbia				Canada			
		Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Operation (annual)									
Federal	Personal income tax	14.1	4.7	2.0	20.8	15.8	5.4	2.3	23.4
	Sales and other (e.g., gas, excise, duty, air) tax on expenditures	1.2	0.3	0.9	2.4	1.5	0.5	1.4	3.4
	Total	15.4	5.0	2.8	23.2	17.2	5.9	3.7	26.8
Provincial	Personal income tax	6.3	1.9	0.8	9.1	7.3	2.3	1.0	10.6
	Sales and other (e.g., gas, environmental) tax on expenditures	33.4	4.6	12.8	50.8	34.0	5.1	14.3	53.5
	Total	39.7	6.5	13.6	59.8	41.3	7.4	15.3	64.1
Municipal	Other taxes	0.7	0.1	0.3	1.1	0.7	0.1	0.3	1.1
	Property tax	NE	NE	NE	NE	NE	NE	NE	NE
	Total	0.7	0.1	0.3	1.1	0.7	0.1	0.3	1.1
Total		55.7	11.6	16.7	84.1	59.2	13.4	19.3	91.9

Table 7.10–38 – Direct, Indirect and Induced Contributions to Government Revenues (\$M) - Construction, Operation (annual - Power Barge – British Columbia and Canada

Government	British Columbia					Canada			
	Type	Direct	Indirect	Induced	Total	Type	Direct	Indirect	Induced
Construction									
Federal	Personal income tax	51.0	17.7	7.4	76.1	86.3	34.8	14.6	135.6
	Sales and other (e.g., gas, excise, duty, air) tax on expenditures	5.8	0.8	3.1	9.7	14.8	3.3	13.4	31.5
	Total	56.8	18.5	10.5	85.8	101.0	38.1	28.0	167.1
Provincial	Personal income tax	22.8	7.2	3.2	33.2	43.0	17.1	7.6	67.6
	Sales and other (e.g., gas, environmental) tax on expenditures	90.1	11.6	49.0	150.7	121.0	20.7	86.8	228.5
	Total	112.9	18.9	52.1	183.9	163.9	37.8	94.3	296.1
Municipal	Other taxes	0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.2
	Property tax	NE	NE	NE	NE	NE	NE	NE	NE
	Total	0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.2
Total		169.7	37.4	62.6	269.7	265.1	75.9	122.4	463.4
Operation (annual)									
Federal	Personal income tax	7.0	1.4	0.9	9.3	8.9	2.1	1.3	12.2
	Sales and other (e.g., gas, excise, duty, air) tax on expenditures	0.4	0.2	0.7	1.3	0.7	0.4	1.3	2.5
	Total	7.4	1.6	1.6	10.6	9.6	2.5	2.6	14.7
Provincial	Personal income tax	3.1	0.6	0.4	4.1	4.2	1.0	0.6	5.8
	Sales and other (e.g., gas, environmental) tax on expenditures	3.5	1.6	5.6	10.7	4.3	2.2	7.4	13.9
	Total	6.6	2.2	6.0	14.8	8.6	3.2	8.0	19.7

Table 7.10–38 – Direct, Indirect and Induced Contributions to Government Revenues (\$M) - Construction, Operation (annual - Power Barge – British Columbia and Canada

Government	British Columbia					Canada			
	Type	Direct	Indirect	Induced	Total	Type	Direct	Indirect	Induced
Municipal	Other taxes	0.1	<0.1	0.1	0.2	0.1	<0.1	0.1	0.2
	Property tax	NE	NE	NE	NE	NE	NE	NE	NE
	Total	0.1	<0.1	0.1	0.2	0.1	<0.1	0.1	0.2
Total		14.1	3.9	7.7	25.6	18.2	5.8	10.7	34.6

Table 7.10–39 – Direct, Indirect and Induced Contributions to Government Revenues (\$M) - Decommissioning – British Columbia and Canada

Government	British Columbia				
	Type	Direct	Indirect	Induced	Total
Federal	Personal income tax	16.4	5.9	2.4	24.7
	Sales and other (e.g., gas, excise, duty, air) tax on expenditures	2.0	0.3	1.1	3.3
	Total	18.4	6.1	3.5	28.0
Provincial	Personal income tax	7.4	2.4	1.0	10.8
	Sales and other (e.g., gas, environmental) tax on expenditures	30.0	3.9	16.0	49.8
	Total	37.3	6.3	17.0	60.6
Municipal	Other taxes	<0.1	<0.1	<0.1	<0.1
	Property tax	NE	NE	NE	NE
	Total	<0.1	<0.1	<0.1	<0.1
Total		55.8	12.4	20.5	88.7

1 7.10.9.3.4.2 Characterization of Residual Effects

2 Project expenditures during construction, operation and decommissioning will result in both positive and
3 adverse effects across the LAA. Estimates of GDP and government revenues assume that Project spending
4 occurs as estimated (see Section 7.10.4.2.10), that all direct employment occurs as and where (e.g., LAA)
5 estimated (i.e., does not contemplate labour supply/demand constraints), and that all impacts on indirect
6 and induced employment is 'new' (i.e., new positions are created).

7 Assuming GDP impacts (direct, indirect, and induced) occur as estimated, Project contributions would
8 represent a 0.4% increase in the 2021 GDP of BC (see Section 7.10.4.2.10 for 2021 GDP estimates) during
9 construction, a 0.05% (power barge scenario) to 0.20% (electrical grid scenario) increase in GDP annually
10 during operation, and a 0.1% increase during decommissioning.

11 Statistics Canada does not publish GDP information at the community level. However, assuming the GDP
12 of the LAA can be estimated on a per-capita population basis, the estimated GDP of the LAA in 2021 would
13 be \$2.3 billion. Based on this estimate, in the LAA, GDP is predicted to increase over 2021 levels by 9%
14 (electrical grid) to 11% (power barge) during construction, 1% (electrical grid) to 2% (power barge)
15 annually during operation, and 3% during decommissioning.

16 Assuming revenue impacts (direct, indirect, and induced) occur as estimated, and not accounting for
17 corporate income tax, royalties or carbon tax (these estimates are not currently available), Project
18 contributions would represent a 0.3% (electrical grid) to 0.4% (power barge) increase in the Government
19 of BC's 2021 revenue (see Section 7.10.4.2.10) during construction, an annual increase of 0.04% (power
20 barge) to 0.12% (electrical grid) during operation, and a 0.1% increase during decommissioning. Impacts
21 to municipal and regional district government finances other than that associated with property tax are
22 not quantified at the community or LAA level due to modelling limitations (i.e., municipal government
23 revenues are modelled at the provincial level).

24 In addition to positive impacts on GDP and government revenues, the Project can cause adverse changes
25 through an increased cost of living in the LAA. Given cost of living scenario calculations completed in
26 Section 7.10.4.2.9.2 (WorkBC Cost of Living Calculations), cost categories accounting for the greatest
27 percentage of overall monthly cost-of-living expenses are consumables (37% for owners, 39% for renters),
28 housing costs (30% for owners, 25% for renters), and taxes (28% among owners, 27% among renters).
29 Health (3%) and transportation costs (4%) make up the remaining monthly cost-of-living expenses.
30 Of these, the Project can adversely affect the price of consumables and housing, two of the largest
31 cost-of-living expense categories, through increased demand.

32 Assessed in Section 7.10.9.1, increased competition for labour among LAA employers could lead to
33 moderate magnitude increases in the cost of labour. Should the cost of labour increase, businesses may
34 be required to increase the cost of consumer goods (consumables) to cover increased operating costs.
35 Given the moderate magnitude potential for Project-influenced wage inflation (Section 7.10.9.1), it is
36 likely that the cost of consumables could increase across the LAA. Direct Project demand for consumables
37 could also result in increased costs; however, these items will be sourced through wholesale supply

1 contracts and are therefore not anticipated to have a measurable impact on the price of consumables in
2 the LAA (Project demand occurs outside consumer markets).

3 With respect to monthly housing costs, Project-related changes in demand and induced real estate
4 speculation would place upward pressure on housing costs. To mitigate the Project's contribution to
5 increased housing costs, the Proponents will implement mitigation and enhancement measures aimed at
6 encouraging participation in Project employment by local residents (local workers will remain in their
7 home communities and will not increase demand for housing; see Section 7.12) and will house transient
8 workers in on-Site accommodations. Non-local workers who in-migrate to LAA communities in response
9 to employment opportunities (direct, indirect, and induced) would increase demand for housing and
10 contribute to increased housing costs. Given estimated workforce sizes (see Section 7.10.4.2.4) and
11 potential indirect and induced effects (see Section 7.10.9.1), increased demand for housing is expected to
12 contribute to moderate magnitude adverse effects on the cost of housing. Real estate speculation is also
13 expected to contribute to increased in housing costs in the LAA with effects falling within the moderate
14 magnitude characterization.

15 In summary, with the implementation of mitigation and enhancement measures, and in consideration of
16 current and anticipated economic conditions, Project residual effects on the regional economy are
17 expected to be both positive and adverse in direction. Positive effects stem from increased economic
18 activity in the LAA resulting in contributions to GDP and government revenues. Positive effects are not
19 characterized further. Adverse effects stem from Project effects on the cost-of-living primarily through
20 upward pressure on the cost of consumables and housing costs. Adverse effects on the cost-of-living are
21 expected to be moderate in magnitude and extend throughout the LAA. Seasonal aspects are unlikely to
22 affect adverse residual effects and therefore timing is not applicable. The pricing of consumer goods
23 dramatically increased in 2021-2022 (see Section 7.10.4.2.9 Bank of Canada Price Index) which would
24 likely compound any Project-related increases in the cost-of-living should the price of consumables not
25 return to levels seen prior to 2021. Adverse residual effects are short-term in duration during construction
26 and decommissioning and medium-term in duration during operation. Adverse residual effects are
27 reversible following activity completion and reclamation. Adverse residual effects occur as
28 multiple-regular events coinciding with Project spending and labour demand associated with each phase
29 of the Project. There is a high potential for disproportionate effects on sub-populations/groups
30 (see Section 7.10.9.3.5). There is low risk in the residual effect prediction and uncertainty is moderate
31 given limitations in existing data and modelling.

32 The likelihood of residual effects occurring as assessed is moderate. Positive effects in the form of direct,
33 indirect, and induced economic impacts (contributions to GDP and government revenues) will occur and
34 can be enhanced through proposed mitigation and enhancement measures. The extent to which the
35 Project contributes to increases in the cost of living, primarily through changes in consumables and
36 housing, is largely dependent on direct effects, which can be mitigated with understood levels of success,
37 and on indirect and induced economic effects and real estate speculation which, while understood, are
38 outside the control of the Project and therefore have an associated level of uncertainty. Imperfect
39 information, including gaps in existing data (namely the timeliness of data) and the use of pre-front end

1 engineering and design cost estimates (which are subject to change) limit a potential high likelihood
2 characterization. Uncertainty related to the extent to which local residents, businesses and contractors will
3 seek and secure employment and contracts with the Project also limit a potential high likelihood
4 characterization. Known limitations in the effectiveness of mitigation and enhancement measures and
5 inherent limitations in the use of input-output multipliers (see Section 7.10.8) are also contributing factors
6 to the overall likelihood characterization.

7 7.10.9.3.5 Effects on Sub-populations identified through Gender Based Assessment Plus

8 Increases in the cost of living (consumer products and housing) can result in disproportionate effects on
9 sub-populations that fall below low-income cut-off thresholds (LIM-AT and LICO-AT;
10 see Section 7.10.4.2.8.3) and for households that spend 30% or more of total before-tax income on
11 housing costs (between 16.9%-20.7% of households in the LAA; see Section 7.12 Infrastructure and
12 Services). Among these groups and in terms of low-income status, data presented in Section 7.10.4.2.8.3
13 show that, on average, a greater prevalence of low-income status exists among Indigenous persons and
14 women in the LAA and therefore these sub-groups are most likely to experience the most pronounced
15 effects.

16 The likelihood of residual effects occurring as assessed is moderate. In terms of positive effects, mitigation
17 and enhancement measures are specifically targeted at increasing local content which will enhance
18 Project contributions to GDP and government revenue in the LAA. In terms of adverse effects, on their
19 own and combined, increases in the price of consumer goods and housing costs would be expected to
20 drive up the cost-of-living in the LAA with individuals and families who fall within low-income brackets
21 more likely to experience the greatest economic hardship from such changes.

22 **7.10.9.4 Summary of Mitigation and Enhancement Measures**

23 Table 7.10–40 provides a summary of mitigation measures for the assessment of employment and
24 economy. In conjunction with these measures, the Proponents will develop and implement a
25 Project-specific construction environmental monitoring plan that collects the mitigation and
26 enhancement measures tied to Project-related activities and physical works associated with construction.
27 The construction environmental monitoring plan will be incorporated into appropriate construction-
28 related contracts.

29 **7.10.9.5 Summary of Project Residual Effects**

30 Table 7.10–41 summarizes Project residual effects on Employment and Economy.

31

Table 7.10–40 – Summary of Mitigation and Enhancement Measures for the Assessment of Employment and Economy

Mitigation Measure	Potential Effects			Sub-population							
	Change in regional employment	Change in regional business	Change in regional economy	Indigenous people	Indigenous women	Women	Visible minorities	Low-income persons and families	' Older Adults'	Indigenous owned businesses	Local businesses
Enhancement Measures 7.10-1: Develop and implement workforce strategies to use a BC or Canadian resident construction workforce in the building of those components of the Project constructed/assembled in Canada.	✓	–	✓	✓	✓	✓	✓	✓	✓	–	–
Enhancement Measures 7.10-2: Develop and maintain a database of Nisga'a businesses and contractors as well as other Indigenous, local and regional businesses and contractors. Use the database to inform businesses and contractors of procurement opportunities.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Enhancement Measures 7.10-3: Work with government agencies, educational institutions and contractors to implement on-the-job training and apprenticeship programs.	✓	–	✓	✓	✓	✓	✓	✓	✓	–	–
Mitigation Measure 7.10-4: Encourage high school completion among Indigenous and other local residents.	✓	–	✓	✓	✓	✓	✓	✓	✓	–	–

Mitigation Measure	Potential Effects			Sub-population							
	Change in regional employment	Change in regional business	Change in regional economy	Indigenous people	Indigenous women	Women	Visible minorities	Low-income persons and families	' Older Adults'	Indigenous owned businesses	Local businesses
Enhancement Measures 7.10-5: Identify potential shortages of workers with specific skill requirements and training and work with local and regional training and education facilities and communities to increase opportunities for Indigenous and local community members to obtain training.	✓	–	✓	✓	✓	✓	✓	✓	✓	–	–
Enhancement Measures 7.10-6: Develop and implement gender equity and diversity policies that focuses on hiring Nisga'a Nation members, local and Indigenous persons, and women to increase Project employment among underrepresented populations.	✓	–	✓	✓	✓	✓	✓	✓	✓	–	–
Enhancement Measures 7.10-7: Develop and implement procurement and contracting strategies to facilitate economic participation by local, regional, BC, and Canadian suppliers, contractors, and service providers.	–	✓	–	–	–	–	–	–	–	✓	✓

NOTES:

✓ = Mitigation or enhancement measure applies

– = Mitigation or enhancement does not apply

⊖ = Mitigation or enhancement addresses disproportionate effects to sub-populations

Table 7.10–41 – Project Residual Effects on Employment and Economy

Project Phase	Proposed Mitigation and Enhancement Measures	Residual Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
Change in Regional Employment										
Construction	<ul style="list-style-type: none"> ▪ Enhancement measures 7.10-1, 7.10-2, 7.10-3, 7.10-5, and 7.10-6 ▪ Mitigation measure 7.10-4 	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Operation		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Decommissioning		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Residual Project effect for all phases		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Change in Regional Business										
Construction	<ul style="list-style-type: none"> ▪ Enhancement measures 7.10-2 and 7.10-7 	M	LAA	N/A	ST	R	MR	DD	L	M
Operation		M	LAA	N/A	MT	R	MR	DD	L	M
Decommissioning		M	LAA	N/A	ST	R	MR	DD	L	M
Residual Project effect for all phases		M	LAA	N/A	MT	R	MR	DD	L	M
Change in Regional Economy										
Construction	<ul style="list-style-type: none"> ▪ Enhancement measures 7.10-1, 7.10-2, 7.10-3, 7.10-5, 7.10-6, and 7.10-7 ▪ Mitigation measure 7.10-4 	M	LAA	N/A	ST	R	MR	DD	L	M
Operation		M	LAA	N/A	MT	R	MR	DD	L	M
Decommissioning		M	LAA	N/A	ST	R	MR	DD	L	M
Residual Project effect for all phases		M	LAA	N/A	MT	R	MR	DD	L	M

Table 7.10–41 – Project Residual Effects on Employment and Economy

Project Phase	Proposed Mitigation and Enhancement Measures	Residual Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
<p>NOTES: N/A = Only positive residual effects anticipated KEY See Table 7.10–24 for detailed definitions Project Phase C: Construction O: Operation D: Decommissioning Magnitude: NMC: No Measurable Change L: Low M: Moderate H: High Geographic Extent: PA: Project Footprint LAA: Local Assessment Area RAA: Regional Assessment Area OWAA: Open Water Assessment Area</p>		<p>Timing: N/A: Not Applicable A: Applicable Duration: ST: Short-term MT: Medium-term LT: Long-term Reversibility: R: Reversible PR: Partially reversible I: Irreversible</p>			<p>Frequency: S: Single event MIR: Multiple irregular event MR: Multiple regular event C: Continuous Affected Sub-Populations: E: Evenly distributed DD: Disproportionally distributed Risk (Likelihood and Consequences) L: Low M: Moderate H: High Uncertainty: L: Low M: Moderate H: High</p>					

1 7.10.9.5.1 Summary of Adverse Residual Effects

2 The Project is anticipated to result in moderate magnitude adverse effects on regional business and
3 regional economy during all Project phases (construction, operation, and decommissioning). Adverse
4 effects on regional business stem from increased competition for labour and upward pressure on wages.
5 Adverse effects stem from Project-related wages being greater than existing conditions and due to the
6 potential for Project employment to be deemed more desirable than other forms of employment in the
7 LAA, both of which can result in increased competition for labour and upward pressure on wages
8 (to attract and retain workers). Upward pressure on wages can lead businesses to increase the price of
9 consumer goods (consumables) to cover increased operating expenses contributing to an increased cost
10 of living (change in regional economy). Real estate speculation and increased demand for housing from
11 in-migrating workers to the LAA are anticipated to contribute to increased housing costs. Adverse effects
12 are disproportionately distributed across the LAA population with individuals and families that fall within
13 low-income brackets more likely to experience economic hardship associated with changes in the
14 cost-of-living.

15 7.10.9.5.2 Summary of Positive Residual Effects

16 The Project is anticipated to result positive effects on regional employment, regional business, and
17 regional economy during all Project phases (construction, operation, and decommissioning). Positive
18 effects in the form of direct, indirect, and induced employment and labour income in the LAA and other
19 parts of BC and Canada and contributions to local, regional, provincial, and federal GDP and government
20 revenues stem from Project demand and expenditures on labour, goods, and services. In addition to
21 government revenue earned through Project-related expenditures, the Project will also pay property tax
22 to Nisga'a Nation; these funds will support the Project objective of economic reconciliation.

23 Over the three-to-four-year construction period, and depending on electrification scenario, Project
24 construction is estimated to result in a total (direct, indirect, and induced impacts) GDP contribution of
25 \$1.8-\$1.9 billion to the Canadian economy of which \$1.0-\$1.1 billion is anticipated to occur in BC.
26 Total modelled taxes arising from expenditures made in Canada during construction are estimated at
27 \$430-\$463 million (\$242-\$270 million from expenditures in BC), comprised of \$155-\$167 million
28 (\$76-\$86 million from expenditures in BC) in federal government taxes, \$274-\$296 million
29 (\$166-\$184 million from expenditures in BC) in provincial taxes, and \$180,000-\$190,000
30 (\$90,000-\$100,000 from expenditures in BC) in municipal taxes. Total employment during construction is
31 estimated at 13,835-14,885 FTEs in Canada of which 7,435-8,035 FTEs are anticipated to occur in BC.
32 Total labour income in Canada is estimated at \$1.1-\$1.2 billion of which \$630-\$679 million is anticipated
33 to occur in BC.

1 Over the 30-year operation life of the Project, and depending on the electrification scenario, Project
2 operation is estimated to contribute a total (direct, indirect, and induced impacts) of \$5.1 to \$16.8 billion
3 in GDP to the Canadian economy of which \$3.8-\$15.5 billion is anticipated to occur in BC. Total modelled
4 annual taxes arising from expenditures made in Canada during operation over the Project's 30-year
5 operation life are estimated at \$1.0-2.8 billion (\$769-\$2.5 billion from expenditures in BC), comprised of
6 \$441-\$803 million (\$318-\$695 million from expenditures in BC) in federal government taxes, \$591 million
7 to \$1.9 billion (\$444 million to \$1.8 billion from expenditures in BC) in provincial taxes, and \$7-\$33 million
8 in municipal taxes (\$6-\$32 million from expenditures in BC). Total employment (over 30-years) is
9 estimated at 40,800-77,850 FTEs in Canada of which 29,700-68,250 FTEs are anticipated to occur in BC.
10 Total labour income in Canada is estimated at \$3.3-\$6.2 billion of which \$2.4-\$5.6 billion is anticipated to
11 occur in BC.

12 Preliminary Project planning anticipates that all decommissioning costs will occur in BC. Given this
13 assumption, over the 12-month decommissioning phase, the Project is estimated to result in a total
14 (direct, indirect, and induced impacts) GDP contribution of \$350 million to the economy of BC. Total
15 modelled taxes arising from expenditures made in BC during decommissioning are estimated at
16 \$89 million, comprised of \$28 million in federal government taxes, \$61 million in provincial taxes, and
17 \$33,000 in municipal taxes. Total employment during decommissioning is estimated at 2,630 FTEs in BC
18 with \$220 million in labour income.

19 The Proponents estimate that an average direct workforce of 450 persons will be required (working 60- to
20 70-hour weeks) over the three-to-four-year construction phase of the Project. The workforce is estimated
21 to peak at 800 persons (during year two or three of construction) and is anticipated to be sustained for
22 approximately one year. Early estimates of the number of permanent operation workers are between
23 150 to 250 persons at Site and 50 to 100 persons at other offices within BC. In addition to the regular
24 operation workforce, a turnaround workforce of 75 to 150 persons is also anticipated to be required every
25 three to five years to perform scheduled shutdown and maintenance work on the FLNG and supporting
26 infrastructure. Estimates of the size of the decommissioning workforce were not available at the time of
27 writing.

28 Positive effects of the Project are expected to be unevenly distributed among the LAA labour force. Given
29 existing labour force characteristics it is likely that a larger percentage of non-Indigenous men will be
30 employed on the Project than other subpopulations. Mitigation and enhancement measures will be
31 specifically implemented to increase participation among underrepresented groups on the Project who
32 will disproportionately benefit from these measures; however, given the estimated size of the Project's
33 workforce, measurable changes in employment equity across the LAA are not expected.

34 Increased employment in the LAA is expected to have positive effects on unemployment rates, increase
35 income levels for individuals (and families) who secure employment with the Project and will provide
36 valuable employment experience that can be leveraged by workers to secure employment with other
37 projects/employers following completion of Project-related work. The Project also serves to diversify the
38 economic base of the LAA increasing the resiliency of region.

1 **7.10.10 Assessment of Cumulative Effects on Employment and Economy**

2 The assessment of cumulative effects is initiated with a determination of whether two conditions exist:

- 3 • The Project has residual adverse effects on employment and economy
4 • The residual effects could act cumulatively with residual effects of other past, present, or
5 reasonably foreseeable future physical activities

6 Project residual effects described in Section 7.10.6 that are likely to interact cumulatively with residual
7 effects from past, present, or reasonably foreseeable projects are identified in this section and the
8 resulting cumulative effects are assessed. This is followed by an analysis of the Project contribution to
9 residual cumulative effects. Because no adverse effects on regional employment (Section 7.10.6) are
10 anticipated, the potential effect ‘change in regional employment’ is not carried forward. Similarly, positive
11 effects (i.e., contributions to GDP and government revenues) on the regional economy (Section 7.10.9.3.4)
12 are not carried forward.

13 **7.10.10.1 Project Residual Effects Likely to Interact Cumulatively**

14 The Project adverse residual effects identified in Section 7.10.9 with potential to act cumulatively with
15 those past, present and reasonably foreseeable future projects and activities (see Table 6.7-1 in
16 Section 6.7.1 for more information regarding the Projects and activities included in the Project and
17 Physical Activities Inclusion List) are listed in Table 7.10–42. As no adverse residual effects were identified
18 for change in employment this potential effect was not carried forward into the cumulative effects
19 assessment. Where residual effects from the Project have the potential to act cumulatively with residual
20 effects from other projects and physical activities, a cumulative effects assessment is carried out. Effects
21 identified in Table 7.10–42 as not likely to interact cumulatively with residual effects of other projects and
22 physical activities (no check mark) are not discussed further. The assessment of the cumulative effects
23 that are likely to result from the Project in combination with other projects and physical activities are
24 discussed in subsequent sections.

25 Since not all reasonably foreseeable projects and physical activities may proceed, the cumulative effects
26 assessment should be considered conservative.

Table 7.10–42 – Interactions with the Potential to Contribute to Cumulative Effects

Other Projects and Physical Activities with Potential for Cumulative Effects	Potential Cumulative Effects	
	Change in regional business	Change in regional economy
Past and Present Physical Activities and Resource Use		
Port of Prince Rupert [PRPA]	✓	✓
LNG Canada Export Terminal	✓	✓
Prince Rupert Airports	✓	✓
Northwest Regional Airport Terrace (YXT)	✓	✓
Swamp Point – Sand and Gravel	-	-
Stewart Bulk Terminal	-	-
Stewart World Port	-	-
Port of Hyder, Alaska	-	-
Kitsault Mine	✓	✓
Tru Grit Abrasives	✓	✓
All West Trading	-	-
Various Forestry Activities	-	-
Various Fishing and Aquaculture Activities	-	-
Marine Shipping Activities	-	-
Coastal GasLink	✓	✓
Future Physical Activities		
Third-party powerline	✓	✓
PRPA	✓	✓
Port Edward Small Scale LNG (Port Edward LNG)	✓	✓
Prince Rupert Gas Transmission Project (TransCanada Corp.)	✓	✓
Westcoast Connector Gas Transmission Project (Enbridge Inc.)	✓	✓
Kinskuch Lake Hydro (Wind River Power Corporation)	✓	✓
Cedar LNG	✓	✓
Skeena LNG	✓	✓
Totem LNG	✓	✓
BC Hydro transmission line upgrades	✓	✓

NOTES:

✓ = Those “other Projects and physical activities” whose effects are likely to interact cumulatively with the Project’s residual effects.

– = Interactions between the residual effects of other Projects and residual effects of the Project are not expected.

1 **7.10.10.2 Cumulative Effects Assessment for Change in Regional Business**

2 7.10.10.2.1 Cumulative Effect Pathways

3 Project spending will combine with expenditures made by current and reasonably foreseeable projects
4 and activities to create contracting and business opportunities within the RAA. In the scenario where
5 multiple projects are built concurrently, demand and competition for labour would increase which would
6 increase the probability of labour shortages and localized wage inflation within RAA communities. Over
7 the longer term, the cumulative effects case would result in a larger and more diversified economic base
8 within the RAA.

9 7.10.10.2.2 Mitigation and Enhancement Measures for Cumulative Effects

10 Implementation of proposed mitigation and enhancement measures identified in Table 7.10–30
11 (Mitigation and Enhancement Measures Proposed for Change in Regional Business) will reduce the
12 Project’s contribution to adverse cumulative effects, and increase its contribution to positive cumulative
13 effects, on change in regional business. It is also expected that proponents of current and reasonably
14 foreseeable future projects and physical activities will be required to apply standard mitigation and other
15 management measures to avoid or reduce their adverse effects on regional business and comply with
16 applicable regulatory requirements.

17 Management of cumulative effects is also a provincial government responsibility and the Proponents will
18 participate in industry-related cumulative effects workshops and roundtables developed by the
19 Province of BC.

20 7.10.10.2.3 Residual Cumulative Effects

21 In the cumulative case, construction of all identified present and reasonably foreseeable future projects
22 and activities in Table 7.10–42 will involve capital expenditures in excess of \$50 billion. Given this level of
23 capital expenditure it is likely that demand for material, goods and services will outpace available
24 production and service supply necessitating a large percentage of expenditures to occur outside the RAA.
25 While some businesses in the RAA may be able to expand operation to take advantage of increased
26 regional demand, the availability of labour will be a major constraint in the short-term. In the longer-term,
27 should all reasonably foreseeable projects proceed, there would likely be a rapid increase in population
28 within the RAA by people seeking employment directly or indirectly related to construction activities, or
29 as a result of induced economic activity, which would expand the labour pool.

30 While mitigation measures aimed at limiting contributions to labour scarcity and wage inflation will be
31 implemented by the Project and proponents of other projects/activities adverse cumulative effects on
32 labour scarcity and wage inflation are anticipated as the pursuit of job opportunities is largely an individual
33 choice with markets tending to respond to labour scarcity by increasing the price of labour. In the
34 long-term, construction and operation of projects/activities identified in Table 7.10–42 will serve to
35 diversify the economic base of the RAA and increase regional spending allowing businesses to establish
36 or expand thereby fostering continued economic growth increasing the resiliency of the RAA.

1 Overall, given current and reasonably foreseeable future projects and activities, adverse effects are
2 estimated to be high in magnitude during overlapping construction phases and moderate in magnitude
3 during overlapping operation and decommissioning phases. Effects extend throughout the RAA.
4 Concurrent periods of increased demand for labour, goods, and services will coincide with the greatest
5 magnitude of effect and therefore timing is applicable. Cumulative effects are short-term in duration
6 during overlapping periods of project/activity construction and decommissioning and medium-term in
7 duration during overlapping operation phases. Effects occur as multiple regular events and are reversible
8 following each overlapping phase (construction, operation, and decommissioning). Effects are
9 disproportionately distributed across the RAA population. Risk is assessed as low and uncertainty moderate.

10 The likelihood of cumulative residual effects is moderate because multiple concurrent projects will result
11 in increased competition for labour and may result in more prolonged periods of wage inflation within the
12 RAA. However, such adverse effects will be mitigated through increased and more prolonged commercial
13 opportunities for businesses within the RAA. Uncertainties around future economic conditions and the
14 likelihood of all identified projects and activities being constructed/operated in the cumulative case limits
15 a high characterization.

16 **7.10.10.3 Cumulative Effects Assessment for Change in Regional Economy**

17 7.10.10.3.1 Cumulative Effect Pathways

18 Project expenditures on labour, goods, and services will combine with those of current and reasonably
19 foreseeable future projects and activities creating economic activity and cumulatively increasing demand
20 for labour in the RAA (see Section 7.10.9.1). Increased competition for labour has the potential to drive
21 up wages and increase business costs. Increased business costs could result in the need for businesses to
22 raise prices resulting in increases in the cost of consumables, contributing to an increase in the cost of
23 living. Transient and in-migrating workers associated with the Project and other projects and activities
24 could cumulatively increase demand for housing and accommodations contributing to an increase in the
25 cost of living.

26 7.10.10.3.2 Mitigation and Enhancement Measures for Cumulative Effects

27 Implementation of proposed mitigation and enhancement measures identified in Section 7.10.9.4 will
28 reduce the Project's contribution to adverse cumulative effects, and increase its contribution to positive
29 cumulative effects, on change in regional economy. It is also expected that proponents of current and
30 reasonably foreseeable future projects and physical activities will be required to apply standard mitigation
31 and other management measures to avoid or reduce their adverse effects on regional economy and
32 comply with applicable regulatory requirements.

33 Management of cumulative effects is also a provincial government responsibility and the Proponents will
34 participate in industry-related cumulative effects workshops and roundtables developed by the
35 Province of BC.

1 7.10.10.3.3 Residual Cumulative Effects

2 In the cumulative case, construction of all identified present and reasonably foreseeable future projects
3 and activities in Table 7.10–42 is expected to result in cumulative effects on labour scarcity and wage
4 inflation (see Section 7.10.10.3). To cover increased operating expenses, businesses in the RAA may
5 increase the price of consumer goods to cover increased operating costs driving up the price of
6 consumables. Increased economic activity in the region would also likely result in a rapid increase in
7 population as individuals (and families) move to the RAA in search of employment. In the short-term
8 in-migration would be expected to dramatically increase demand for housing contributing to upward
9 pressure on housing costs until additional supply can be made available. Given the cumulative case,
10 real estate speculation would be expected to increase also contributing to upward pressure on housing
11 costs. Individually and together, increases in the price of consumer goods and housing costs would be
12 expected to drive up monthly cost-of-living expenses. Individuals and families who fall within low-income
13 brackets are likely to experience the greatest economic hardship of increases in the cost-of-living.

14 While mitigation measures aimed at limiting contributions to adverse effects on the cost-of-living,
15 specifically as it relates to housing, are expected to reduce contributions to cumulative effects, many
16 pathways affecting the cost of consumable and housing are outside the influence of project proponents
17 (e.g., transportation costs, in-migrating indirect and induced workers and their families, housing
18 speculation). In the long-term, market conditions would be expected to normalize as projects move into
19 operation phases and demand for labour, goods, and services is reduced.

20 Overall, given current and reasonably foreseeable future projects and activities, adverse effects on the
21 regional economy are estimated to be high in magnitude during overlapping construction phases and
22 moderate in magnitude during overlapping operation and decommissioning phases. Effects extend
23 throughout the RAA. Concurrent periods of increased demand for labour, goods, and services will coincide
24 with the greatest magnitude of effect and therefore timing is applicable. Cumulative effects are short-
25 term- in duration during overlapping periods of project/activity construction and decommissioning and
26 medium-term in duration during overlapping operation phases. Effects occur as multiple regular events
27 and are reversible following each overlapping phase (construction, operation, and decommissioning).
28 Effects are disproportionately distributed across the RAA population. Risk is assessed as low and uncertainty
29 moderate.

30 The likelihood of cumulative residual effects on the regional economy is moderate because multiple
31 concurrent projects will result in increased competition for labour which may result in more prolonged
32 periods of wage inflation driving up the cost of consumer goods within the RAA. Demand for labour in the
33 cumulative case is expected to exceed available supply in the RAA requiring the use of transient and
34 non-local workers, some of whom (and their families) may choose to relocate to the RAA. Effects of real
35 estate speculation are also expected to increase in the cumulative case as is demand for housing from
36 immigrating- workers in response to increased indirect and induced regional employment. Uncertainties
37 around future economic conditions and the likelihood of all identified project and activities being
38 constructed/operated in the cumulative case limits a high characterization.

- 1 **7.10.10.4 Summary of Cumulative Effects**
- 2 Table 7.10–43 summarizes cumulative effects on employment and economy.

Table 7.10–43 – Summary of Residual Cumulative Effects on Employment and Economy

Project Phase	Proposed Mitigation and Enhancement Measures	Residual Effects Characterization Criteria								
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations	Risk (Likelihood and Consequences)	Uncertainty
Residual Cumulative Change in Regional Business										
Construction	<ul style="list-style-type: none"> Enhancement measures 7.10-1, 7.10-2 	H	RAA	A	ST	R	MR	DD	L	M
Operation		M	RAA	A	MT	R	MR	DD	L	M
Decommissioning		M	RAA	A	ST	R	MR	DD	L	M
Residual Project effect for all phases		M	RAA	A	MT	R	MR	DD	L	M
Residual Cumulative Change in Regional Economy										
Construction	<ul style="list-style-type: none"> Enhancement measures 7.10-1, 7.10-2, 7.10-3, 7.10-5, 7.10-6 and 7.10-7 Mitigation measure 7.10-4 	H	RAA	A	ST	R	MR	DD	L	M
Operation		M	RAA	A	MT	R	MR	DD	L	M
Decommissioning		M	RAA	A	ST	R	MR	DD	L	M
Residual Project effect for all phases		M	RAA	A	MT	R	MR	DD	L	M

Table 7.10–43 – Summary of Residual Cumulative Effects on Employment and Economy

Project Phase	Proposed Mitigation and Enhancement Measures	Residual Effects Characterization Criteria						
		Magnitude	Geographic Extent	Timing	Duration	Reversibility	Frequency	Affected Sub-Populations
<p>KEY See Table 7.10–24 for detailed definitions</p> <p>Project Phase C: Construction O: Operation D: Decommissioning</p> <p>Magnitude: NMC: No Measurable Change L: Low M: Moderate H: High</p> <p>Geographic Extent: PA: Project Area LAA: Local Assessment Area RAA: Regional Assessment Area OWAA: Open Water Assessment Area</p>	<p>Timing: N/A: Not Applicable A: Applicable</p> <p>Duration: ST: Short-term MT: Medium-term LT: Long-term</p> <p>Reversibility: R: Reversible PR: Partially reversible I: Irreversible</p>	<p>Frequency: S: Single event MIR: Multiple irregular event MR: Multiple regular event C: Continuous</p> <p>Affected Sub-Populations: E: Evenly distributed DD: Disproportionally distributed</p> <p>Risk (Likelihood and Consequences): L: Low M: Moderate H: High</p> <p>Uncertainty: L: Low M: Moderate H: High</p>						

1 **7.10.10.5 Prediction Confidence**

2 Overall prediction confidence is medium. The description of exiting conditions is largely informed through
3 data obtained from Statistics Canada’s 2021 Census. Current (2022) baseline data is primarily limited to
4 results of consultation. Cost estimates used to model economic impacts are subject to change as the
5 Project progresses through the detailed engineering and design and procurement processes and
6 modelling processes are built on several assumptions and have inherent limitations (see Section 7.10.8.1).
7 There also exists a certain level of economic uncertainty in future economic conditions and the extent to
8 which local workers/business will be able to satisfy/be interested in securing employment/contracting
9 opportunities with the Project. There is also uncertainty regarding future economic conditions, the extent
10 to which the Project contribute to wage inflation and changes in cost of living at the time of construction
11 and operation (given economic conditions at that time), and the extent to which reasonably foreseeable
12 projects proceed (and if so, the timing of construction and operation activities, the size of workforces, and
13 mitigation and enhancement measures proposed and implemented).

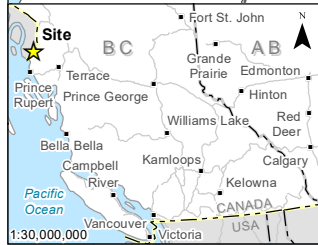
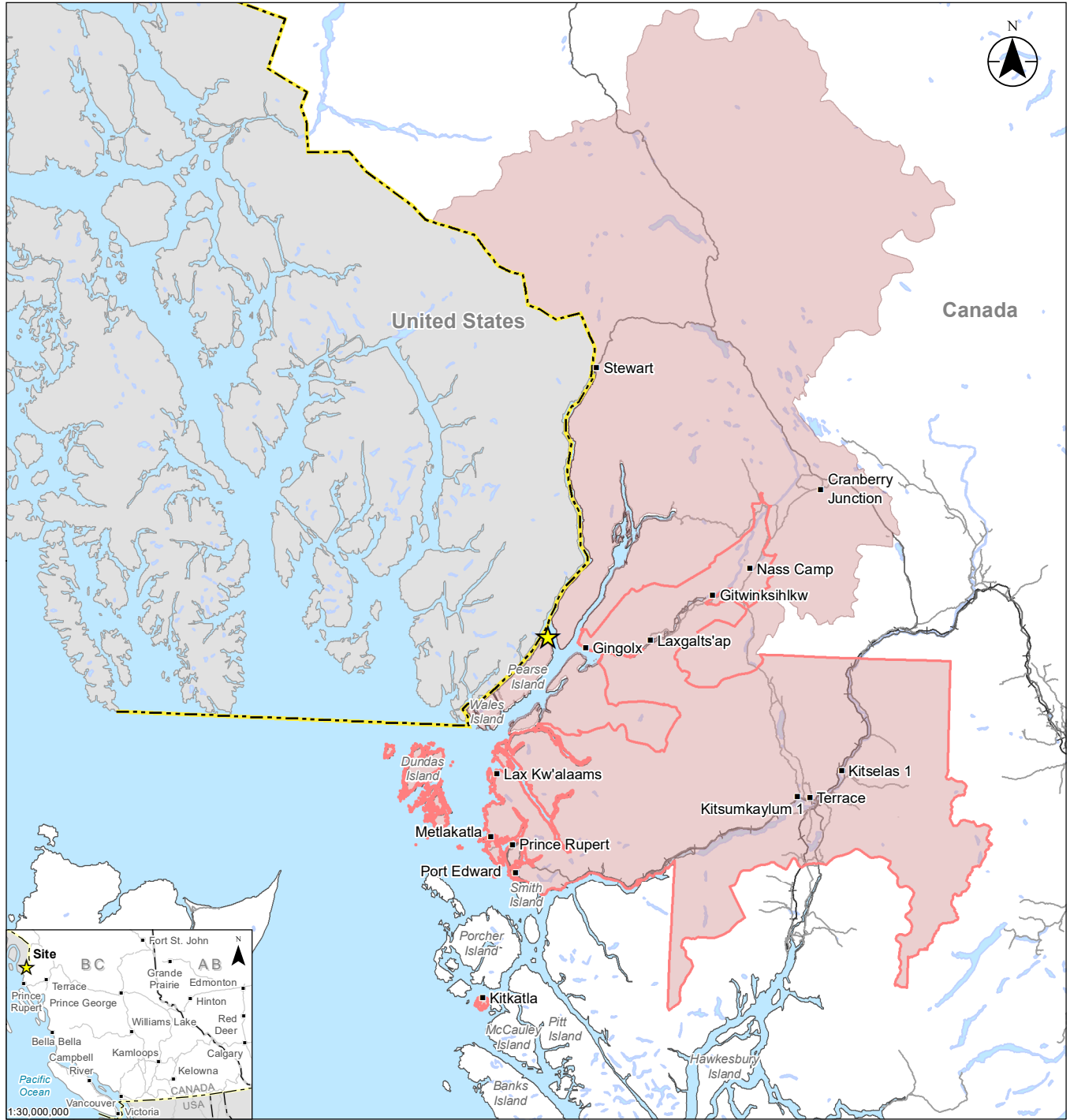
14 **7.10.11 Follow-up Strategy**


15 The Proponents will develop and implement a social and economic effects management plan to adaptively
16 manage potential direct social and economic effects on services and infrastructure delivered by provincial
17 agencies and local governments. The scope of the plan is for effects that are directly attributable to the
18 Project and its workforce. The plan will outline policies and training pertaining to workplace code of ethics,
19 drug and alcohol use, respectful workplace/workplace violence, including gender-based considerations,
20 and will include hiring and training measures, including gender equality and diversity employment
21 measures and practices. As part of the adaptive management process, indicators and thresholds will be
22 established against which the effectiveness of mitigation and enhancement measures will be monitored
23 and adjusted as required.

24

1 **7.10.12 Figures**

2





Notes

- Coordinate System: NAD 1983 BC Environment Albers
- Data Sources: DataBC, Government of British Columbia; Natural Resources Canada, Maxar, Rockies LNG

★ Site

□ Employment and Economy Local Assessment Area

□ Employment and Economy Regional Assessment Area

--- International Boundary

— Highway


— Road

— Railway

■ Waterbody

0 15 30 45 60 km

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Project Location:
Pearse Island, BC

Client/Project/Report
Ksi Lisims LNG
Natural Gas Liquefaction and Marine Terminal
Environmental Assessment - Employment & Economy

Figure No.
7.10-1

Title
Assessment Areas

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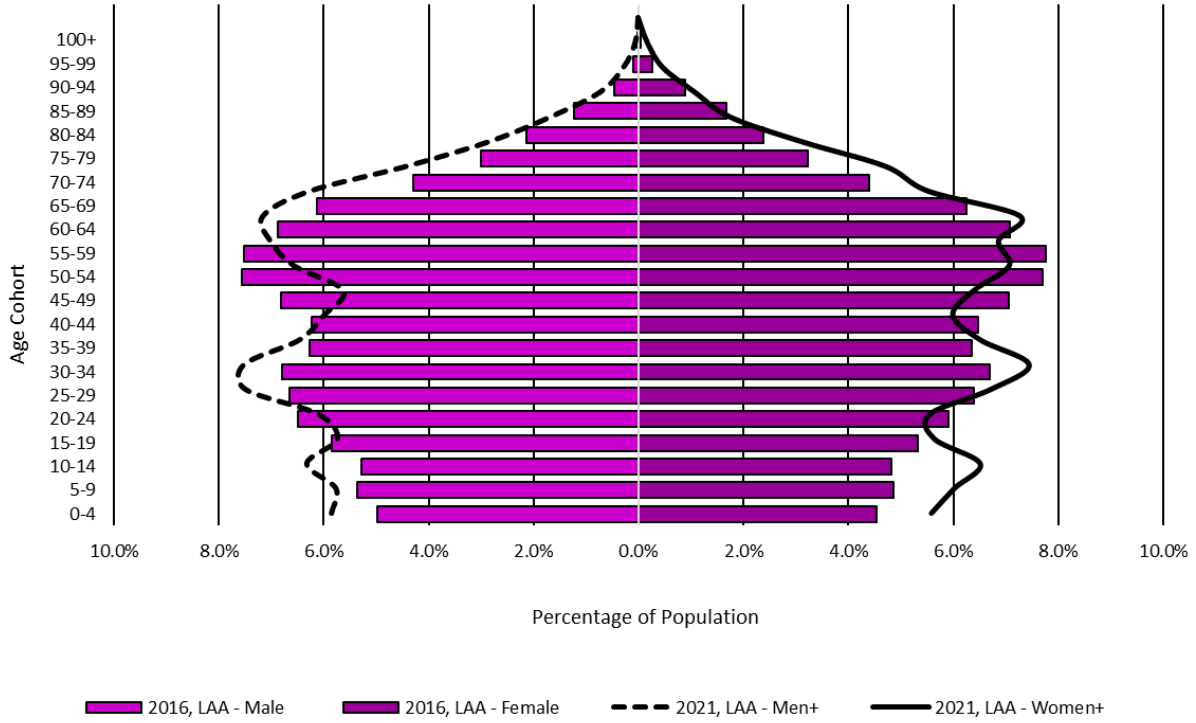
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SOURCE: PBC 2022a

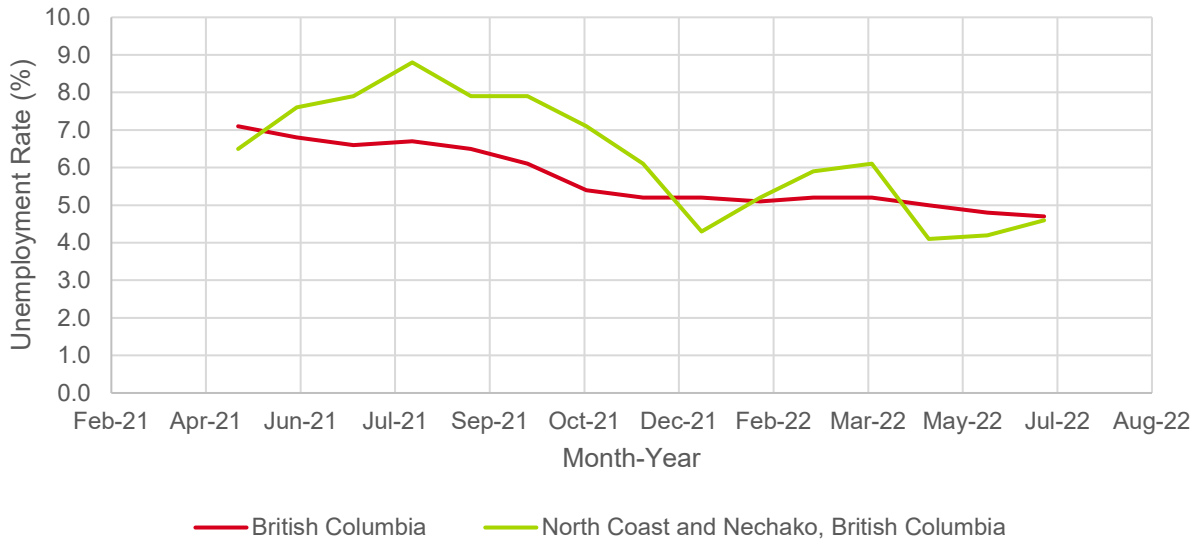
Figure 7.10–2 – BC Labour Market Outlook, 2022-2031



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SOURCE: Statistics Canada 2022b

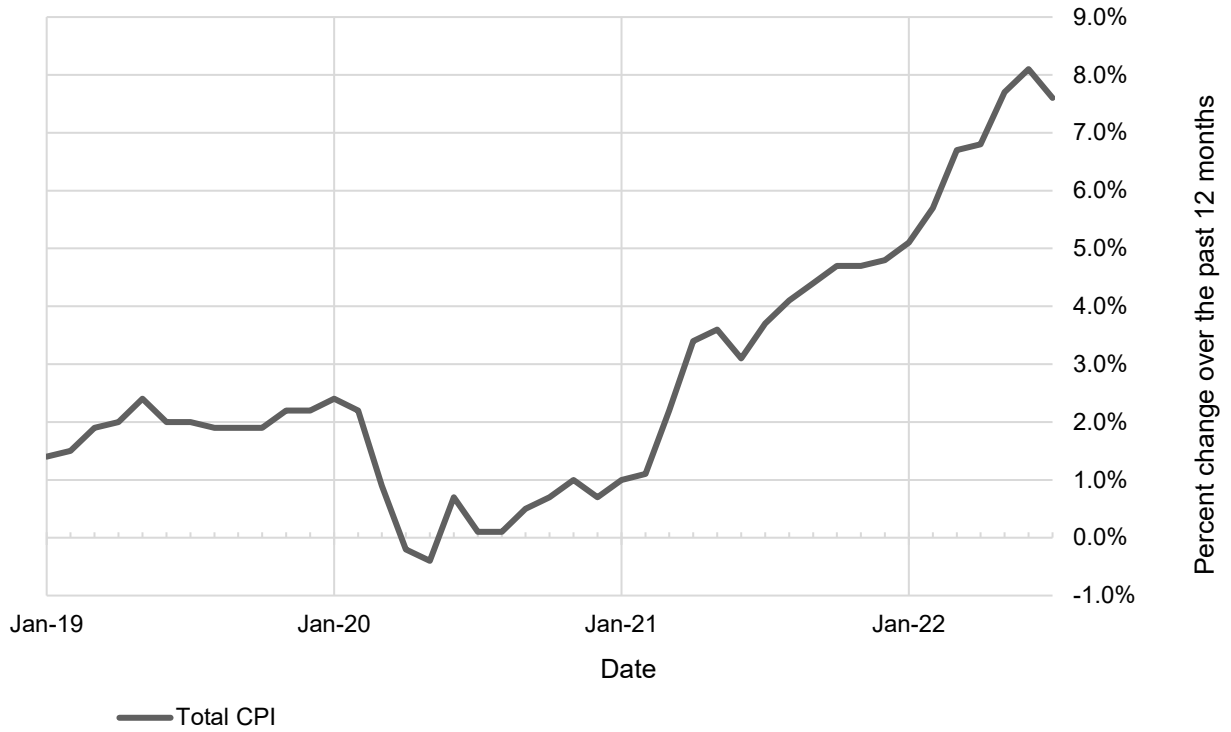
Figure 7.10–3 – Population Pyramid – LAA, Total Population, 2021 and 2016



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SOURCE: Statistics Canada 2022c

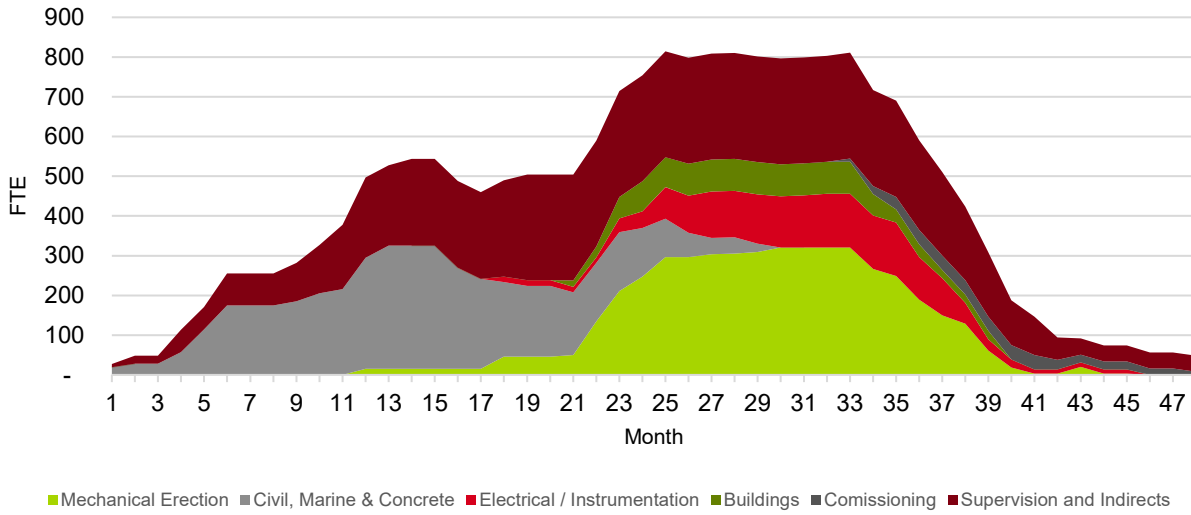
Figure 7.10–4 – Unemployment Rate, North Coast and Nechako Economic Region



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SOURCE: Bank of Canada 2022

Figure 7.10–5 – Bank of Canada CPI Measures – January 1, 2019, to July 1, 2022



1

2 **Figure 7.10–6 – Construction Workforce Histogram, 48 Months**

3