



NUCLEAR WASTE MANAGEMENT ORGANIZATION SOCIÉTÉ DE GESTION DES DÉCHETS NUCLÉAIRES

Workforce Development Study Report - Southwestern Ontario Community Study



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This report has been prepared under contract to the NWMO. The report has been reviewed by the NWMO, but the views and conclusions are those of the authors and do not necessarily represent those of the NWMO.

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***Workforce Development Study
Report
Southwestern Ontario Community Study***

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List of Acronyms

AI	Artificial Intelligence
APM.....	Adaptive Phased Management
DPRA.....	DPRA Canada Inc.
IA	Impact Assessment
MSB	Municipality of South Bruce
MCR	Major Component Replacement Project
NOC	National Occupational Categories
NORCAT.....	Northern Centre for Advanced Technology
NWMO	Nuclear Waste Management Organization
OYAP	Ontario Youth Apprenticeship Program
PRWIN.....	Pine River Watershed Initiative Network
STEM.....	Science, Technology, Engineering and Mathematics
SWOTs.....	Strengths, Weaknesses, Opportunities and Threats
UVP	Unique Value Proposition
WSIB	Workplace Safety and Insurance Board
WSN.....	Workplace Safety North

1. Introduction

1.1 Background and Context

1. Since 2012, the Municipality of South Bruce (MSB) has been involved in a process of learning about the Nuclear Waste Management Organization's (NWMO) Adaptive Phased Management (APM) Project ('the Project') for the long-term management of Canada's used nuclear fuel. The two remaining siting areas in the process are the South Bruce Area and the Ignace Area. The NWMO plans to complete all preliminary assessment work and to select one community/area to host the Project by 2023. Preliminary studies suggest that the Project can be implemented safely in the South Bruce Area for a repository that will contain and isolate used nuclear fuel from people and the environment for the long timeframes required.
2. Further detailed studies are required to fully assess the potential impacts of the Project in the community and regionally. Building on previous work, engagement completed to-date, and the MSB's 36 Guiding Principles, the NWMO and the MSB are working together to prepare a suite of community studies which will be shared broadly with the community. The list of socio-economic community studies is included in **Appendix A**. These studies were undertaken by the NWMO or MSB, with some being joint efforts. The MSB has retained consultants (the GHD team) to develop a number of studies and to peer review others developed by the NWMO and their consultants (the DPR Canada Inc. (DPR) team). The information acquired through these studies is expected to help South Bruce leadership and residents make informed decisions about whether the Project is a good fit for their community, and if they are willing to consider hosting it and under what circumstances and terms.
3. This *Workforce Development Study* is one of the community studies being prepared. This study is organized as follows:
 - Purpose and Scope (**Section 1.3**)
 - Methodology (**Section 2**)
 - Existing Conditions (**Section 3**)
 - Assessment (**Section 4**)
 - Further Thoughts on Initiatives (**Section 5**)
 - Conclusions (**Section 6**)
 - References (**Section 7**)

Note to Reader:

This and other community studies are preliminary and strategic in nature, all intended to identify possible consequences (e.g., to workforce development) in the South Bruce Area based on our current level of understanding of the Project. Using information known at this point in time, these community studies will describe a range of possible consequences that are the subject of specific and separate studies. For each possible consequence, potential options are offered to leverage opportunities and/or mitigate possible negative consequences/effects.

It is important to note that these community studies (developed collaboratively by the NWMO and the MSB) being investigated at this time are not the formal or final baseline or effects studies that will be part of the Impact Assessment (IA). Those studies will be completed at a later date if the Project is located in the area. However, these current studies will inform the effects studies that will be initiated at a later date.

These community studies are intended to support current dialogue between the MSB and the NWMO regarding a potential hosting agreement by:

- a) Exploring in more detail the questions, aspirations and topics of interest expressed by the community through the Guiding Principles approved by the MSB following the project visioning process completed in the community;
- b) Assisting the NWMO and the MSB in developing a deeper understanding of the community aspirations/values and to work with the MSB in identifying possible programs and commitments which ensure that the Project will be implemented in a manner that fosters the well-being of the community and area;
- c) Advancing learning and understanding on topics of interest to the neighboring areas; and
- d) Providing the community with information it has requested to help them make an informed decision in 2023.

The NWMO is committed to collaboratively working with the communities to ensure questions, concerns and aspirations are captured and addressed through continuous engagement and dialogue.

The NWMO will independently engage with the Saugeen Ojibway Nation to understand how they wish to evaluate the potential negative effects and benefits that the Project may bring to their communities.

1.2 Land Acknowledgement

It is acknowledged that the lands and communities discussed in this report are situated on the Traditional Territory of the Anishinabek Nation: The People of the Three Fires known as Ojibwe, Odawa and Pottawatomie Nations. The Chippewas of Saugeen and the Chippewas of Neyaashiinigiing (Nawash), now known as the Saugeen Ojibway Nation, are the traditional keepers of this land and water. It is also recognized that the ancestors of the Historic Saugeen Métis and Georgian Bay Métis communities shared this land and these waters.

1.3 Scope and Purpose

- 1 Objectives for this study are described in the *Workforce Development Study Work Plan* (DPRA, October 2021). The overall objective of the *Workforce Development Study* is to characterize and describe the labour NWMO (employment) needs for the Project and describe how NWMO and regional agencies can develop the workforce necessary to undertake the Project. In particular this study is closely intertwined with the *Labour Baseline Study* (Keir Corp. 2022a), and both should be read in conjunction with each other to thoroughly understand the area labour markets. These two studies are also closely linked to the *Housing Needs and Demand Analysis Study* (Keir Corp., 2022b).
- 2 Specific objectives of this study include:
 - Ensure the Project can source all the necessary skills and talents to adequately meet its needs;
 - Describe options for workforce development; and
 - Describe options for cooperation in the development of the necessary regional workforce with other businesses that have a similar or overlapping needs (e.g., Bruce Power).
- 3 The NWMO is responsible for the completion of both the *Labour Baseline Study* and *Workforce Development Study*; the *Housing Needs and Demand Analysis Study* is a joint NWMO-MSB study. These studies were undertaken by Keir Corp., a subconsultant to DPRA, the prime consultant to NWMO on this study.

1.3.1 Guiding Principles

The *Workforce Development Study* is relevant to MSB Guiding Principles (2020) #10, #20 and #32.

#10: "The NWMO will identify the potential for any positive and negative socio-economic impacts of the Project on South Bruce and surrounding communities and what benefits will contribute to mitigate any specific risks."

#20: "The NWMO, in consultation with the Municipality, will commit to implementing a local employment and training strategy with the objective of ensuring that the majority of employees of the Project are located within South Bruce and surrounding communities."

#32: "The NWMO, in consultation with the Municipality and other local and regional partners, will prepare a strategy to ensure there are sufficient community services and amenities, including health, child-care, educational and recreational facilities, to accommodate the expected population growth associated with hosting the Project in South Bruce."

The *Workforce Development Study* contributes generally to Principles #10 and #32, and directly to Principle #20.

1.3.2 Peer Review Approach

An earlier draft of the *Workforce Development Study Report* was reviewed by MSB consultants according to their Peer Review Protocol. The Peer Review Protocol provides for a collaborative approach to conducting the peer review, with peer review activity occurring throughout the execution of the study. The *Workforce Development Study* is an NWMO-led study, with the NWMO determining the spatial Study Area, the data and inputs used to establish baseline conditions, and the assessment of the forecasted effects resulting from the Project.

The peer review has been carried out on the scope and framing of the study and data inputs and has been carried out on the baseline conditions and the effects assessment.

This final *Workforce Development Study Report* reflects the comments provided by the MSB peer review consultants and subsequent discussions.

For the *Workforce Development Study Report*, the peer review was led by MDB Insight Inc.

1.3.3 Spatial Boundaries

- 1 Three areas have been used to frame this study:
 - a. Regional Study Area
 - b. Local Study Area
 - c. Core Study Area

- 2 The Regional Study Area (see Figure 1, Section 3.1 below) includes the Counties of Bruce, Grey, Huron, Perth, Wellington, Oxford and Middlesex and the Region of Waterloo. This area lies within a one and half to two-hour drive time of the site and it is home to a large portion of the supply chain

companies for the Bruce Nuclear Generating Station and its associated Major Component Replacement (MCR) Project. Additionally, it is home to many of the workers associated with the Bruce Nuclear Station during refurbishment and almost all of the workers associated with station operations. For the Project, this area could meet almost all the needs for labour and goods and services.

- 3 The Local Study Area (see Figure 10, Section 3.2 below) steps down from the Regional Study Area and focusses on the municipalities surrounding South Bruce as well as South Bruce itself. The area has a wide variety of relationships grounded in social/cultural, economic, and political relationships, both past and present. Persons residing in this area can easily commute to the Project on a daily basis.
- 4 The Core Study Area (see Figure 19, Section 3.3 below) steps down from the Local Study Area and focuses on the municipalities of South Bruce, Huron Kinloss, Brockton, Morris-Turnberry and North Huron. These five communities are again closely intertwined through social/cultural, economic, and political relationships. All five communities have met and expressed an interest in working together to explore the Project and optimize its outcomes.

1.3.4 Temporal Boundaries

- 1 Three temporal boundaries define the critical horizons of the Project for this study.
 - a. Pre-Construction – 2028 to 2032
 - b. Construction – 2033 to 2042
 - c. Operation – 2043 to 2088
- 2 The pre-construction phase of the Project will be closely associated with permitting and licensing activities and it will also involve both on-site and off-site initiatives. In the latter case an office and Centre of Expertise will be made operational. The NWMO workforce strategy will entail a combination of new employee hires and relocation of existing employees.
- 3 The construction phase of the Project will begin in 2033 once permits and licenses have been obtained. It will run for 10 years.
- 4 Following the completion of construction, site operations will commence in 2043 and continue to 2088.

1.3.5 Planning Assumptions – Workforce, Population, Housing and Employment

- 1 The community studies use the following planning assumptions for Project workforce by phase, and projections for population, housing, and employment for the five local municipalities:
 - Municipality of South Bruce (including Teeswater, Mildmay and Formosa)
 - Township of Huron-Kinloss (including Ripley and Lucknow)
 - Municipality of Brockton (including Walkerton)
 - Municipality of Morris-Turnberry
 - Township of North Huron (including Wingham)

- 2 These five municipalities comprise the 'Core Study Area' used in the *Labour Baseline, Workforce Development, Housing Needs and Demand Analysis, Aggregate Resources, and Regional Economic Development studies*.

Project Workforce

- 1 The three Project phases are:
 - Pre-Construction (2023 to 2032)
 - Construction (2033 to 2042)
 - Operations (2043 and beyond; does not include monitoring and decommissioning phases)

- 2 Table 1 describes the workforce associated with the Project phases.

Table 1: Projected Workforce by Phase

		NWMO Staff	Surface Trades	Underground Trades	Total
On-site	Pre-construction (2028)	20	-	-	20
	Construction (2033)	40	300	130	470
	Operations (2043)	510	10	60	580
Off-site	Pre-construction (2028)	180	-	-	180
	Construction (2033)	170	-	-	170
	Operations (2043)	120	-	-	120
Total	Pre-construction (2028)	200	-	-	200
	Construction (2033)	210	300	130	640
	Operations (2043)	630	10	60	700

Source: NWMO (October 2021)

Population, Housing & Employment Projections

- 1 The Municipality of South Bruce (metroeconomics, 2022) prepared base case ('without the Project') projections for population, housing, and employment for the five core area municipalities. A corresponding set of incremental 'anticipated Project effects' projections for each of these demographics for the same municipalities was also prepared (metroeconomics, 2022) utilizing Municipality of South Bruce Project-related growth targets. Tables 2 and 3 present the projections.

Table 2: Base Case Projections

			2021	2031	2041	2046
Population	South Bruce		6,250	7,420	8,400	8,760
	Other Core Area Municipalities	Huron-Kinloss	7,860	9,340	10,570	11,040
		Brockton	10,130	11,960	13,460	14,010
		North Huron	5,150	6,040	6,760	7,010
		Morris-Turnberry	3,940	4,690	5,330	5,570
		Sum of Other Core Area	27,080	32,030	36,120	37,630
	Total Core Area		33,330	39,450	44,520	46,390
Dwellings	South Bruce		2,360	2,850	3,200	3,300
	Other Core Area Municipalities	Huron-Kinloss	3,050	3,540	3,940	4,080
		Brockton	4,130	4,830	5,400	5,620
		North Huron	2,160	2,560	2,840	2,950
		Morris-Turnberry	1,330	1,520	1,660	1,690
		Sum of Other Core Area	10,670	12,450	13,840	14,340
	Total Core Area		13,030	15,300	17,040	17,640
Employment	South Bruce		1,570	1,730	1,880	1,950
	Other Core Area Municipalities	Huron-Kinloss	1,860	2,040	2,290	2,410
		Brockton	3,870	4,380	4,970	5,270
		North Huron	2,520	2,800	3,160	3,350
		Morris-Turnberry	1,010	1,130	1,240	1,290
		Sum of Other Core Area	9,260	10,350	11,660	12,320
	Total Core Area		10,830	12,080	13,540	14,270

Source: metroeconomics (2022)

Table 3: Anticipated Project Effects Projections

			2021	2031	2041	2046
Population	South Bruce		-	200	640	780
	Other Core Area Municipalities	Sum of Other Core Area	-	200	640	1,020
	Total Core Area		-	400	1,280	1,800
Dwellings	South Bruce		-	70	200	250
	Other Core Area Municipalities	Sum of Other Core Area	-	70	220	350
	Total Core Area		-	140	420	600
Employment	South Bruce		-	230	730	840
	Other Core Area Municipalities	Sum of Other Core Area	-	40	170	420
	Total Core Area		-	270	900	1,260

Source: metroeconomics (2022)

- 2 For this study, the employment projections were incorporated in the analysis.

2. Methodology

2.1 General Approach

- 1 The NWMO and the MSB drafted Statements of Work for each community study in response to the MSB's 36 Guiding Principles. As previously mentioned, the community studies are being undertaken by the NWMO or the MSB, with some being joint efforts.
- 2 The socio-economic community studies were categorized into three themes: Economics, Social Cultural, and Infrastructure and Aggregate.
- 3 The following methodology pertains to the 13 community studies solely or jointly led by the NWMO.
- 4 Based on the Statements of Work, work plans for each community study were developed. The work plans:
 - Outlined the peer review approach with the MSB
 - Identified linkages to other studies
 - Identified the spatial and temporal boundaries
 - Identified key assumptions that will dictate the completion of the study
 - Described the tasks associated with the study and schedule for each task
 - Identified key information sources and data collection methods
- 5 Draft work plans were reviewed by the MSB and its peer review team. Formal peer review team comments on the draft community study work plans were received in September 2021. The peer review of the draft *Workforce Development Study* work plan was undertaken by MDB Insight Inc.
- 6 DPRA provided Comment Disposition Tables and revised work plans to respond to the peer review comments in October 2021. In a memo dated November 3, 2021, the GHD team provided acknowledgement of comments that were addressed in the revised community study work plans or flagged to be addressed in future work such as the community study reports.
- 7 Several consultant consortium meetings and "check-in" meetings with the MSB and its peer review team were held during the development of each study.

- 8 In addition, a presentation related to the *Workforce Development Study* was made at one of the monthly Project meetings with the CAOs/staff of four of the municipalities in the Core Study Area (South Bruce, Huron-Kinloss, Brockton, North Huron¹):
 - a. January 20, 2022: discussion of baseline information to date for the *Labour Baseline, Workforce Development, and Housing Needs and Demand Analysis* studies
- 9 The general approach can be summarized in the following series of steps:
 - a. Review a variety of data sources to assemble labour force and job statistics for the three study areas.
 - b. Study the NWMO parameters data to determine Project labour force requirements across the three Project phases.
 - c. Conduct interviews with knowledge holders to understand area labour force capabilities, trends, and issues.
 - d. Identify agencies and organizations that can play a role in developing and training the workforce necessary to build and operate the Project.
 - e. Review available growth strategies for Bruce County and other salient areas to gain insight into future area employment forecasts.

2.2 Data Collection / Information Sources

- 1 Statistics Canada data was used to assemble labour force and job statistics from 2001 to 2016.
- 2 Manifold Data Mining Inc. (hereafter referred to as Manifold) data was used to construct labour force profiles current to 2020 for the three study areas.
- 3 Emsi data from 2021 to 2028 was used to assemble jobs and occupational data for each of the three study areas.
- 4 Employment projections were derived from Ministry of Finance 2021 projections for the Regional Study Area. Local Study area projections other than those municipalities which also fall in the Core Study area were derived from data sourced from Bruce County (2021), Hemson Consulting Ltd. (2021), Huron County Planning and Economic Development Department (2021) and The Corporation of the County of Wellington (2021). Projections for the five Core Study Area municipalities were sourced from metroeconomics (2022).

¹ In February 2022, the Municipality of Morris-Turnberry began to participate in these meetings.

- 5 Bruce Power employee postal code data was compiled to determine place of residence distributions.
- 6 A variety of published documents from economic development agencies, municipalities, labour boards and key employer (i.e., Bruce Power) were examined to better understand the workings of the area labour markets.
- 7 As noted above (Section 1.3), the *Labour Baseline Study* is closely intertwined with this *Workforce Development Study*, and both reports should be read in conjunction with each other. These two studies are also closely linked to the *Housing Needs and Demand Analysis Study*.
- 8 The findings from the *Workforce Development Study* have been used in other community studies (e.g., *Vulnerable Populations and Social Programs, Local/Regional Education. Road Conditions*) where the workforce by Project phase in the context of growth expectations in the study areas (metroeconomics, 2022) is used to understand potential changes resulting from the Project.

2.2.1 Knowledge Holder Interviews

- 1 Interviews were conducted with economic development organizations, area employers, planning officials, training organizations and municipal administrators to gain insight into labour force characteristics and issues in the Local and Core study areas.
- 2 The inventory of knowledge holders interviewed is set out in **Appendix B** along with a table of key findings from the interviews.
- 3 The rationale for who was interviewed was in large part based on professional experience and knowledge of the types of agencies and personnel most likely capable of providing insight into the labour force characteristics of the study areas.

2.3 Assessment

- 1 The framework for the analysis in this report is “supply and demand”.
- 2 The current and projected supply side of the equation was derived from statistical data, documents and insights garnered through interviews.
- 3 The demand side was derived from Project labour force requirements set out by NWMO (October 2021) in their release of Project parameter information.

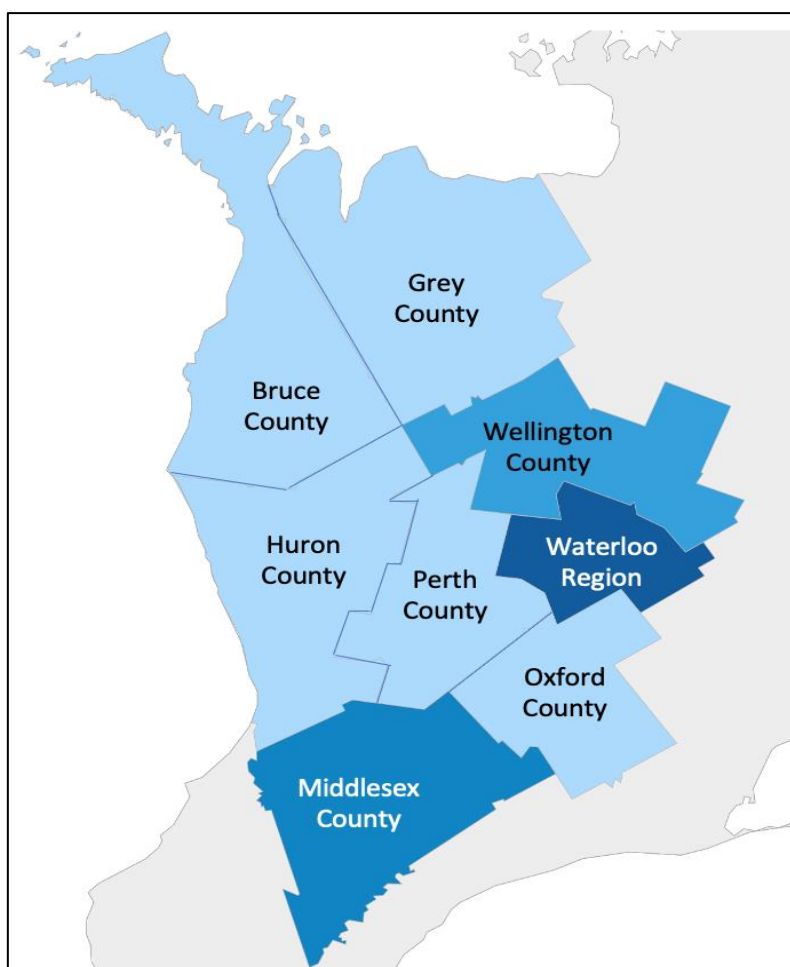
- 4 Superimposing the Project labour force requirements on the supply side profiles provided the basis for making an evaluation of area capabilities to accommodate the Project (refer to **Appendix C**).
- 5 Opportunities to optimize local work force development were identified at the pre-construction, construction, and operation phases of the Project.
- 6 Workforce development includes the leveraging and coordination of public and private-sector policies and programs to:
 - Provide training to individuals, helping them secure a sustainable livelihood for the long-term;
 - Supply a talented and skilled labour force to businesses and organizations within the community, helping them to achieve exemplary goals; and
 - Create economic prosperity for study area communities, enabling them to achieve societal well-being.

3. Existing Conditions

3.1 Regional Study Area

- 1 The Regional Study Area is set out in Figure 1. All parts of the area are within a 1.5 to 2-hour drive time of Teeswater.
- 2 The area is also home to a large number of firms that are part of the supply chain for the Bruce Nuclear Station.

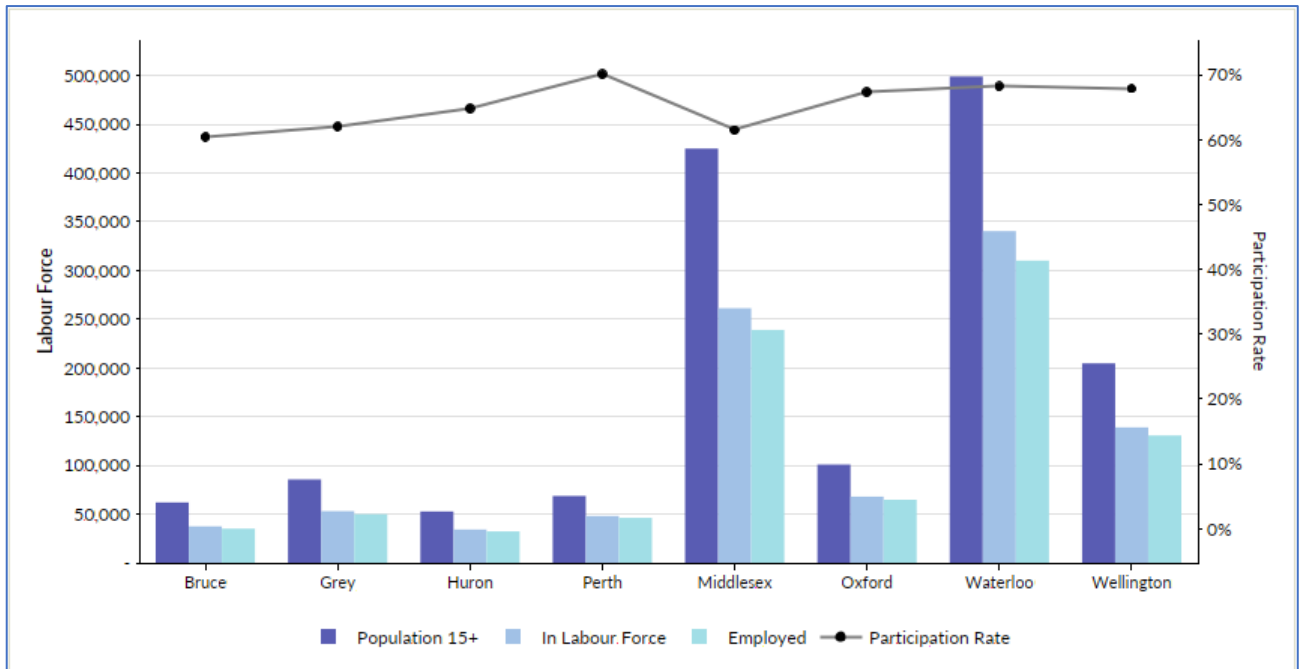
Figure 1: Regional Study Area



Source: Keir Corp using mapping from Emsi Burning Glass (2021)

- 3 Based on Manifold 2020 data the area has a labour force population (age 15 years plus) of approximately 1.5 million. Persons active in the labour force total approximately 981,000 and those employed sum to roughly 908,000. The overall labour force participation rate is in the order of 66% and the unemployment rate is about 7.5%. Figure 2 presents the labour force profile within the Regional Study Area by county/region.

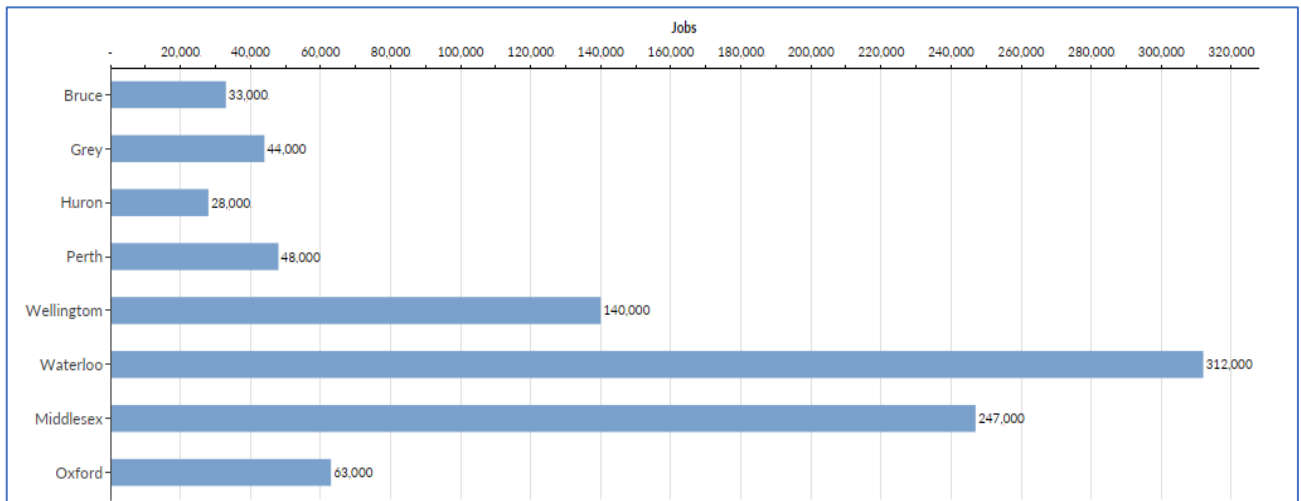
Figure 2: Regional Study Area Labour Force Profile (2020)



Source: Keir Corp using data from Manifold Data Mining Inc (2020)

4 Currently, within the Regional Study Area there are an estimated 914,000 jobs. The distribution of these jobs across the constituent counties and region is profiled in Figure 3.

Figure 3: Regional Study Area - Jobs Total (2021)



Source: Keir Corp using data from Emsi Burning Glass (2021)

5 Based on the 2021 job numbers, the approximate percentage distribution of jobs among the constituent counties that make up the Regional Study Area is provided in Table 4.

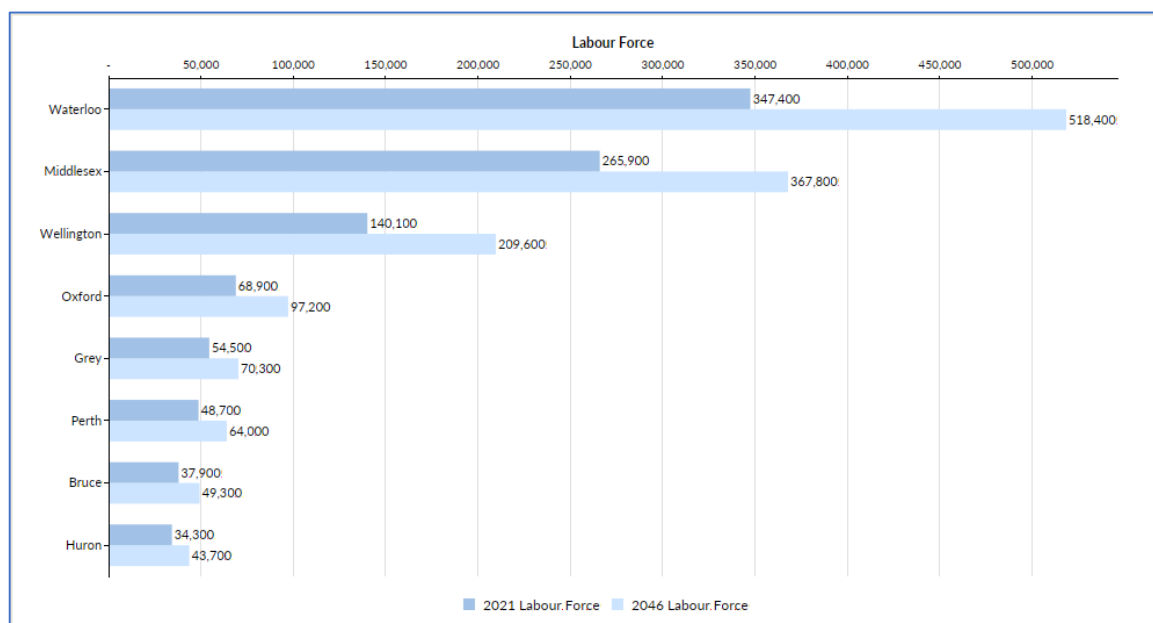
Table 4: Regional Study Area – Job Distribution (2021)

	Job Distribution 2021
Bruce	4%
Grey	5%
Huron	3%
Perth	5%
Wellington	15%
Waterloo	34%
Middlesex	27%
Oxford	7%
Regional Total	100%

Source: Keir Corp using data from Emsi Burning Glass (2021)

6 Figure 4 sets out labour force projections for the Regional Study Area counties. Between 2021 and 2046, the labour force in the area is expected to grow by 42% from just under a million to 1.4 million. Waterloo, Middlesex and Wellington and Oxford collectively account for 88% of the labour force growth. Bruce, Grey, Huron, and Perth collectively account for the remaining 12%.

Figure 4: Regional Study Area Labour Force Growth (2021-2046)



Source: Keir Corp projection using data from Ministry of Finance (2021) and Manifold Data Mining Inc (2020)

- 7 The occupational groupings and related National Occupational Categories (NOC) codes furnished by NWMO are described in Table 5. They provide a high-level profile of the types of occupations that will characterize the Project’s workforce over its timeframe. Each occupational grouping is associated with a skill level that describes in broad terms the educational requirements of the occupations included within the category.
- Skill Level A occupations usually require university education;
 - Skill Level B occupations usually require college education, specialized training, or apprenticeship training; and
 - Skill Level C occupations usually require secondary school and/or occupation-specific training.
- 8 It is expected that many of the employees working on the Project will require a university or college education with a focus on STEM (Science, Technology, Engineering and Mathematics) programs. Some analysts suggest that many of the skilled trades should also be included in the STEM designation. They point out that more advanced training in the skills trades has become necessary to keep pace with the increasing sophistication of equipment, materials, installation and construction technologies.

Table 5: NWMO Occupational Groupings

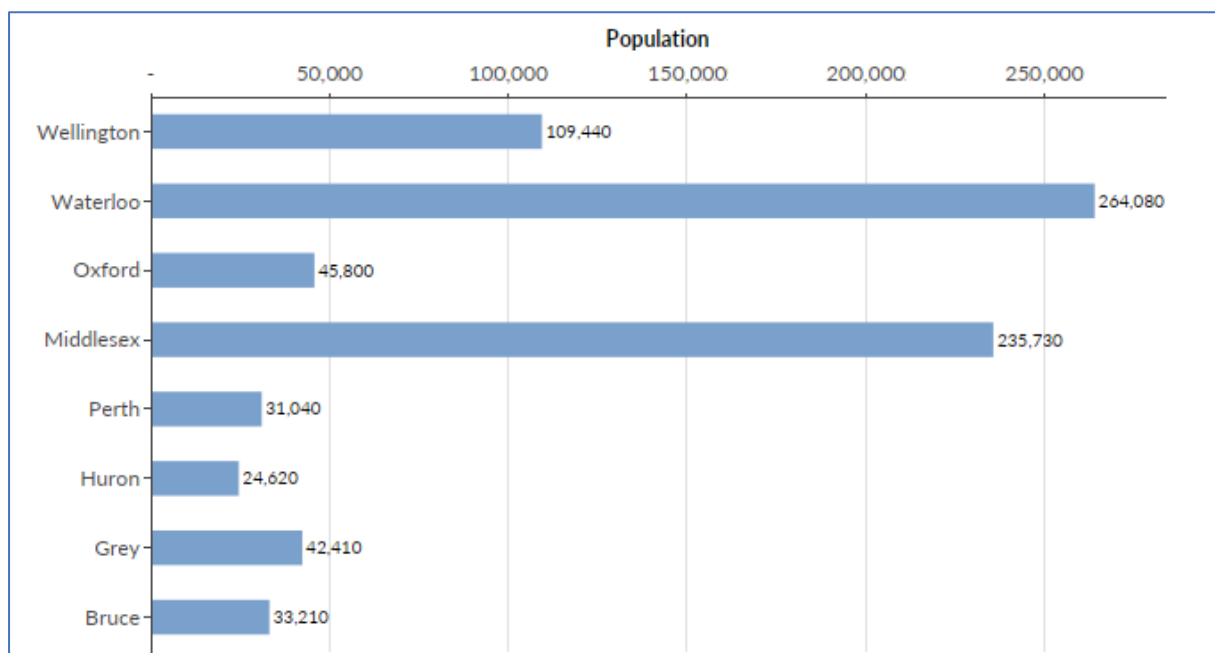
NWMO Occupational Groupings	NOC Codes	Skill Level
Senior Management	00	A
Specialized middle management	011, 021, 071, 073, 081	A
Professional occupations in natural and applied sciences	21	A
Technical occupations related to natural and applied sciences	22	B
Maintenance and equipment operation trades	73	B
Transport and heavy equipment operation and related maintenance occupations	75	B
Supervisors and technical occupations in natural resources, agriculture, and related production	82	B
Workers in natural resources (e.g., aggregates), agriculture, and related production	84	C

NWMO Occupational Groupings	NOC Codes	Skill Level
Processing, manufacturing, and utilities supervisors and central control operators	92	B
Processing and manufacturing machine operators and related production workers	94	C
Calculated other direct positions established in response to the NWMO procurement of construction and other services including industrial, electrical and construction trades	72	B

Source: NWMO and Statistics Canada; National Occupational Categories

9 It is estimated that 52% of Regional Study Area’s labour force population has post-secondary education. Figure 5 provides a distribution of this population within the Regional Study Area.

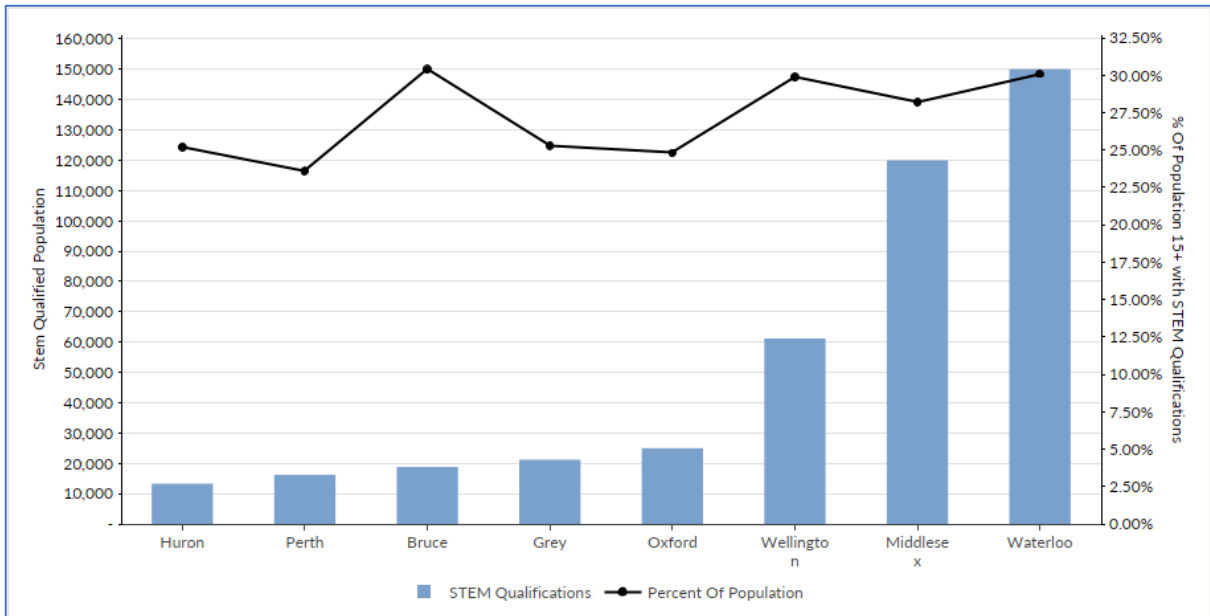
Figure 5: Distribution of Population with Post-Secondary Education within the Regional Study Area (2020)



Source: Keir Corp using data from Manifold Data Mining Inc (2020)

10 It is further estimated that of this population with post-secondary education, 28% have STEM related qualifications.

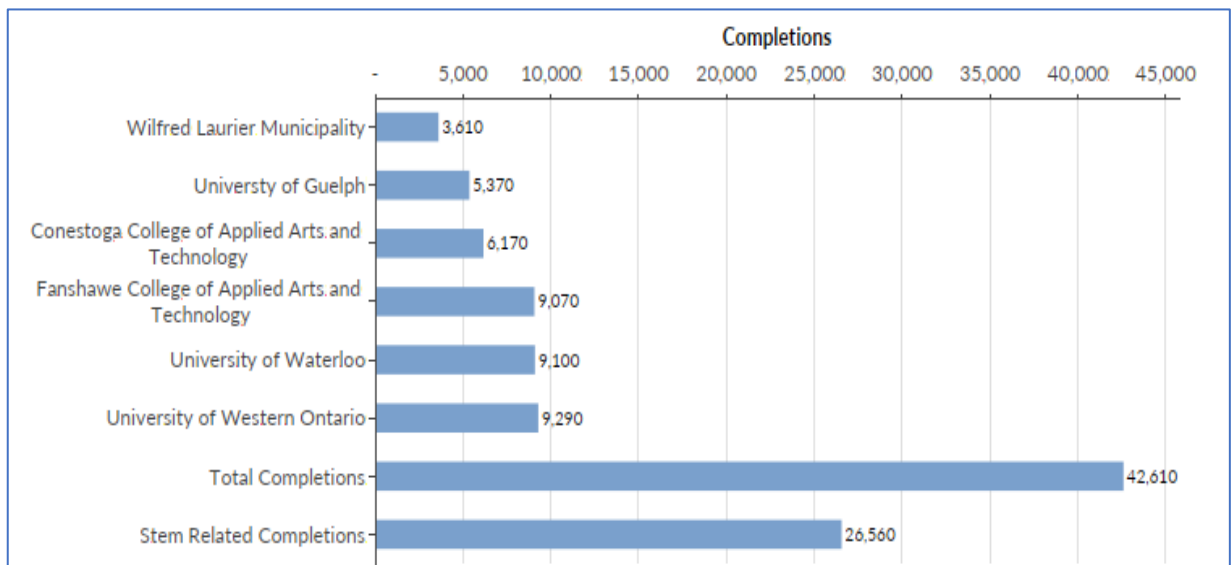
Figure 6: Distribution of Population 15 Years of Age and Older with STEM-Related Qualifications (2020)



Note: STEM refers to Science, Technology, Engineering & Mathematics.
 Source: Keir Corp using data from Manifold Data Mining Inc (2020)

11 Furthermore, in 2018, as described by Figure 7, over 60% of the graduates from universities and colleges located within the Regional Study Area were in STEM related programs.

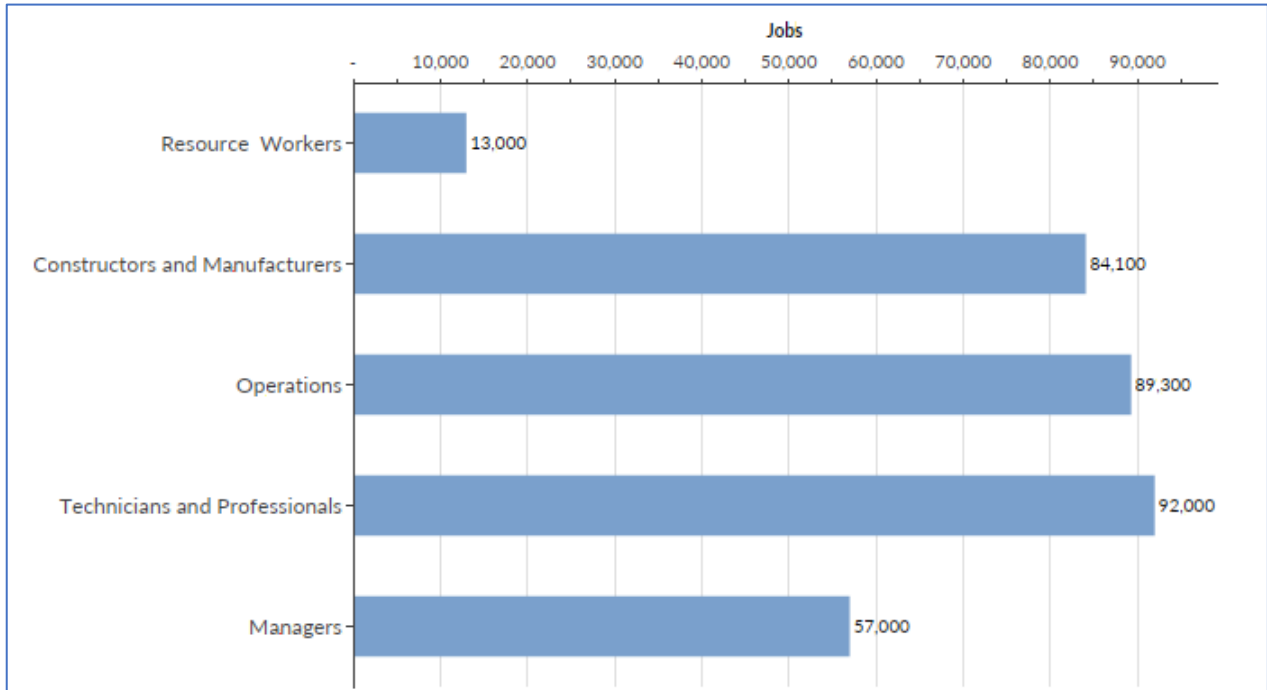
Figure 7: University and College Completions (2018)



Source: Keir Corp using data from Emsi Burning Glass (2021)

12 Figure 8 provides a summary breakdown of the presence of the NWMO occupational categories within the Regional Study Area.

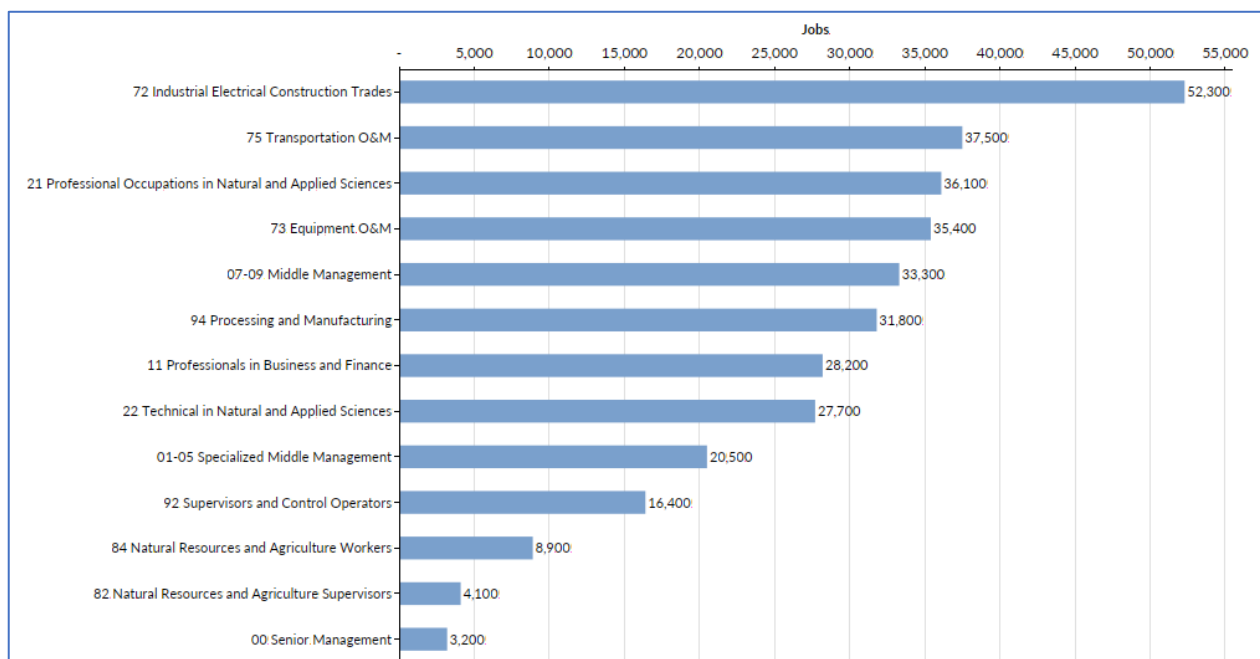
Figure 8: Regional Study Area Jobs in NWMO Identified Occupational Categories (2021)



Source: Keir Corp with data from Emsi Burning Glass (2021)

13 Figure 9 takes a closer look at the set of high-level occupational groupings described in Figure 8 and provides a more detailed breakdown of the presence of these occupations within the Regional Study Area.

Figure 9: Regional Study Area Jobs in NWMO Identified Occupations (2021)



Source: Keir Corp with data from Emsi Burning Glass (2021)

14 In total, these occupational groupings sum to 335,400 which accounts for approximately 37% of the 2021 jobs in the Regional Study Area.

15 Table 6 provides an aggregated summary of the distribution of these occupations by the constituent upper tier municipalities that make up the Regional Study Area. Waterloo, Middlesex, and Wellington account for almost 74% of the total. Bruce, Grey, and Huron account for roughly 13% and Perth and Oxford make up the balance.

Table 6: Distribution of Jobs within Regional Study Area for NWMO Identified Occupational Categories (2021)

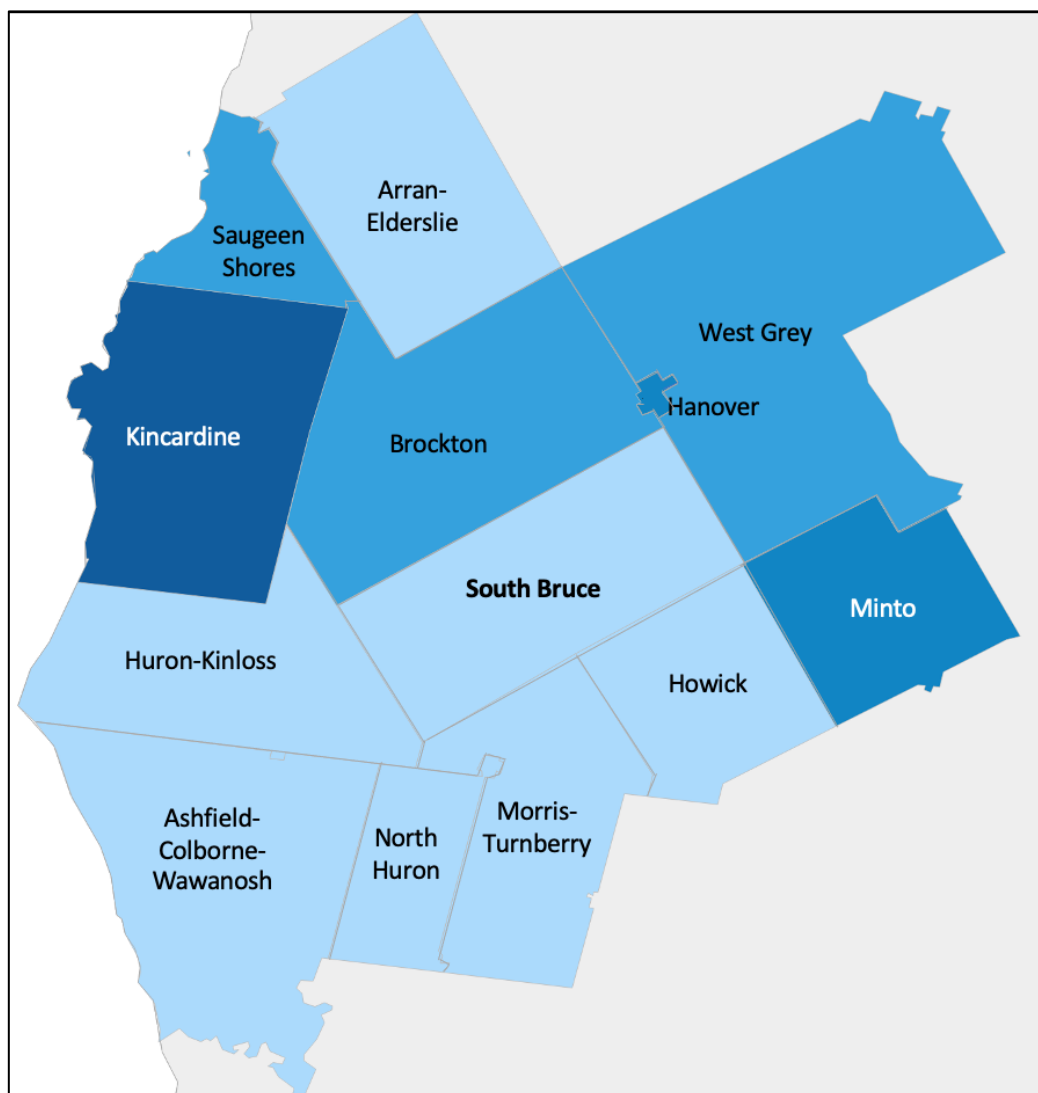
	Total of NWMO Specified Occupations	Area Distribution
Bruce	14,500	4%
Grey	15,700	5%
Huron	12,100	4%
Perth	20,000	6%
Wellington	55,800	17%
Waterloo	115,100	34%
Middlesex	76,200	23%
Oxford	26,000	8%
Regional Total	335,400	100%

Source: Keir Corp with data from Emsi Burning Glass (2021)

3.2 Local Study Area

- 1 The Local Study Area is set out in Figure 10. It encompasses 13 municipalities distributed within four counties (Bruce, Grey, Huron, and Wellington). The study area includes South Bruce and surrounding municipalities. All parts of the Local Study Area are within an hour driving time of Teeswater.

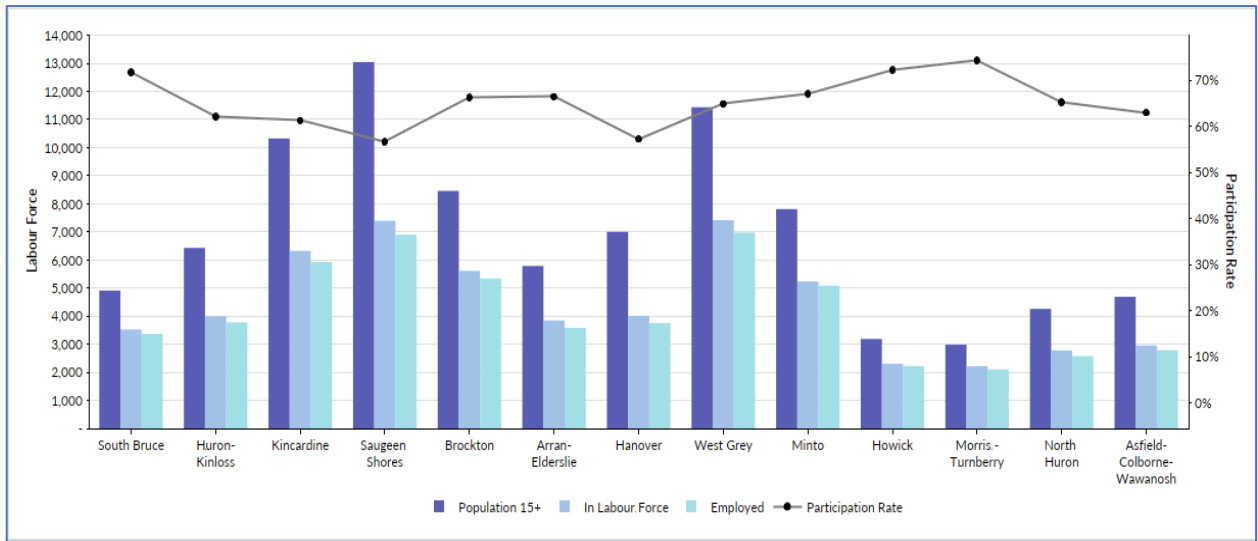
Figure 10: Local Study Area



Source: Keir Corp using mapping from Emsi Burning Glass (2021)

2. Manifold 2020 data reveals that the Local Study Area has a labour force population (age 15 years plus) of approximately 90,300. Persons active in the labour force total approximately 57,600 and those employed sum to roughly 54,400. The overall labour force participation rate is in the order of 64% and the unemployment rate is about 5.6%. Figure 11 presents the labour force profile for the area municipalities.

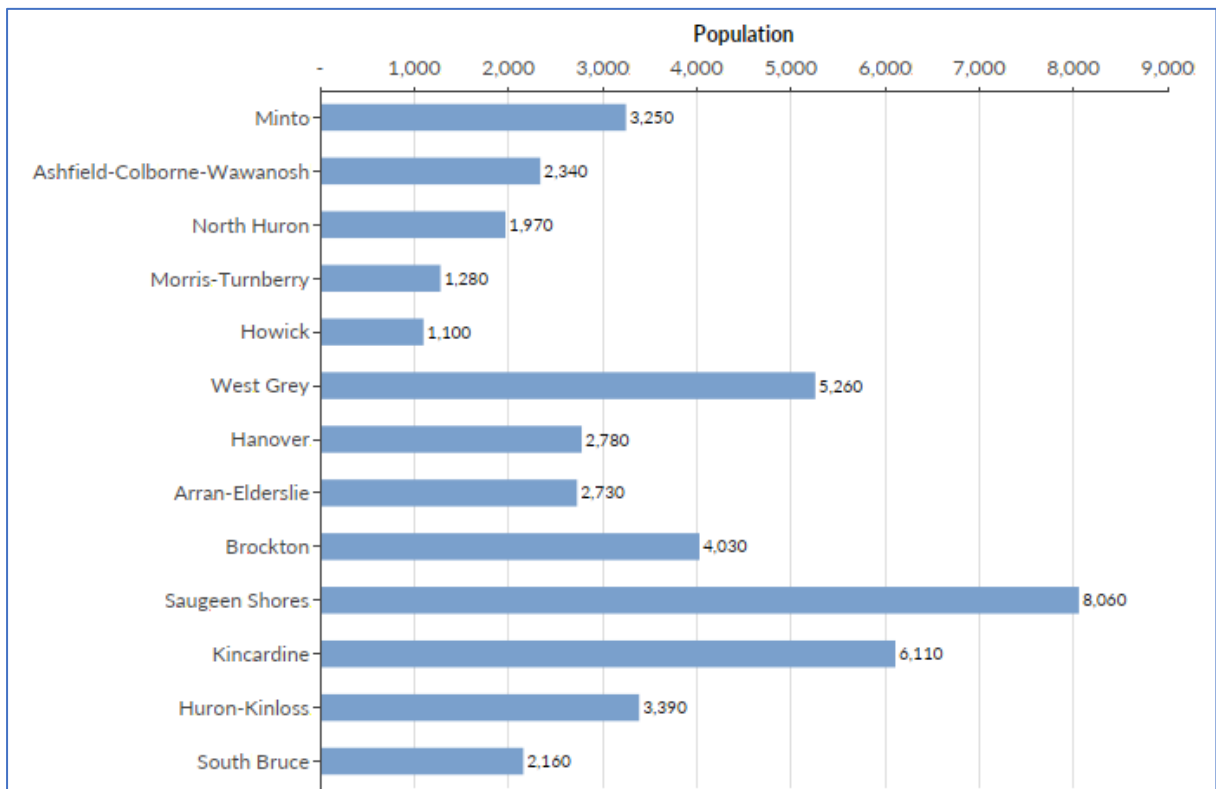
Figure 11: Local Study Area Labour Force Profile (2020)



Source: Keir Corp using data from Manifold Data Mining Inc. (2020)

- It is estimated that 49% of this labour force population has post-secondary education. Figure 12 provides a distribution of this population within the Local Study Area.

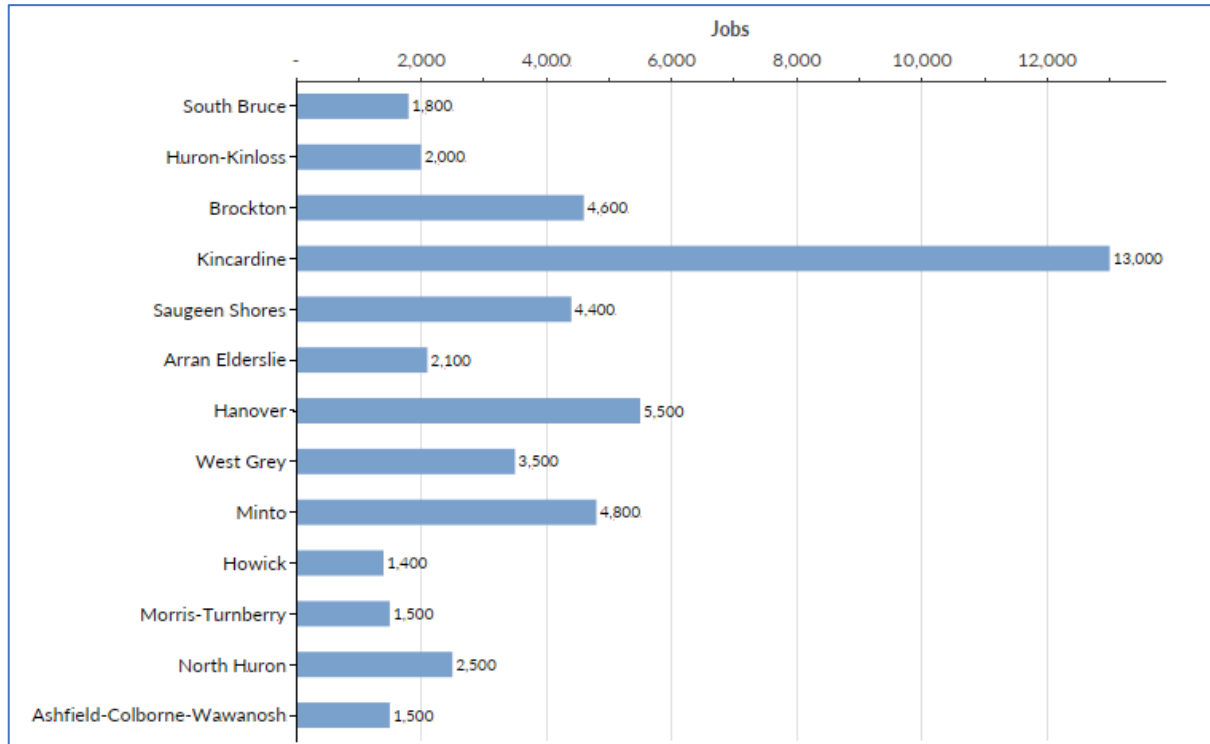
Figure 12: Distribution of Population with Post-Secondary Education within the Local Study Area (2020)



Source: Keir Corp using data from Emsi Burning Glass (2021)

- 4 Within the Local Study Area, in 2021 there were an estimated 48,600 jobs. The distribution of these jobs across the constituent municipalities is set out in Figure 13.

Figure 13: Local Study Area – Job Totals (2021)



Source: Keir Corp using data from Emsi Burning Glass (2021)

- 5 Based on the 2021 job numbers the approximate percentage distribution of jobs among the municipalities that make up the Local Study Area is provided in the Table 7.

Table 7: Local Study Area – Job Distribution (2021)

		Job Distribution 2021
Bruce	South Bruce	4%
	Huron-Kinloss	4%
	Brockton	9%
	Kincardine	27%
	Saugeen Shores	9%
	Arran Elderslie	4%
	Sum of Bruce	57%
Grey	Hanover	11%
	West Grey	7%
	Sum of Grey	18%
Wellington	Minto	10%
	Sum of Wellington	10%
Huron	Howick	3%
	Morris-Turnberry	3%
	North Huron	5%
	Ashfield-Colborne-Wawanosh	3%
	Sum of Huron	14%
Local Area Total		100%

Source: Keir Corp using data from Emsi Burning Glass (2021)

- 6 The occupational groupings furnished by NWMO provide a high-level profile of the types of occupations that will characterize its workforce over the Project’s timeframe. Figure 14 provides a summary breakdown of the presence of these occupations within the Local Study Area. Table 8 provides a more detailed breakdown of the occupations in these categories.

Figure 14: Local Study Area Jobs in NWMO Identified Occupational Categories (2021)



Source: Keir Corp using data from Emsi Burning Glass (2021) and NWMO (2021)

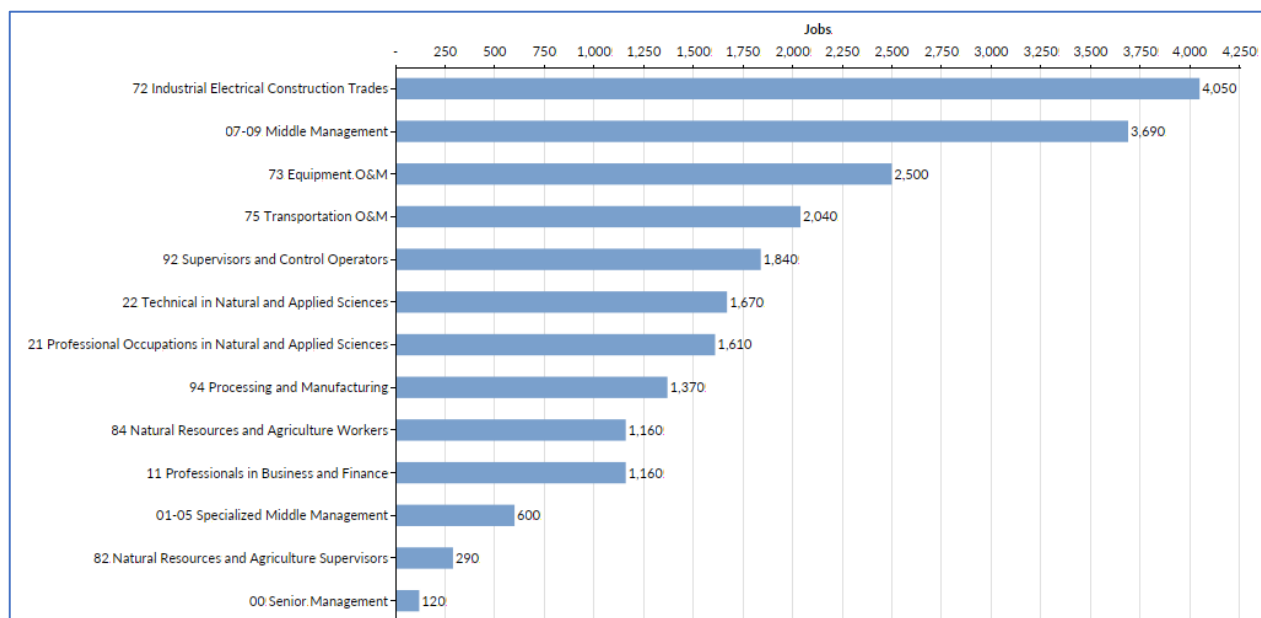
Table 8: Breakdown of Occupational Categories

Resource Workers	Natural Resources and Agriculture Workers
	Natural Resources and Agriculture Supervisors
Constructors and Manufacturers	Industrial Electrical Construction Trades
	Processing and Manufacturing
Operations	Transportation O&M
	Equipment O&M
	Supervisors and Control Operators
Technicians and Professionals	Technical in Natural and Applied Sciences
	Professional Occupations in Natural and Applied Sciences
	Professionals in Business and Finance
Managers	Middle Management
	Specialized Middle Management
	Senior Management

Source: Keir Corp using data from Emsi Burning Glass (2021) and NWMO (2021)

7 Figure 15 takes a closer look at the set of high-level occupational groupings described in Figure 14 and provides a more detailed breakdown of the presence of these occupations within the Local Study Area.

Figure 15: Local Study Area Jobs in NWMO Identified Occupations (2021)



Source: Keir Corp using data from Emsi Burning Glass (2021) and NWMO (2021)

8 In total these occupational groups sum to 22,100 which accounts for approximately 45% of the 2021 jobs in the Local Study Area.

9 Table 9 provides an aggregated summary of the distribution of these occupations by Local Study Area municipality. Within the Local Study Area, the Bruce County municipalities account for 58% of these jobs respectively, followed by the constituent municipal groupings in Huron (17%), Grey (15%) and Wellington (10%) Counties.

10 On an individual municipality basis, Kincardine is the standout with a 33% share of the Local Study Area jobs total. South Bruce by comparison accounts for 4%.

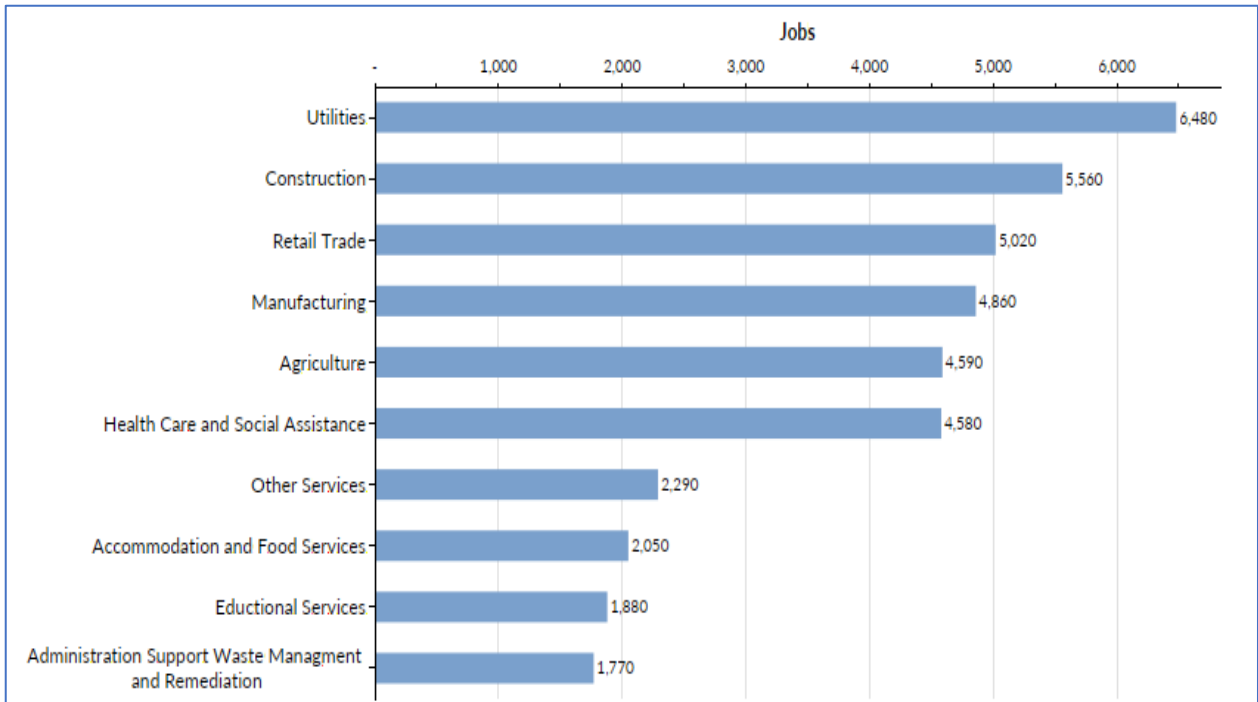
Table 9: Distribution of Jobs within Local Study Area for NWMO Denoted Occupational Categories (2021)

		Total of NWMO Specified Occupations	Area Distribution
Bruce	South Bruce	950	4%
	Huron-Kinloss	880	4%
	Brockton	1,800	8%
	Kincardine	7,370	33%
	Saugeen Shores	1,040	5%
	Arran Elderslie	870	4%
	Sum of Bruce	12,910	58%
Grey	Hanover	1,670	8%
	West Grey	1,620	7%
	Sum of Grey	3,290	15%
Wellington	Minto	2,200	10%
	Sum of Wellington	2,200	10%
Huron	Howick	920	4%
	Morris-Turnberry	930	4%
	North Huron	970	4%
	Ashfield-Colborne-Wawanosh	880	4%
	Sum of Huron	3,700	17%
Local Area Total		22,100	100%

Source: Keir Corp using data from Emsi Burning Glass (2021)

11 Based on job counts, the 10 top industry sectors in the Local Study Area are set out in Figure 16. Utilities tops the list, followed by construction. Retail trade, manufacturing, agriculture, and health care occupy the mid-range, followed in the lower part of the spectrum by various services including waste management.

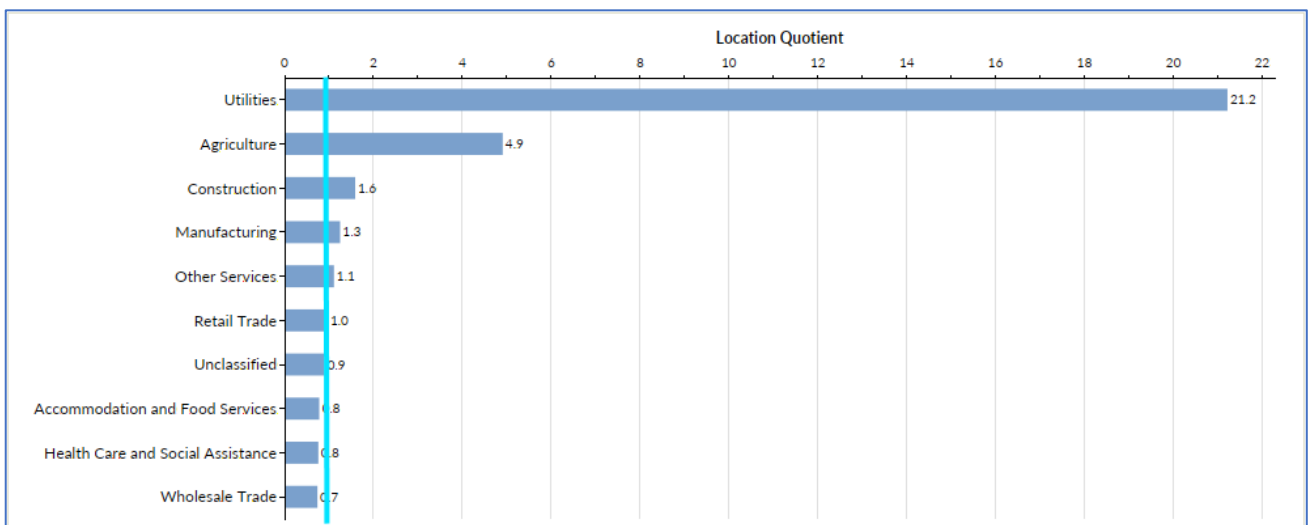
Figure 16: Local Study Area Top 10 Industry Sectors by Number of Jobs (2021)



Source: Keir Corp using data from Emsi Burning Glass (2021)

12 Figure 17 sets out the industry sectors in the Local Study Area that have the highest location quotients. These statistics indicate job concentrations in industry sectors relative to what would be expected across Canada. A value of 1 is the expected benchmark. Higher values show concentrations above the benchmark and lesser values indicate weaker concentrations below the benchmark.

Figure 17: Local Study Area Industry Sectors with Highest Location Quotients (2021)



Source: Keir Corp using data from Emsi Burning Glass (2021)

13 Once again, the utilities sector stands out, reflecting an exceptional concentration of jobs. The presence of Bruce Power is undoubtedly the main influence. Agriculture also shows a high quotient followed by construction and manufacturing. Retail trade is at the benchmark and the remaining sectors fall beneath it.

14 Figure 18 shows the 10 fastest growing occupations in the Local Study Area over the period 2016 to 2021. Trades, transport and equipment operators top the list, followed by natural and applied sciences and related occupations. At the bottom of the list there are steep declines in occupations associated with health, social services, and business administration.

15 STEM occupations generally fall within the occupational category of natural and applied sciences and related occupations. In terms of percent change over the 2016-2021 period, this occupational group shows the largest value at 30%.

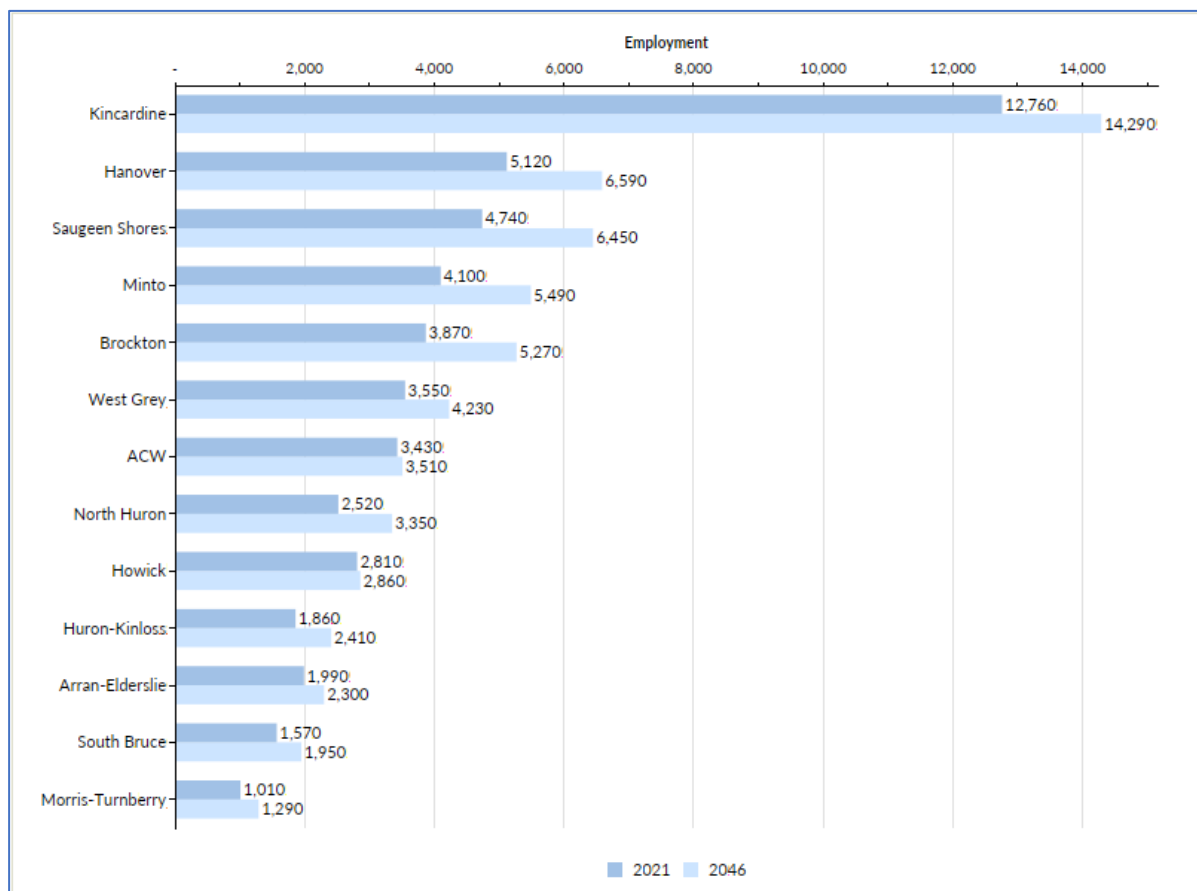
Figure 18: Local Study Area Top Ten Fastest Growing Occupational Categories (2016-2021)

Occupation	2016 Jobs	2021 Jobs	Change in Jobs (2016-2021)	% Change
Trades, transport and equipment operators and related occupations	9,188	10,033	845	9%
Natural and applied sciences and related occupations	2,476	3,224	748	30%
Management occupations	5,806	5,893	87	1%
Unclassified	678	617	-61	-9%
Occupations in manufacturing and utilities	4,706	4,640	-66	-1%
Occupations in art, culture, recreation and sport	689	614	-75	-11%
Natural resources, agriculture and related production occupations	2,009	1,879	-130	-6%
Health occupations	3,020	2,769	-251	-8%
Occupations in education, law and social, community and government services	3,932	3,677	-255	-6%
Business, finance and administration occupations	5,539	5,280	-259	-5%

Source: Keir Corp using data from Emsi Burning Glass (2021)

16 Figure 19 provides employment projections for the Local Study Area municipalities. Between 2021 and 2046 the employment in the area is expected to grow by 22% from approximately 49,000 to 60,000. Fifty-five percent of the projected employment growth in the Local Study Area is accounted for by the Bruce County municipalities. The two Grey County municipalities account for 20%, Minto accounts for 13% and the three Huron County Municipalities account for roughly 12%.

Figure 19: Local Study Area Employment Growth (2021 - 2046)

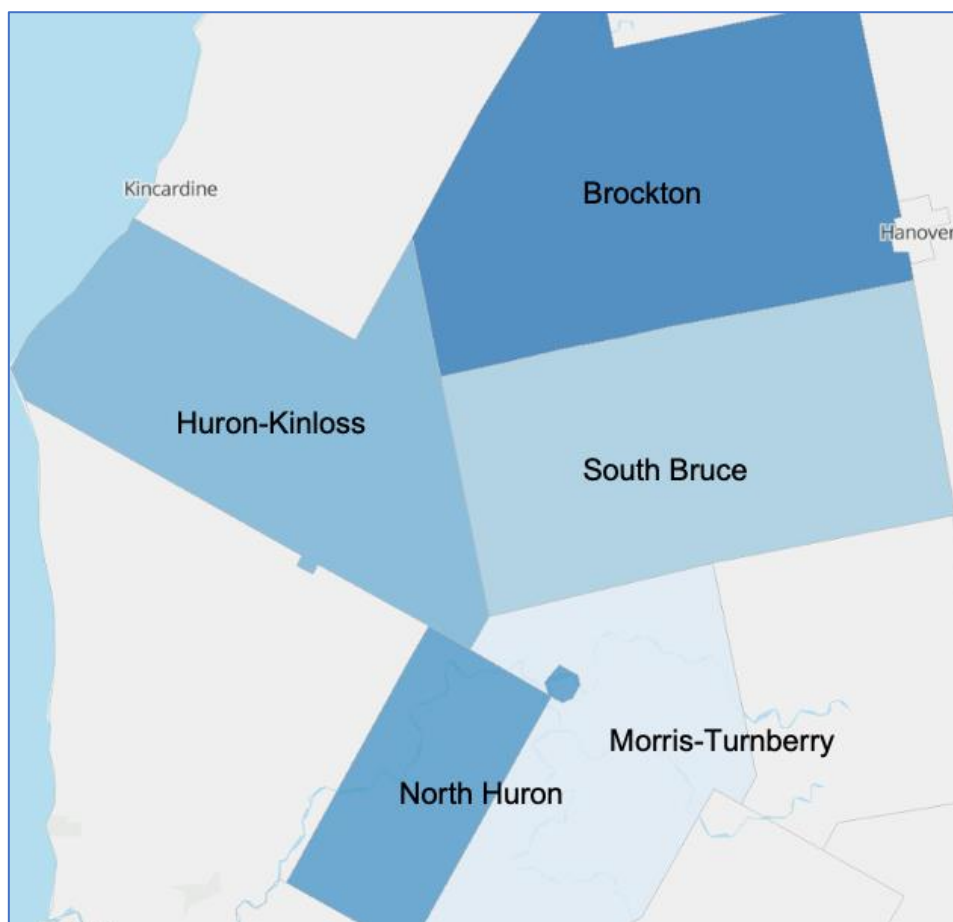


Source: Keir with data from Bruce County (2021), Hemson Consulting Ltd. (2021), Huron County Planning and Economic Development Department (2021), The Corporation of the County of Wellington (2021) and metroeconomics (2022)

3.3 Core Study Area

- 1 The Core Study Area comprises five municipalities – South Bruce, Huron-Kinloss, Brockton (Bruce County), Morris-Turnberry and North Huron (Huron County). Figure 19 provides a map showing their relative location.

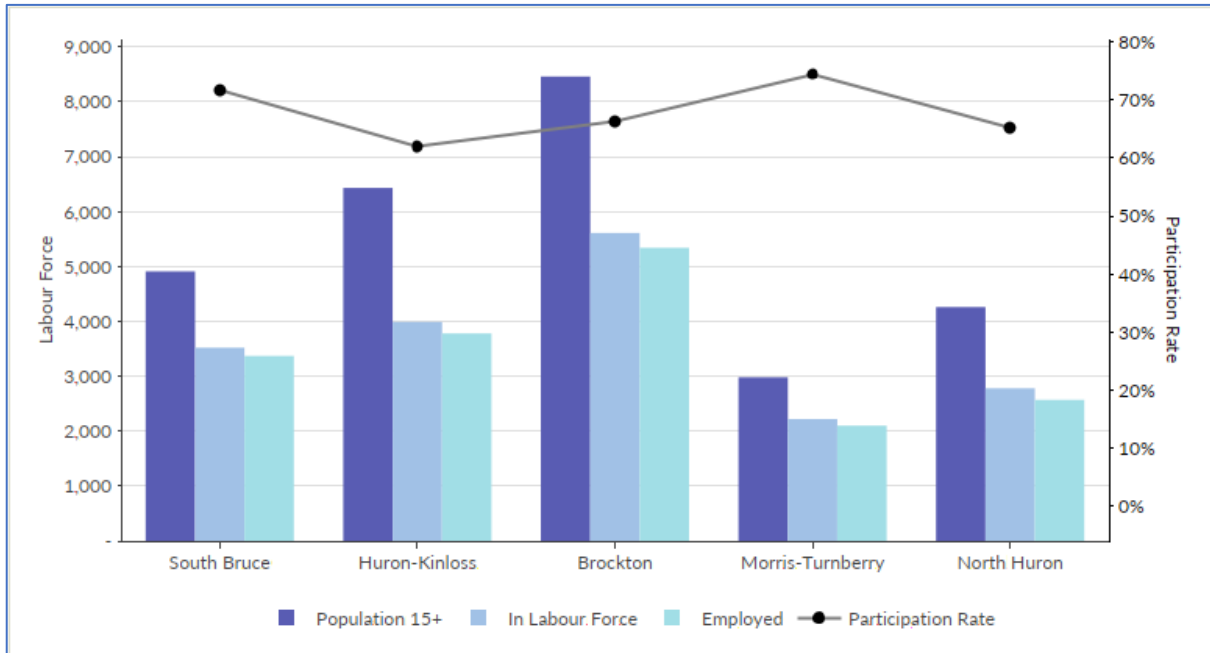
Figure 20: Core Study Area



Source: Keir Corp using mapping from Emsi Burning Glass (2021)

- 2 The Core Study Area has a labour force population (age 15 years plus) of approximately 27,000 (Manifold, 2020). Persons active in the labour force sum to approximately 18,100 and those employed total roughly 17,200. The overall labour force participation rate is in the order of 67% and the unemployment rate is about 5.3%. The labour force profile for the area municipalities is presented in Figure 21.

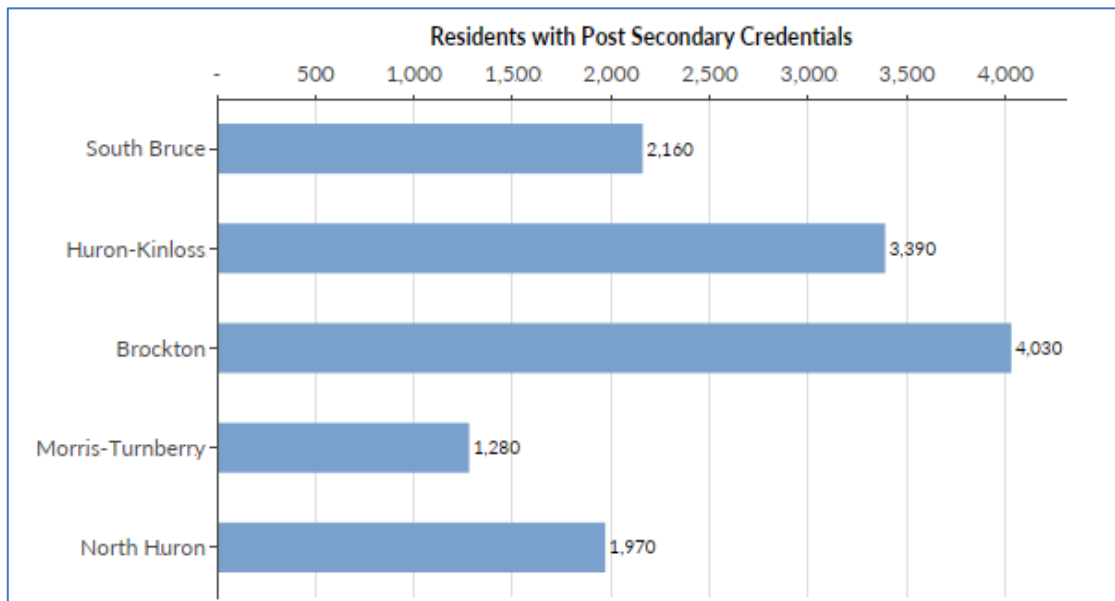
Figure 21: Core Study Area Labour Force Profile (2020)



Source: Keir Corp using data from Manifold Data Mining Inc. (2020)

- It is estimated that 48% of this labour force population has post-secondary education. Figure 22 shows the distribution of this population within the Core Study Area.

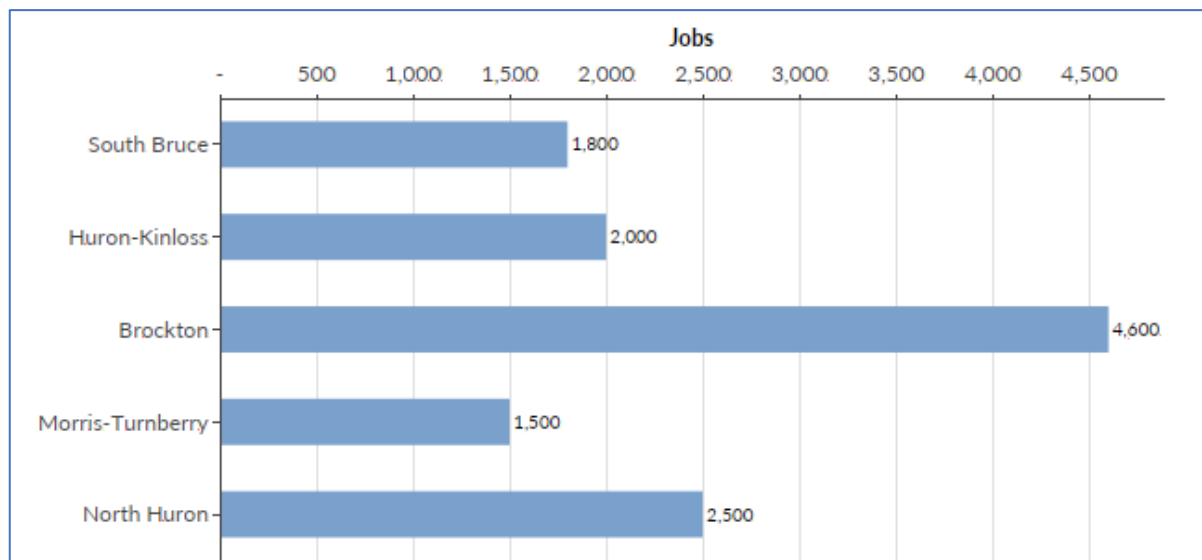
Figure 22: Distribution of Population with Post-Secondary Education within the Core Study Area (2020)



Source: Keir Corp using data from Manifold Data Mining Inc. (2020)

- 4 In 2021, in the Core Study Area there were an estimated 12,400 jobs. The distribution of these across the 5 municipalities is set out in Figure 23.

Figure 23: Core Study Area – Job Totals (2021)



Source: Keir Corp using data from Emsi Burning Glass (2021)

- 5 Based on the 2021 job numbers, the percentage distribution of jobs among the municipalities that make up the Core Study Area is provided in the Table 10.

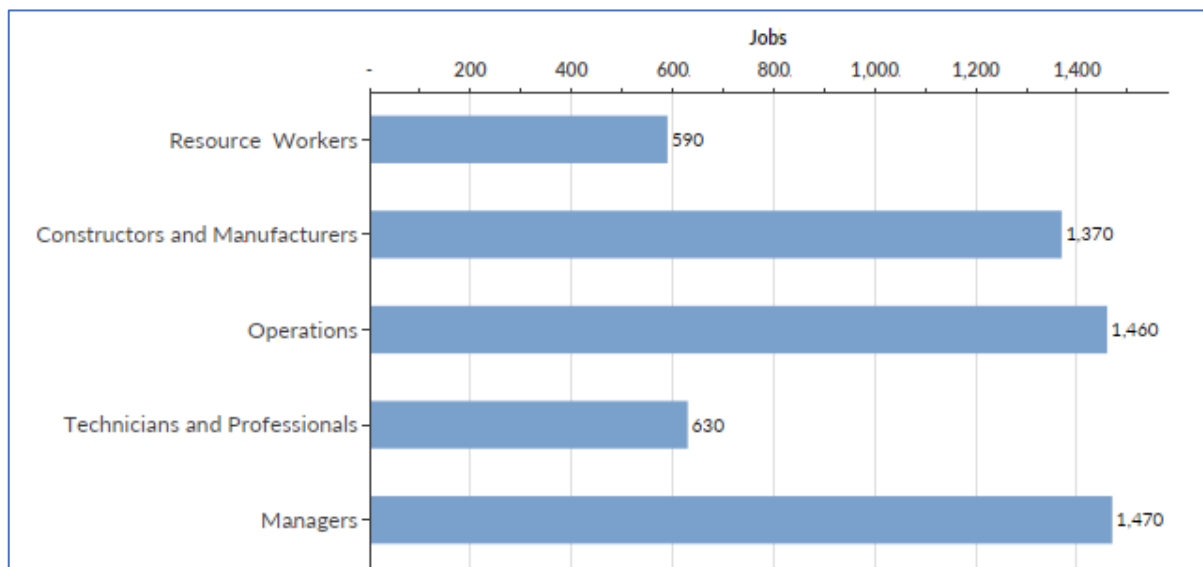
Table 10: Core Study Area - Job Distribution (2021)

	Job Distribution 2021
South Bruce	14%
Huron-Kinloss	16%
Brockton	37%
Morris-Turnberry	12%
North Huron	21%
Core Area Total	100%

Source: Keir Corp using data from Emsi Burning Glass (2021)

6 Job counts within the Core Study Area for the high-level occupational groupings that are of primary interest to NWMO are provided in Figure 24.

Figure 24: Core Study Area Jobs in NWMO Identified Occupational Categories (2021)

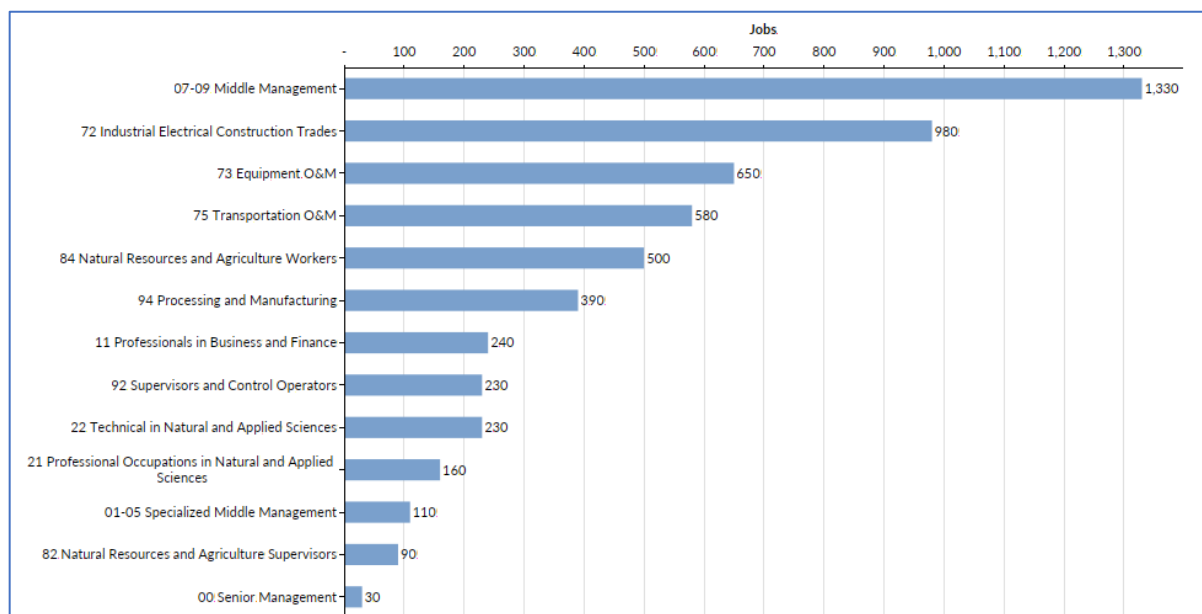


Source: Keir Corp using data from Emsi Burning Glass (2021) and NWMO (2021)

7 In total, these groups sum to approximately 5,500 jobs which accounts for roughly 45% of the 2021 jobs in the Core Study Area.

8 Figure 25 takes a closer look at the set of high-level occupational groupings described in Figure 24 and provides a more detailed breakdown of the presence of these identified occupations within the Core Study Area.

Figure 25: Core Study Area Jobs in NWMO Identified Occupations (2021)



Source: Keir Corp using data from Emsi Burning Glass (2021) and NWMO (2021)

9 Table 11 provides an aggregated summary of the distribution of these occupations by Core Study Area municipality. Within the Core Study Area, Brockton accounts for 33% of these jobs respectively followed by North Huron (18%), Morris-Turnberry and South Bruce (17%), and Huron-Kinloss (16%)

Table 11: Distribution of Jobs within Core Study Area for NWMO Identified Occupational Categories (2021)

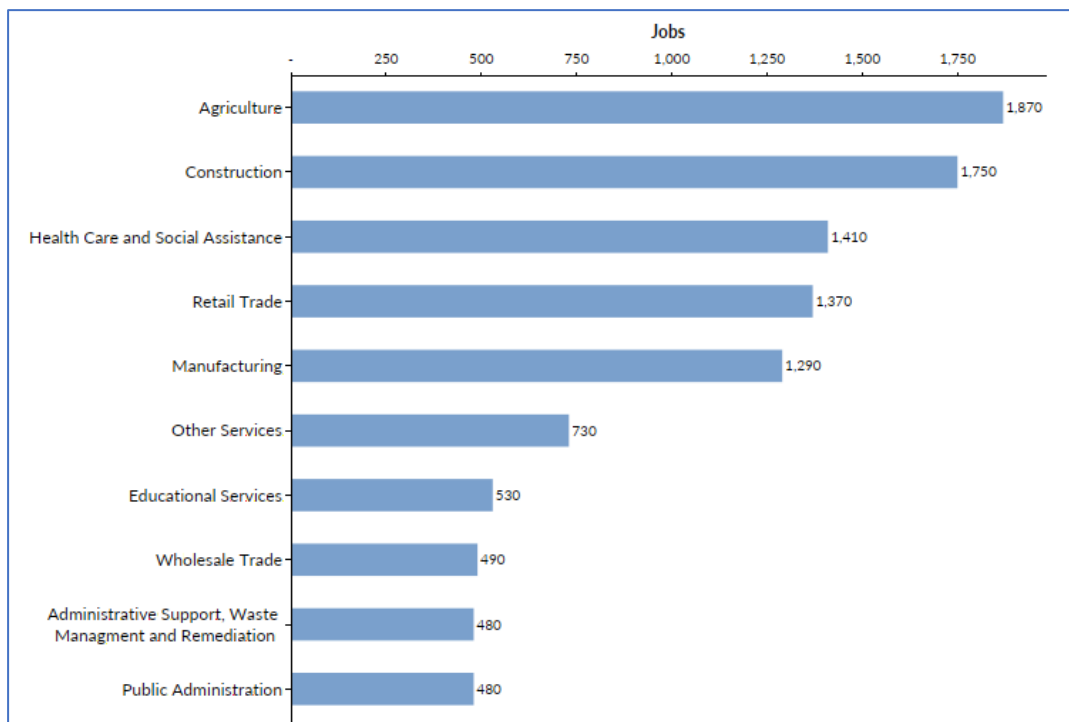
	Total of NWMO Specified Occupations	Area Distribution
South Bruce	950	17%
Huron-Kinloss	880	16%
Brockton	1,800	33%
Morris-Turnberry	930	17%
North Huron	970	18%
Core Area Total	5,530	100%

Source: Keir Corp using data from Emsi Burning Glass (2021) and NWMO (2021)

10 The 10 top industry sectors in the Core Study Area by job count are set out in Figure 26. Agriculture is at the top of the list, followed by construction and health care and social assistance. Retail trade and manufacturing occupy middle positions in the list. The lower portion of the spectrum is

occupied by several service sectors, wholesale trade and the public administration and waste management and remediation sectors.

Figure 26: Core Study Area Top 10 Industry Sectors by Number of Jobs (2021)

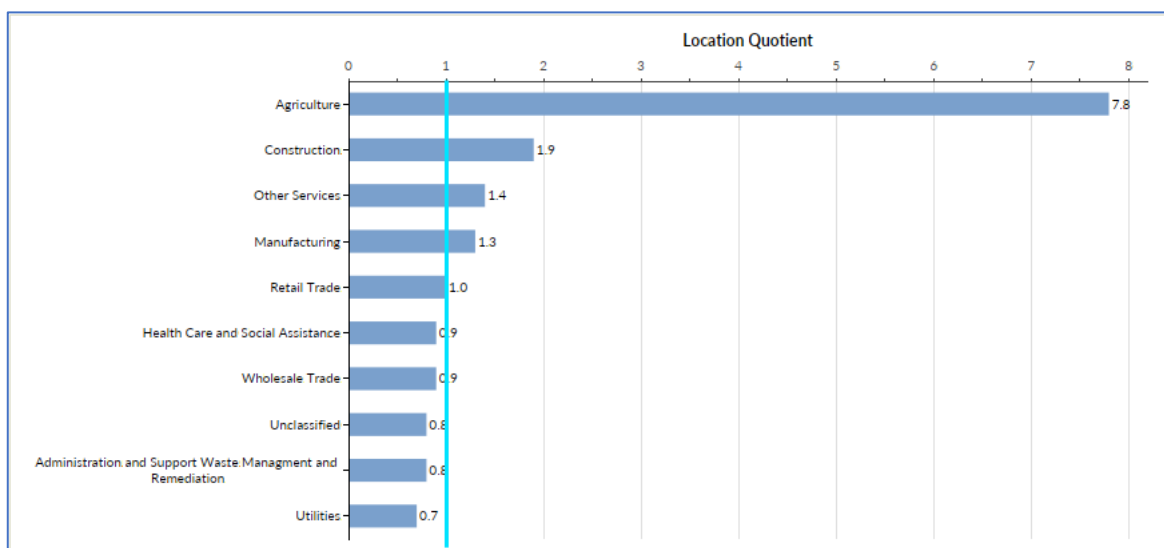


Source: Keir Corp using data from Emsi Burning Glass (2021)

11 Figure 27 sets out the industry sectors in the Core Study Area that have the highest location quotients. Again, these statistics indicate job concentrations in industry sectors relative to what would be expected across Canada. A value of 1 is the expected benchmark. Higher values show concentrations above the benchmark, and lesser values indicate weaker concentrations below the benchmark.

12 In contrast to the Local Study Area (Figure 17 above), Figure 27 shows the sector with the highest level of concentration in the Core Study Area is agriculture, followed by construction, other services, and manufacturing. The remaining 6 sectors are at or slightly below the expected benchmark.

Figure 27: Core Study Area Industry Sectors with Highest Location Quotients (2021)



Source: Keir Corp using data from Emsi Burning Glass (2021)

17 Figure 28 shows the 10 fastest growing occupations in the Core Study Area over the period 2016 to 2021. Trades, transport and equipment operators top the list followed by management occupations and natural and applied sciences and related occupations. At the bottom of the list the declines in manufacturing utilities and health care stand out.

18 Once again, as per the Local Study Area, the occupational category demonstrating the largest percentage change over the 2016 to 2021 period in the Core Study Area is natural and applied sciences and related occupations at 18%. Again, this reflects the increasing importance of STEM related occupations in the area job market.

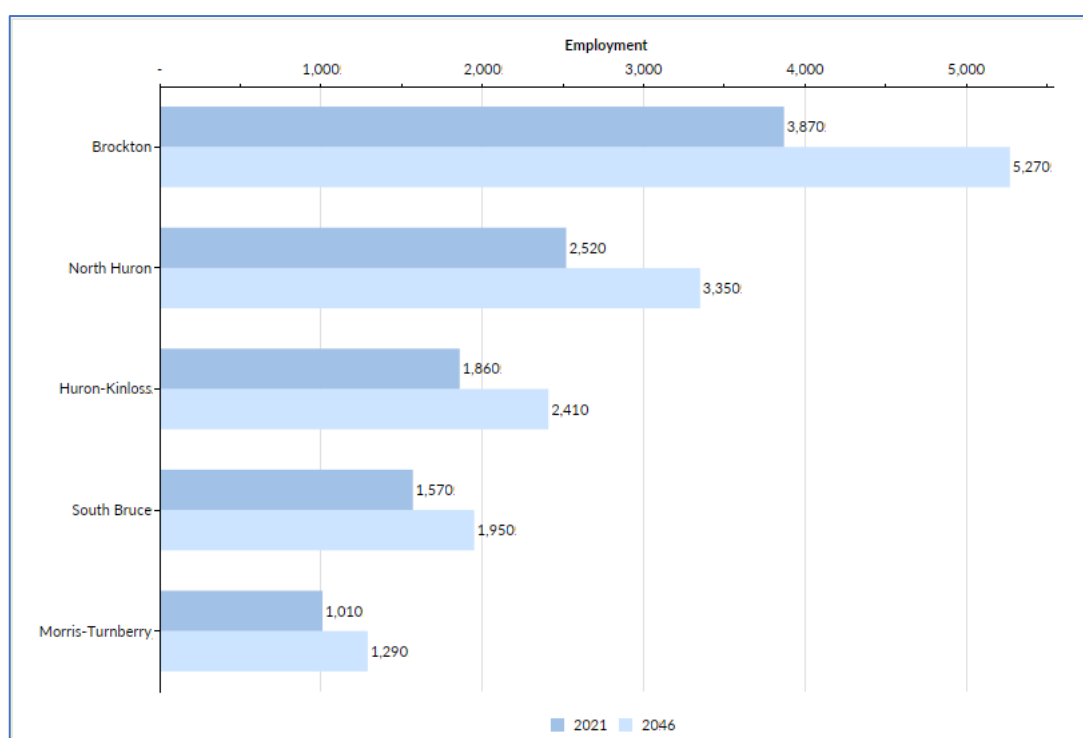
19 Figure 29 puts forward employment projections for the Core Study Area municipalities. Between 2021 and 2046, Core Study Area employment is expected to grow by 32% from approximately 10,800 to 14,300, and of this growth, over 41% is predicted to occur in Brockton, followed by North Huron, Huron-Kinloss, South Bruce and Morris-Turnberry with respective percentages of 24%, 16%, 11% and 8%.

Figure 28: Core Study Area Ten Fastest Growing Occupational Categories (2016-2021)

Occupation	2016 Jobs	2021 Jobs	Change in Jobs (2016-2021)	% Change
Trades, transport and equipment operators and related occupations	2,447	2,624	177	7%
Management occupations	1,879	1,962	83	4%
Natural and applied sciences and related occupations	339	399	60	18%
Natural resources, agriculture and related production occupations	693	686	-7	-1%
Unclassified	167	147	-20	-12%
Occupations in art, culture, recreation and sport	176	141	-35	-20%
Sales and service occupations	2,298	2,241	-57	-2%
Business, finance and administration occupations	1,294	1,181	-113	-9%
Occupations in manufacturing and utilities	1,198	1,040	-158	-13%
Health occupations	988	825	-163	-16%

Source: Keir Corp using data from Emsi Burning Glass (2021)

Figure 29: Core Study Area Employment Growth (2021 - 2046)



Source: Keir with data from Bruce County (2021), Huron County Planning and Economic Development Department (2021) and metroeconomics (2022)

3.4 Further Notes and Observations

3.4.1 General

- 1 The preceding information suggests that the size and qualifications of the labour pool within the combined study areas (Regional, Local and Core) have good potential to meet the needs of the Project, with the one exception being skilled trades in the mining sector.
- 2 In the Local Study Area, Bruce Power is the biggest economic engine. The utility is currently in the midst of its MCR Project which will secure operation of the station until 2064. The MCR Project employs up to 1,600 workers annually on-site. Bruce Power has indicated that the MCR Project is currently on schedule for completion by mid-2033. This timing coincides with the start-up of construction of the APM Project.
- 3 Bruce Power estimates that 25% of the trades people employed on the MCR project reside within commuting distance of the Generating Station. These tradespeople may potentially be available to work on the construction of the Project.
- 4 The wind down in activity related to the MCR project at the Bruce Nuclear Generating Station will not only enhance the labour pool in the Region, but it will also potentially dovetail into the ramp-up of construction activity related to the APM Project, adding to the ability of the Region to meet the labour requirements of the Project. However, it is noted that there is sufficient labour force available in the combined study areas to supply the Project even if the MCR Project timelines or labour force numbers do not materialize.
- 5 The Building Trade Halls traditionally used by Bruce Power would most likely be used by NWMO. These Halls have indicated that there will be a high rate of member retirements over the next decade. With this in mind, NWMO should consider recruitment strategies that focus on developing local talent to support their needs not only during construction but operations as well.
- 6 NWMO should consider developing initiatives that allow them to actively engage with their industry, union, and college partners to increase the supply of high demand trades that will be required to deliver the Project.
- 7 The educational institutions located in the Regional Study Area are collectively producing a significant number of graduates in STEM fields. These graduates are enhancing the existing large, well-educated, technically-skilled labour pool and extending its availability into the future.

- 8 There are nevertheless a number of opportunities where the Project can be used to develop a local workforce that can participate directly in its construction and operations or indirectly by providing services to support these Project phases.
- 9 Bruce Power is a high wage employer, and some smaller local employers are wary of investing in staff training for fear employees will migrate to Bruce Power once they upgrade their capabilities. This is a widely recognized issue in the area.
- 10 NWMO is also likely to have some intrusion in the local job market given that it too will be a high wage employer. However, it is not a situation that is unique to Bruce Power and NWMO. Throughout the Province and further afield, people naturally want to move to companies with higher wages if opportunities present themselves. Employee loyalty and retention are widely recognized today as key business issues.
- 11 Knowledge holders interviewed on local labour market issues indicate there are no magic solutions around the issue of people moving to higher wage jobs from smaller businesses. Potential Project effects on small businesses are addressed in the *Local Hiring Study & Strategy* (in preparation by MDB Insight for MSB). Knowledge holders suggest that all levels of government and the private sector will need to become involved to find solutions. Some ideas put forward involve supportive government programming; using financial bonusing for training; and changing rules and regulations around apprenticeship, union protocols and hiring practices.

3.4.2 Workforce Development Related to the Project Office, Centre of Expertise and Above-Ground Operations at the Potential Project Site

- 1 Within the Regional Study Area, both Conestoga and Fanshawe Colleges provide an established workforce development infrastructure that can potentially be leveraged to address gaps in skills required by the Project. Fanshawe already has a presence in the local area with satellite facilities offering custom programs to meet specific employer needs.
- 2 Conestoga College has delivered client-focused, custom training solutions to the business community for over 20 years. Workshops and seminars through Conestoga's Corporate Training Department are available in a wide variety of areas including Leadership, Business, Information Technology, Trades, Manufacturing & Safety, Quality, and Health, Wellness & Diversity.
- 3 Training can be custom designed to meet specific training needs; delivered in short modules to minimize time away from work; provided virtually, on location, or off-site; channeled through a variety of affordable workshops; offered regularly during the day; or conveyed part-time through continuing education evening and weekend classes.

- 4 For over 50 years, Fanshawe College has leveraged global connections to build partnerships that provide industries with access to new business solutions. Their training and development programs address critical workplace issues facing organizations today, and into the future.
- 5 Services available from Fanshawe College include customized corporate training, upskilling and skill development, business consulting, research and development, product testing, as well as a wide variety of hiring and marketing advisory services.
- 6 Fanshawe delivers customized training solutions based on a company's specific goals and needs in a wide variety of areas including Health and Wellness, Transportation, Trades and Technology, Business, Leadership, Computer Programming, Compliance Training, and Micro-Certifications.

3.4.3 Workforce Development Related to Below-Ground Operations at the Potential Project Site

- 1 NORCAT (formerly known as Northern Centre for Advanced Technology) can be leveraged to deliver the training required for those skills related to the Project's underground operations. NORCAT is a not-for-profit training, technology and innovation centre headquartered in Greater Sudbury.
- 2 NORCAT's Underground Centre, is an operating underground mine that serves as both an innovation and a training centre supporting technology development testing and demonstration, as well as experiential, hands-on training and workforce development.
- 3 The Underground Centre provides a range of experiential training programs for both new and existing miners that are not available anywhere else in the world.
- 4 *Specialized mine training:* includes health and safety training programs to mining companies, contractors and other organizations, including Common Core training, Contractor Orientation and Workplace Hazardous Materials Information System training.
- 5 *Underground Mine Centre:* provides practical mine training, testing space for mine technology prototypes, and an underground setting for photographing and filming mine technology in a controlled underground setting.
- 6 Workplace Safety North (WSN) is an organization that offers programs around mine safety matters. It offers program that are relevant to Project activities associated with underground construction and operation.

3.5 Section 3 Summary

3.5.1 Regional Study Area

- 1 The Regional Study Area encompasses five counties and one region, and all parts of this area are within a 1.5 to 2 hour drive of the potential Project site.
- 2 Based on 2021 data there are approximately 900,000 jobs within the Regional Study Area and of this number roughly 335,000 are in occupational categories of interest to the NWMO.
- 3 The current employed labour force (2021) stands at roughly 1 million and it is projected to grow to 1.4 million by 2046.
- 4 Approximately 52% (790,000) of the Region's labour force has post-secondary education and 28 % (420,000) has STEM qualifications.
- 5 There are roughly 335,000 jobs in the Regional Study Area that are staffed by persons with the occupational classifications of interest to the NWMO.
- 6 Based on 2018 data the universities and colleges in the Regional Study Area graduated approximately 43,000 students and of this number almost 27,000 students graduated with STEM qualifications.

3.5.2 Local Study Area

- 1 The Local Study Area comprises South Bruce and 12 surrounding municipalities distributed in 4 counties (i.e., Bruce, Grey, Wellington, and Huron). All parts of the Local Study Area are within a one-hour drive of the potential Project site.
- 2 In 2021 the Local Study Area had an employed labour force of approximately 54,000 and there were roughly 49,000 jobs within its borders. About 22,000 of these jobs had occupational categories of interest to the NWMO.
- 3 The top 3 industry sectors in the Local Study Area by job count are utilities, construction, and retail trade.
- 4 The top 3 industry sector concentrations by location quotient are utilities, agriculture, and construction. Utilities and agriculture have particularly high location quotients. In the case of utilities, the influencing factor is the presence of Bruce Power.

- 5 In terms of number of new jobs over the 2016 to 2021 period, Trades, transport equipment operators and related occupations showed the most growth, followed by natural and applied sciences and related occupations. The latter sector is a STEM category.
- 6 Employment projections from 2021 to 2046 for the Local Study Area predict a growth of 22% from roughly 49,000 to 60,000. The majority of this growth (55%) is accounted for by the Bruce County municipalities. The two Grey County municipalities account for 20%, Minto accounts for 13% and the three Huron County Municipalities account for roughly 12%.

3.5.3 Core Study Area

- 1 The Core Study Area comprises five municipalities – South Bruce, Huron-Kinloss, and Brockton (all in Bruce County), Morris-Turnberry and North Huron (both in Huron County).
- 2 In 2021 the area had an employed labour force of approximately 17,200 and there were roughly 12,400 jobs distributed across the municipalities. Of these jobs approximately 45% (5,500) have occupational categories of interest to the NWMO.
- 3 The top 3 industry sectors by job count in the Core Study Area are agriculture, construction and health care and social assistance. The top 3 industry sector concentrations by location quotient are agriculture, construction, and other services.
- 4 The fastest growing occupational categories over the 2016 to 2021 period in the Core Study Area are trades, transport and equipment operators and related occupations, followed by management occupations and then natural and applied sciences and related occupations. The latter as previously mentioned is affiliated with STEM qualifications, and it is of note that on a relative basis this occupational group had the largest percentage change of all occupational groups at 18%.
- 5 Employment projections for the Core Study Area between 2021 and 2046 predict 32% growth from roughly 10,800 to 14,300. Over 41% of the projected employment growth is predicted to occur in Brockton, followed by North Huron, Huron-Kinloss, South Bruce and Morris-Turnberry with respective percentages of 24%, 16%, 11% and 8%.

3.5.4 Further Notes and Observations

- 1 Bruce Power employs approximately 4,200 persons for operations and most of this workforce (81%) resides in Bruce County. Kincardine and Saugeen Shores respectively accounting for 31% and 34% of the County residencies.
- 2 Bruce Power is currently in the midst of its \$13 billion MCR Project. The Project is scheduled for completion in mid-2033 and it employs an average annual on-site workforce of approximately 1,600.
- 3 Approximately 25% of the trades people employed on the MCR Project reside within commuting distance of the Project while the remaining 75% are classified as travelers whose permanent residence is beyond 100km. The later generally prefer month to month rentals while working on the Project and it is Bruce Power's experience that travelers tend to remain travelers.
- 4 Bruce Power is a high wage employer, and some local employers are wary of investing in staff training for fear employees will migrate to Bruce Power once they upgrade their capabilities.
- 5 Bruce Power is lauded for encouraging companies associated with the MCR Project to move offices and facilities to the local area. It is purported that over 60 companies have done so.
- 6 Within the Local and Core Study Areas there is substantial social, cultural, and economic interaction across municipal boundaries. Area residents drive to shop for goods and services particularly in the central place communities of Wingham, Walkerton, Hanover, Kincardine, and Port Elgin.
- 7 There are a number of issues that appear to be affecting labour force availability in the Local and Core Study Areas particularly for low wage workers. These include:
 - Lack of affordable housing.
 - Lack of rental housing.
 - Lack of public transit.
 - Continually rising prices for homes and rental accommodation.
 - Landlord preferences for renting to high wage tenants (i.e., MCR Project travelers).

4. Assessment

Note to Reader

This section provides an overview of possible options to mitigate negative consequences or to enhance positive outcomes. They are presented by the authors to foster discussion only. They do not represent commitments or actions for the NWMO, the Municipality of South Bruce, or other parties. The final decisions on actions and commitments will be made at a future date.

4.1 Examining Some Options

- 1 The potential Project is located in the midst of a large capable labour pool. At a regional level, this is one of the largest most advanced labour pools in the country. It is also home to a number of companies that form part of the supply chain for the nuclear industry across Ontario and further afield.
- 2 At the local level, the potential Project is in close proximity to one of the world's largest nuclear plants. There is vast experience with nuclear plant operation and fuel handling in the immediate area.
- 3 There is also a substantial labour force engaged in the refurbishment of reactors as part of the MCR Project at the Bruce Nuclear Generating Station. This refurbishment extends the power production capability of the plant another 40 years, and therefore the presence of the nuclear industry and its capabilities will continue to be in the area for the foreseeable future.
- 4 Bruce Power has indicated that the MCR project is scheduled to conclude in 2032/2033. This potentially frees up the labour force involved with this undertaking just as the APM Project is proposed to commence construction. However, it is noted that there is sufficient labour force available in the combined study areas to supply the Project even if the MCR Project timelines or labour force numbers do not materialize.
- 5 Discussions with a variety of interests across the study area have long revealed a strong interest in providing area youth with jobs and career opportunities that would help retain their presence in the local area.
- 6 The Regional Study Area is endowed with a variety of colleges and universities that have exceptional capabilities in the area of workforce development. Some of these institutions are already present in the area with satellite facilities and custom workforce training programs.
- 7 On the matter of workforce development associated with the Project, there are a range of strategies ranging from minimal involvement to

being highly proactive. Similar to analyses done in other community studies, a set of approaches along a continuum, shown in Figure 30, have been examined through a SWOTs lens.

Figure 30: A Continuum of Approaches for Workforce Development



Source: Keir Corp

- 8 **Do Nothing** - is a low-cost, low inertia strategy. Its basic premise is that NWMO will be able to use its existing workforce and tap the regional labour pools for the additional talent required to build and operate its facility.
- 9 **Passive Investment** - could apply to both individual members of the permanent and direct Project workforces, as well businesses involved with direct and indirect activities. Passive investment sees NWMO involved in financing a variety of training programs through different third-party providers (i.e., colleges and universities). The funding would be focused on workforce development that could assist NWMO in achieving its staffing requirements.
- 10 **Incubate and Cultivate** – is a broad initiative that ties to both individuals and organizations involved with Project activities. It also ties into the local area through a physical presence of accommodation and commercial activities and partnered programming aimed at the needs of NWMO and the needs and aspirations of the area. This concept has also been tabled in the *Housing Needs and Demand Analysis Study* (Keir Corp., 2022b).
- 11 **Cultivate** allows NWMO and education partners to train workers and potential workers to meet the current and evolving job requirements of the Project. It provides the opportunity to train people from MSB and surrounding municipalities to be directly employed on the Project or indirectly employed through the Project supply chain companies. Training local people is a means to an end for housing. Local people are familiar with the area. A good job and career in South Bruce are motivation to live in proximity of the Project.
- 12 Section 5 provides some examples of potential programs and initiatives to support and facilitate workforce development.

4.1.1 Do Nothing

<p>Strengths</p>	<p>Weaknesses</p>
<ol style="list-style-type: none"> 1. Low cost - no extraordinary investment required. 2. Relies on the regional and local labour pools to furnish the expertise to build and operate the Project. 3. Relies on the import of current NWMO staff to the area to administer the Project. 4. In the case of mining expertise, relies on the availability of expertise in other parts of Ontario (particularly the Northeast and Northwest regions of the Province). 	<ol style="list-style-type: none"> 1. An ad hoc / low inertia approach that has no guarantee of predictable community benefits. 2. Provides no formal proactive tie to the local area or host community with respect to workforce development.
<p>Opportunities</p>	<p>Threats</p>
<ol style="list-style-type: none"> 1. Relies on the labour force “largesse” of the regional and local areas. 2. Provides opportunities for the areas in southern and northern Ontario to export qualified labour to the Project area. 	<ol style="list-style-type: none"> 1. The option makes the Project reliant on what can be found. 2. Does not promote MSB or local area interests in becoming involved in the Project. 3. Does not proactively help MSB and the local area to retain youth and provide career opportunities

4.1.2 Passive Investment

Strengths	Weaknesses
<ol style="list-style-type: none"> 1. Requires a financial commitment and relatively low level of involvement from the NWMO. 2. Focus is on investing in education and training programs that already exist. 3. Relies on the regional and local labour pools to furnish the expertise to build and operate the Project. 4. Relies on the import of current NWMO staff to the area to administer the Project. 5. In the case of mining expertise, relies on the availability of expertise in other parts of Ontario (particularly the Northeast and Northwest regions of the Province). 	<ol style="list-style-type: none"> 1. There is no link between the training and education programs that are supported and the long-term workforce requirements in the local area. 2. Workforce development initiatives focus on a ‘footloose’ regional population and fail to address such issues as long-term employment, retention, and the creation of a local skilled talent pool. 3. A low effort approach that has no guarantee of predictable community benefits.
Opportunities	Threats
<ol style="list-style-type: none"> 1. Benefits of workforce development is dispersed throughout the region and beyond into Southern and Northern Ontario. 2. Contributes towards the training and up-skilling of a broad based, footloose, and regionally dispersed population. 	<ol style="list-style-type: none"> 1. Passive workforce development initiatives do not consider the future Project-related skill requirements. 2. Broad-based initiatives provide little support for the development of a local labour pool. 3. The option makes the Project reliant on what can be found. 4. Does not promote MSB or local area interests in becoming involved in the Project and leveraging the Project. 5. Does not proactively help MSB and the local area to retain youth and provide career opportunities.

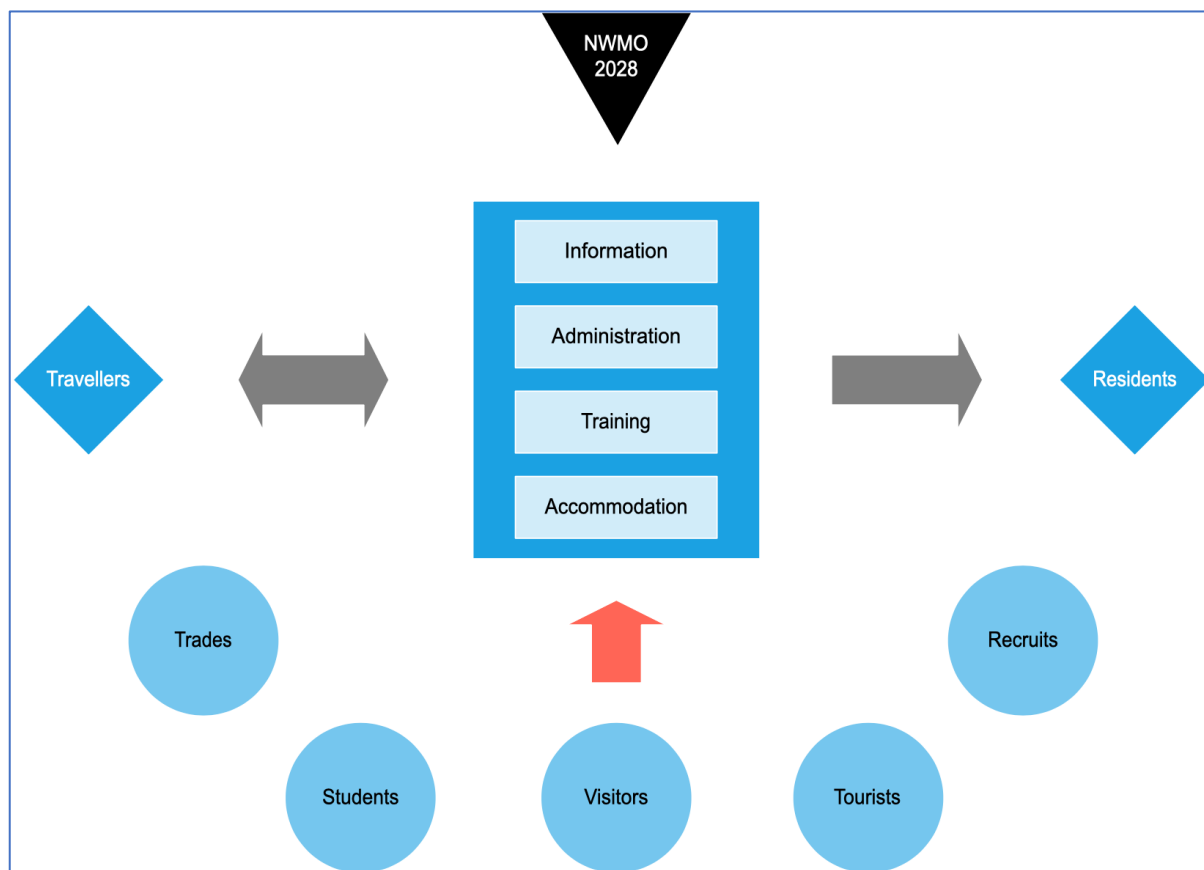
4.1.3 Incubate and Cultivate

Strengths	Weaknesses
<ol style="list-style-type: none"> 1. Target financial contributions towards education and in-community training to meet the current and future skill requirements of the Project. 2. Adjust training and education programs in a timely manner to meet the needs for Project up-skilling and re-training. 3. Enables the local workforce to take advantage of employment opportunities associated with the Project, its supply chain and other industry sectors that have parallel skill requirements. 4. Contributes to local employment and workforce development thereby enhancing NWMO's reputation as a preferred employer. 5. Enriches NWMO's relationship with the local community. Pro-actively implements community-based training initiatives and commits and demonstrates that NWMO is a strong community partner and resource. 	<ol style="list-style-type: none"> 1. Workforce development requirements over the long-term will need to be monitored to identify the need for up-skilling or re-training. 2. Need to monitor the pace and scale of new technology acquisition to determine requirements for training and up-skilling. 3. Will need to invest time and financial resources for the development of facilities and training programs. 4. Will need to develop a profile and a value proposition that will attract institutional partners and potential employees.
Opportunities	Threats
<ol style="list-style-type: none"> 1. Partner with colleges and universities to optimize training delivery. NWMO can build on existing relationships with institutions/organizations involved in research activities. 2. Develop a local talent pool of highly skilled knowledge workers in scientific, technical, and administrative fields to meet the needs of the Project for the long-term. 3. Encourage and proactively support employment in the skilled trades amongst young people as a way to counteract the potential impact of retirements. 4. Create local employment opportunities that will enhance the retention of young people within the community thereby creating a more positive demographic profile. 5. Support and encourage the development of spin-off initiatives that will contribute to broad economic development and diversification in the local area. 6. Use the training centre and Centre of Expertise to create a springboard for providing leading edge research and consultation in nuclear waste management at a global level. 	<ol style="list-style-type: none"> 1. Other industry sectors will intensify the competition for highly-skilled workers as they become more technology dependent. 2. Companies in the region have already initiated workforce development programs to create their own pool of highly-skilled and well-trained workers. 3. Companies in the region already have strong reputations as preferred employers and will leverage this advantage to compete for new employees. 4. The spin-off benefits will be overshadowed by the routine operations that will take place at the Project.

4.1.4 Centre of Expertise Campus Concept

- 1 The Centre of Expertise is intended to meet the needs of NWMO and as part of this facility and in consultation with the Municipality and area Indigenous communities, considerations to training, workforce development and temporary needs may be identified.
- 2 A potential concept for consideration in whole or in part in line with the incubate and cultivate option is the idea of a campus development that hinges around the Centre of Expertise and the off-site administrative office. Ancillary developments could include a training facility for Project-associated activities and technologies, and accommodation for people who might work on or visit the Project. The overall complex could be multi-purpose and modular in terms of form and function. Figure 31 below provides a high-level conceptual picture.

Figure 31: Centre of Expertise Campus Concept



Source: Keir Corp (2022)

4.2 Summary Observations

- 1 There has been strong interest in MSB and local area municipalities since the introduction of the Project on how it might provide local jobs and careers and enable young people and their families to stay in the area.
- 2 MSB and the local area are knit together socially, economically, and politically. For NWMO to be part of this fabric during Project implementation, active involvement in workforce development is an avenue that is clearly aligned with area aspirations.
- 3 Workforce development is tied to the needs of the Project. As construction and operation related technologies evolve over the Project's lifecycle there will always be a need to upskill and retrain the workforce to keep pace with the introduction of new technology.
- 4 While it is important that workforce development focuses on the needs of the Project and related supply chain, there is an opportunity for workforce development to go beyond the Project. Transferring knowledge gained through Project related workforce development can benefit other sectors of the local economy from the application of skills and technologies associated with the Project. Artificial Intelligence (AI) and robotics are but two examples. Both are expected to play a large role in the Project, and both are increasingly playing larger, more important roles in many other sectors such as manufacturing, agriculture, and resource development. This will create a demand for employees with the skills to integrate these technologies in a manner that will not only improve productivity but also create a positive workplace environment.
- 5 Workforce development as envisaged through the campus concept is also tied to branding. It gives the community a unique opportunity to connect to the local area and beyond domestically and internationally. It is an "enabler" - a community builder and a connector. Partnered with other learning institutions, it provides a powerful resource located in the local area connected to current and future learning needs.

5. Further Thoughts on Initiatives

- 1 The *Housing Needs and Demand Analysis Study* (Keir Corp., 2022b) introduced “Incubate and Cultivate” as a concept hinged around a campus offering both temporary accommodation and training facilities to build and evolve workforce capabilities (see Figure 31, above). The campus is linked to the NWMO off-site office and the Centre of Expertise.
- 2 While ‘incubate’ refers to the temporary accommodation that could be provided for workers, ‘cultivate’ focuses on programs to support and facilitate workforce development within the Local and Core Study Areas. The workforce development initiatives will train and up-skill people living in MSB and the surrounding municipalities to be either directly employed on the Project or indirectly employed in its supply chain.
- 3 The Centre of Expertise campus concept could provide a platform for the community and NWMO to engage and collaborate with local/regional colleges, universities and training organizations, allowing them to deliver programs that will attract and develop a pool of local talent. Training partnerships could promote employment opportunities at NWMO, facilitate career development, and train and up-skill workers to fill gaps in the labour force and meet the current and evolving skill requirements of the Project.
- 4 Educational institutions within the Study Areas are collectively producing a significant number of STEM graduates. These graduates are enhancing the already existing large well-educated, technically-skilled labour pool and extending its availability into the future. While retirement within the skilled trades is a concern, there are initiatives in place like the Ontario Youth Apprenticeship Program (OYAP) designed to attract more young people to the trades.
- 5 Economically, the study areas have and continue to undergo a significant transformation. While agriculture can still be considered the region’s DNA, energy, advanced manufacturing and technology-related sectors are playing an increasingly pronounced role in the economy. Agriculture itself is relentlessly becoming more technologically advanced. As these key sectors within the region grow and continue to adopt technology, the demand for technically skilled and well-educated workers will intensify.
- 6 NWMO will be competing for college and university graduates, skilled trades people and administrative personnel against other well-established companies and organizations in the region. Many of these are engaged in sectors such as energy, advanced manufacturing and technology. As such

they are employing and looking for people with skills similar to those that will be required by NWMO.

- 7 Bruce Power is already seen as a preferred and highly attractive employer within the region, making it all the more necessary for NWMO to compete. Bruce Power is proactive and has already recognized the importance of developing a talent pool with an emphasis on local residents.
- 8 NWMO will need to compete with these organizations across the Study Areas to capture a sufficient share of this labour pool to meet its workforce requirements over the long-term.

5.1 Workforce Development Initiatives - Building Project Awareness – Present to 2028

- 1 To ensure that it meets its workforce requirements, NWMO should consider developing initiatives that will help to:
 - a. communicate its “Unique Value Proposition” (UVP) to the community,
 - b. position the organization as a potential preferred employer, and
 - c. attract interest within current and potential labour force pools particularly in the Local and Core Study Areas.
- 2 NWMO should embark upon a program that informs the local area about the career opportunities that will become available within the organization. The initiative should emphasize the importance that NWMO places on developing a local talent pool of skilled knowledge workers.
- 3 NWMO should participate in programs that are designed to attract young people to careers in the skilled trades. The OYAP for example, helps students in Grades 11 and 12 explore and work in apprenticeship trades through a cooperative education program offered by a District School Board². Students have an opportunity to become registered apprentices and work towards becoming certified journeypersons in a skilled trade while completing the requirements to obtain their Ontario Secondary School Diploma.
 - a. The program is covered by Workplace Safety and Insurance Board (WSIB) and does not require participating companies to provide students with a salary.
 - b. Other benefits include:
 - Supporting young, enthusiastic and skilled students.
 - Working with a student/potential employee on a trial basis before committing to them as an apprentice.

² It is noted that the draft *Local/Regional Education Study Report* (DPRA 2022) identifies a set of options related to education in the K-12 grades, including participation in OYAP as part of a potential education stream within NWMO's Corporate Social Responsibility program.

- Increasing awareness of the participating company within the community.
- 4 The Blue Water and the Bruce-Grey Catholic District School Boards cover MSB and the surrounding municipalities. Both Boards participate in OYAP and companies like Bruce Power, Hobart, Leviton, and Schneider Electric support the program as community partners by providing students with work experience. NWMO could also be one of the area employers able to provide students with work experience.
 - 5 Initially, NWMO could begin to engage these students through information sessions that would introduce them to the organization, its role, purpose and UVP. By actively engaging and partnering with the community through the secondary schools, colleges, and universities, NWMO can inform students about career opportunities within the organization. They can also work with guidance and career counselling offices at these institutions to provide information about the types of employment and career opportunities that will be available as the Project moves through its various stages to operations.
 - 6 For those students interested in more information, NWMO can collaborate with the educational institutions to organize and/or participate in career days where students and parents can learn about the employment opportunities within NWMO. To provide further direction and help with education planning, NWMO could also help to map out potential career paths for various employment positions in areas such as administrative, scientific, technical and skilled trades.
 - 7 These types of initiatives will build awareness amongst young people and other community residents about the types of employment opportunities and careers that will become available at NWMO.

5.2 Pre-Construction – 2028 to 2032

- 1 Once the off-site Project office is up and running, staff will require access to food services facilities. An in-house cafeteria could potentially provide fare for staff, cater business luncheons, provide beverage services for meetings, and coffee and snack service through-out the day. The office will also require building and property maintenance and security.
- 2 *Food Service Option 1:* The Project contracts with a food services company to set-up and manage a food service cafeteria/restaurant within the off-site Project office building. Preference would be given to local food service companies to enter into a contract with the Project to deliver the services.

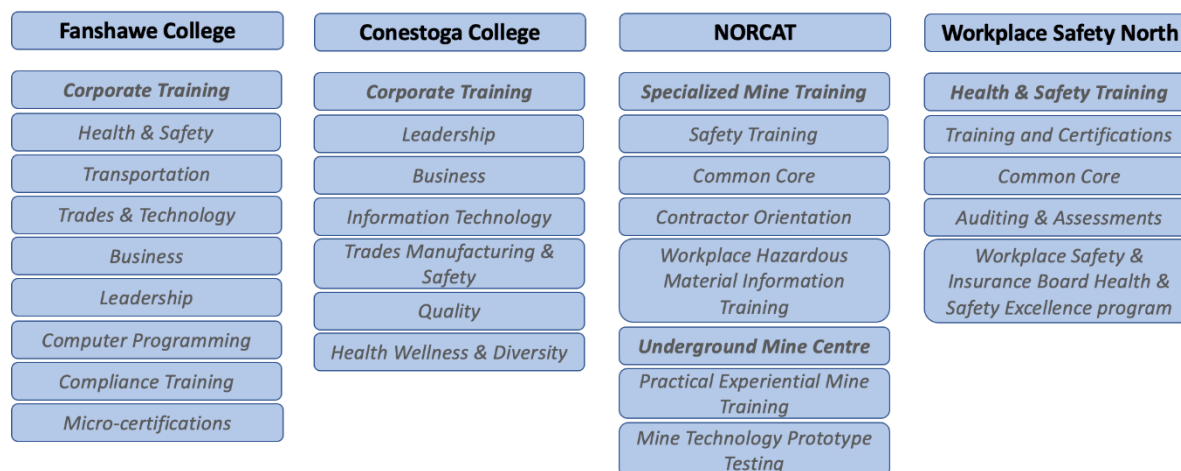
- 3 The food service company would commit to staffing the facility initially with at least 50% local hires which would be increased to 80% or better over 3 years. The local hires would be engaged not only in food preparation but also in management of the food services operation.
- 4 The selected company would work with local colleges and universities to develop training programs to fully up-skill (training programs that deliver transferable skills) the labour force where necessary. The company would develop and encourage their staff to take advantage of training in new technology and techniques related to food services and preparation.
- 5 This could also be an opportunity to encourage the food service company to participate in OYAP. In 2018, for example, 14 students from the Bluewater District School Board participated in a combination of coop education and Level 1 Apprenticeship training at the Owen Sound Campus of Georgian College. Courses focused on sanitation, safety and equipment, culinary techniques, business management, kitchen management, bake theory and techniques, food theory, as well as nutrition. Students also operated all facets of the Georgian Dining Room, including menu design, preparation, and the service of four course lunches to the general public. The students achieved their Level 1 Cook designation as part of the fourth graduating class from this innovative program.
- 6 *Food Service Option 2*: The Project enters into a partnership with Fanshawe, Conestoga or Georgian Colleges to set-up and manage a food service facility within the Project office building.
- 7 All three institutions have culinary programs and could be interested in establishing a satellite culinary program in the Local Community which in addition to its regular curriculum will provide food services at NWMO's office.
 - a. Students that reside in the local community would be given preference, and then students in the neighbouring communities and then students in the regional labour shed.
 - b. The program will emphasize the preparation of foods grown locally and will use food products manufactured in the area.
 - c. For example, dairy products from the Gay Lea Dairy in Teeswater - Gay Lea Farm Fresh Country Store and Creamery as well as products grown by the local farming community.
 - d. Since the satellite culinary school will be located in proximity of a large Mennonite farming community, the use of their products can be highlighted and even feature Mennonite recipes.
 - e. The program will also focus on using the latest technology to manage and operate food service facilities.

- 8 *Building Maintenance & Security*: NWMO's office will require building and property maintenance as well as security and administrative staff.
 - a. Enter into an arrangement with the companies supplying these services to employ local labour.
 - b. Working with labour market planning boards that cover the Regional Labour Shed, organize a job fair and invite people to apply for positions in these service areas.
 - c. Partner with a training organization like Fanshawe, Conestoga or Georgian Colleges to provide any training that might be required to fill any skill gaps and deliver these services.

5.3 Construction – 2033 to 2042

- 1 *Food Services*: The culinary program (either option 1 or 2 above) will expand its food services to include the construction work force for the Project. This will give students a unique experience of preparing meals in a construction environment that most likely will include shift work.
- 2 *Building Maintenance and Security*: The company(s) supplying these services will increase their staffing levels to potentially cover general security and property maintenance requirements at the Project locations. Hiring preference will be given to Local and Core Study Area residents. A training organization (college) will be engaged to deliver programs to fill any skill gaps that occur amongst the new employees.
- 3 *Mining-Related Workforce Development*: NWMO retains the services of an underground mine development company. Working with the company, NORCAT, and Workplace Safety North, NWMO establishes a four-way partnership to develop training initiatives and programs that will support local workforce development.
 - a. Working with the labour market planning boards that cover the Regional Labour Shed, a job fair will be organized inviting people to apply for training to work in the underground operations.
 - b. Those selected will initially become employees of the mine development company and receive training as apprentices from NORCAT.
 - c. Once their training is completed, they will qualify as underground hard rock miners and have the option to continue working for the mine development company throughout the construction period.
- 4 Figure 32 provides an outline of workforce development program offerings by Fanshawe College, Conestoga College, NORCAT and Workplace Safety North.

Figure 32: Organizations with Workforce Development Programs



Source: Keir Corp with information from respective Colleges and Training Organizations (2022)

- 5 *Above Ground Operations*: NWMO to develop a partnership with the above-ground development company and a corporate training partner such as Fanshawe, Conestoga, and Georgian Colleges, NORCAT or Workplace Safety North to provide training for individuals interested in working in the above ground operations.
 - a. Working with the labour market planning boards that cover the Regional Labour Shed, organize a job fair and invite people to apply for training positions to work in the above-ground operations.
 - b. Those selected will initially be employees of the above ground development company and receive training from the selected corporate training organization.
 - c. Once their training is completed, they will qualify for operating positions in the Used Fuel Packaging Plant, Sealing Materials Plant or Used Fuel Container Placement as well as activities associated with site, facilities and equipment maintenance and site security.
 - d. Once construction is completed, they will have an opportunity of transferring over to the Project operations.

5.4 Spin-Off Opportunities

- 1 The Centre of Expertise and the Project will attract world-wide attention, and it is expected that these facilities will have the opportunity to host visitors as well as industry-related conferences.
 - a. This could encourage the development of a hotel/conference centre in the vicinity of these facilities.

- b. The hotel/conference centre should be situated in a location that can also attract tourism to ensure that it operates at annual optimal capacity.
 - c. Such a development will create additional opportunities for workforce development in hospitality, tourism and culinary services.
- 2 The Project will only occupy a relatively small portion of its overall site, leaving considerable opportunity to explore the option of maintaining sustainable agricultural activity within the site. Such a research project would garner considerable interest, especially in light of commitments by the federal government and the global importance of such issues as climate change, the green economy and sustainable agriculture.
- 3 Countries with nuclear energy programs are all interested in the safe and long-term management and disposal of nuclear waste. Canada can show management, scientific and technological leadership in this area through the Project. It is expected that once the Project is operational, it will generate considerable interest, stimulate visits and exchanges by specialists from other countries wanting to learn more about the Project and how it might be applicable to their situation. Continuing their collaboration with colleges and universities, NWMO could create a consulting division to help foreign utilities/organizations develop programs and projects to address their nuclear waste, based on the Project experience. This will create an opportunity for workforce development in all aspects of nuclear waste management, as well as the effective transfer of technology.

6. Conclusions

1. Based on the foregoing, the study areas discussed in combination have strong capability to meet almost all the needs for labour and goods and services required by the Project. The one exception is for mining expertise and underground trades which may potentially have to be sourced from other areas in Northern Ontario (i.e., Sudbury, Timmins, and Thunder Bay). Although with respect to the latter, training opportunities through NORCAT could potentially give local people the skills to work underground.
2. **Appendix C** provides a summary evaluation of supply versus demand.
3. The Regional Study Area is one of the strongest labour sheds in Canada. Regional Study Area employment in 2021 was approximately 1 million persons and by 2046 this number is projected to climb by 42% to 1.4 million. NWMO identified occupational categories pertinent to their needs and at present the labour shed has 335,000 persons with occupations meeting those requirements. Additionally, the Regional Study Area is home to a large contingent of companies that are part of the supply chain for the Bruce Nuclear Generating Station. The Local Study Area itself as evidenced by location quotient statistics has a labour force that is exceptionally strong for jobs in the utility sector. Area jobs in this sector are approximately 21 times the norm expected in other communities across the country.
4. In addition, the Regional Study Area has a strong compliment of workers with post-secondary education and a significant number of them also have STEM qualifications. Persons with these qualifications are sought after by many companies across the Study Areas.
5. Potential completion of the MCR Project in 2033 dovetails with the 2033 construction start-up of the Project. This timing potentially provides NWMO with an opportunity to access a pool of labour and companies located across the Study Areas that are highly skilled and experienced with nuclear project work. However, it is noted that there is sufficient labour force available in the combined study areas to supply the Project even if the MCR Project timelines or labour force numbers do not materialize.
6. Recognizing that aging and retirement will have an impact on their labour force, Bruce Power is focusing recruitment strategies on local talent to support their needs. Their recruitment experience has demonstrated that investing in local talent provides a double payoff in terms of creating not only a stable workforce but also one that is resident and committed to the local area.

Similarly, NWMO should consider developing initiatives to attract and encourage more young people from the local area to enter the skilled trades or careers in science and technology. By taking a proactive approach, NWMO will ensure that they will have the talent they need for the future. Young people will benefit by being able to take advantage of career

opportunities that allow them to remain in, or return to, their home communities. Those communities in turn will achieve a stronger demographic profile from the infusion of young people and families.

7. The occupational groupings provided by NWMO account for a significant portion of jobs at all levels within the Study Areas. Trends in education suggest that these groupings will not only continue to account for a significant percentage of the jobs, but overtime will likely intensify. The available workforce within the combined Study Areas appears sufficient to support the needs of the Project throughout its various phases.
8. In addition to the presence of the labour force and the Bruce Nuclear Generating Station, the Regional Study Area is home to four major universities (Wilfred Laurier, Waterloo, Guelph and Western), two large colleges (Conestoga and Fanshawe), and a host of large businesses (both domestic and international). In combination these advantages bestow the area with rich abilities to evolve its labour force capacity and capability to respond to changing skill and knowledge needs to meet the challenges of the future. All these universities are currently experiencing high enrolment demand for STEM programs.
9. MSB and the local area are knit together socially, economically, and politically. NWMO needs to demonstrate its commitment financially, physically, and culturally to improving community well-being. Proactively becoming involved in workforce development is a means of facilitating this. It is an initiative clearly aligned with area aspirations.
- 6 While it is important that workforce development focus on the needs of the Project and related supply chain, there is an opportunity for it to go beyond the Project. Transferring knowledge gained through Project related workforce development can benefit other sectors of the local economy from the application of skills and technologies associated with the Project.
- 7 Workforce development as envisaged through the campus concept for the Centre of Expertise also gives the community a unique opportunity to connect beyond the local area to other regions both domestically and internationally. It is an “enabler” - a community builder and a connector. Partnered with other learning institutions, it provides a powerful resource located in the local area connected to current and future learning needs.
- 8 “Incubate and Cultivate” is a concept hinged around a campus offering both temporary accommodation and training facilities to build and evolve workforce capabilities. The campus is linked to the NWMO off-site office and the Centre of Expertise.
- 9 The campus could provide a platform for NWMO to engage and collaborate with local/regional colleges, universities and training organizations, allowing them to deliver programs that will attract and develop a pool of local talent.
- 10 To ensure that it meets its workforce requirements, NWMO should consider developing initiatives that will help to:

- a. communicate its “Unique Value Proposition” (UVP) to the community,
 - b. position the organization as a potential preferred employer, and
 - c. attract interest within current and potential labour force pools particularly in the Local and Core Study Areas.
- 11 NWMO needs to proactively implement initiatives that will build awareness amongst young people and other community residents about the types of employment opportunities and careers that will become available at NWMO.
 - 12 Some ideas for local training and job opportunities in the pre-construction phase of the Project could involve food services and building and maintenance opportunities. There could also be opportunity to directly hire and train people to take on NWMO jobs as current NWMO staff move on to other opportunities or retire.
 - 13 Partnering with colleges and universities to offer training is an important proactive initiative contributing to workforce development.
 - 14 Training that occurs during the pre-construction phase can help facilitate recruitment and also be expanded to meet the up-skilling needs of the Project during construction and operations.
 - 15 Aside from the needs of the Project, there is a strong potential to further develop the capabilities of the area to help realize spinoff opportunities that will be generated by the Project on a variety of fronts including but not limited to:
 - Tourism and recreation.
 - Agriculture
 - Consulting
 - Demonstration and learning.
 - 16 The Project can be a catalyst for innovation and business creation. Its presence has the potential to bring other businesses to the area to either serve the Project itself or to serve the employees of the Project. Workforce development and training are both catalytic ingredients that can help bring other business opportunities to the local area.

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Appendix A: List of Socio-Economic Community Studies

Study Name	Study Proponent	Lead Consultant
<i>Local Economic Development Study and Strategy</i>	MSB	MDB
<i>Economic Development Study on Youth</i>	MSB	MDB
<i>Local Hiring Effects Study & Strategy</i>	MSB	MDB
<i>Agriculture Business Impact Study</i>	MSB	MDB
<i>Fiscal Impact and Public Finance Study</i>	MSB	Watson & Associates Economists
<i>Tourism Industry Effects Study and Strategy</i>	MSB	MDB
<i>Housing Needs and Demand Analysis Study</i>	NWMO, MSB	Keir Corp.
<i>Labour Baseline Study</i>	NWMO	Keir Corp.
<i>Workforce Development Study</i>	NWMO	Keir Corp.
<i>Regional Economic Development Study</i>	NWMO	Keir Corp.
<i>Effects on Recreational Resources</i>	MSB	Tract Consulting
<i>Local/Regional Education Study</i>	NWMO, MSB	DPRA
<i>Land Use Study</i>	NWMO, MSB	DPRA
<i>Social Programs Study</i>	NWMO, MSB	DPRA
<i>Emergency Services Study</i>	NWMO	DPRA
<i>Vulnerable Populations Study</i>	NWMO	DPRA
<i>Community Health Programs and Infrastructure Study</i>	NWMO	DPRA
<i>Aggregate Resources Study</i>	NWMO, MSB	Keir Corp.
<i>Infrastructure Baseline and Feasibility Study</i>	NWMO	Morrison Hershfield
<i>Local Traffic Study</i>	NWMO	Morrison Hershfield
<i>Road Conditions Study</i>	NWMO	Morrison Hershfield

Appendix B: Inventory of Knowledge Holders Interviewed and Key Findings

The table below includes an inventory of Knowledge Holders interviewed in 2021 applicable to the *Workforce Development Study*. Names have been excluded to respect the privacy of individuals. A table summarizing key findings from the interviews follows.

Table 12: Inventory of Knowledge Holders Interviewed

Date	Knowledge Holder – Organization	Applicable Studies³
28-Jul-21	Four County Labour Market Planning Board	<i>Labour Baseline Study</i> <i>Workforce Development Study</i>
29-Jul-21	Economic Development, Planning and Development, Bruce County	<i>Regional Economic Development Study</i> <i>Workforce Development Study</i> <i>Labour Baseline Study</i>
01-Sep-21	Grey County, Economic Development	<i>Workforce Development Study</i> <i>Labour Baseline Study</i>
08-Sep-21	Nuclear Innovation Institute	<i>Labour Baseline Study</i> <i>Workforce Development Study</i>
09-Sep-21	Organization of Canadian Nuclear Industries	<i>Labour Baseline Study</i> <i>Workforce Development Study</i> <i>Labour Baseline Study</i>
16-Sep-21	Bruce Power	<i>Emergency Services Study</i> <i>Housing Needs and Demand Analysis Study</i> <i>Labour Baseline Study</i> <i>Workforce Development Study</i> <i>Local Traffic Effects Study</i> <i>Road Conditions Study</i> <i>Regional Economic</i>
16-Sep-21	Huron County, Planning and Development, and Economic Development	<i>Land Use Study</i> <i>Regional Economic Development Study</i> <i>Housing Needs and Demand Analysis Study</i> <i>Workforce Development Study</i> <i>Labour Baseline Study</i>
13-Oct-21	Ontario Youth Apprenticeship Program (OYAP)	<i>Local/ Regional Education Study</i> <i>Workforce Development Study</i>

³ Applicable Studies only includes community studies that are led or jointly led by the NWMO.

Date	Knowledge Holder – Organization	Applicable Studies³
03-Nov-21	VPI Working Solutions	<i>Workforce Development Study Labour Baseline Study</i>
11-Nov-21	Fanshawe College	<i>Workforce Development Study Labour Baseline Study</i>
15-Nov-21	Municipality of Brockton	<i>Housing Needs and Demand Analysis Study Regional Economic Development Study Workforce Development Study Labour Baseline Study</i>
16-Nov-21	MSB Public Works	<i>Housing Needs and Demand Analysis Study Regional Economic Development Study Workforce Development Study Labour Baseline Study</i>
17-Nov-21	Township of North Huron	<i>Housing Needs and Demand Analysis Study Regional Economic Development Study Workforce Development Study Labour Baseline Study</i>
17-Nov-21	Hydro One	<i>Labour Baseline Study Workforce Development Study</i>
24-Nov-21	Township of Huron-Kinloss	<i>Housing Needs and Demand Analysis Study Regional Economic Development Study Workforce Development Study Labour Baseline Study</i>

Table 13: Key Findings from Knowledge Holder Interviews Relevant to this Study

<p>Bruce Nuclear Generating Station</p>	<ul style="list-style-type: none"> ▪ Is the major driver in Bruce County’s economy. ▪ Has created a bubble economy. ▪ Employs approximately 4,100 persons for operations. ▪ Most of the operating staff reside in Bruce County, particularly in Saugeen Shores and Kincardine. ▪ Most of the company’s supply chain is in Southern Ontario ▪ Bruce Power and its suppliers are recognized as good employers. ▪ Bruce Power is recruiting and training local people as these are the persons who most want to live and work in the area. ▪ Company is proactive around hiring Indigenous people and women.
<p>MCR Project</p>	<ul style="list-style-type: none"> ▪ Onsite annual jobs for the MCR Project range from 1,000 to 2,300 with average around 1,600. ▪ 75% of trades are travelers (i.e., commute is more than 1 hour). ▪ 80% of travelers are staying in Kincardine and Saugeen Shores, predominately in rental accommodation. ▪ The MCR Project finishes in mid-2033 just as the APM Project starts construction. ▪ The confluence of these two projects is seen as an opportunity for area employment continuity. ▪ Encouraging/making supply chain companies locate in the area was a good idea, successful and helped win over public opinion. Over 60 companies located to Bruce, Grey, and Huron Counties. ▪ Bruce Power encouraged Bruce, Grey, and Huron Counties to work as a team.
<p>Post-secondary Education</p>	<ul style="list-style-type: none"> ▪ Majority of young people who go away to get an education don’t come back because there are opportunities for them elsewhere. ▪ All the union halls are outside the local area and hence it is hard for local people to get union jobs. The majority of union jobs tend to be filled from outside the area. ▪ Unions and employers need to work together to train and place people more effectively. ▪ Colleges will work with employers to design custom training programs. ▪ Fanshawe has had a presence in the Bruce/Huron area for 10-15 years. ▪ Classes have been delivered in Goderich, Clinton, Tiverton, Saugeen Shores and on the SON reserves. ▪ Georgian and Fanshawe offers a wide range of courses including hospitality, technology, and business. ▪ Recently Georgian College has become associated with OYAP programs in high schools.
<p>Major Area Issues</p>	<ul style="list-style-type: none"> ▪ Lack of affordable housing. ▪ Public transportation is not available for people who do not live close to work.

	<ul style="list-style-type: none">▪ Labour availability for low wage jobs is a big problem, particularly in hospitality, tourism, manufacturing, healthcare, childcare, and agriculture.▪ Housing is becoming unaffordable for locals.▪ Rental housing availability is low and rental rates are high.▪ Landlords have a preference for renting to high wage tenants (i.e., those associated with Bruce Power and the MCR Project).▪ The livable wage is too low.▪ Municipal boundaries are political constructs they are not economic boundaries.▪ County level cooperation tends to be stronger than municipal level cooperation when it comes to economic development.▪ Employee retention is a problem, and some employers are looking at cash incentives.▪ There is frustration in the business community when employers train apprentices only to see them leave for Bruce Power when they get their certificates.▪ NWMO / the Project will intrude in the job market, but it is unavoidable. It is a situation that is happening now and will continue to happen no matter the location. People naturally want to move to higher wage jobs.▪ There is no magic solution around the issue of people moving to higher wages. All levels of government will need to become involved to find a solution. Supportive programming is one avenue.▪ More employers need to take on apprentices.▪ Transportation and housing are always issues.▪ There is an acute shortage of nurses, and workers for the hospitality sector.▪ People employed in the tourism and retail sectors can't afford to live in the area.▪ Area daycares do not have the capacity to support demand.▪ Area businesses are exploring potential to find staff among recent immigrants to Canada.▪ The shoreline communities are becoming unaffordable for many people, and as a result they are moving inland.▪ People moving to local communities need to be made to feel welcome.
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Appendix C: Supply/Demand Assessment⁴

1. The labour force requirements of the Project occur in three waves as depicted in Figure 33. Table 1 in Section 1.3.5 preceding summarizes this information.

Figure 33: Project Labour Force Profile



Source: Keir Corp working with data from NWMO (2021)

2. During the first Project wave, there are approximately 200 NWMO staff in the Project workforce, both on-site and at an off-site office facility. The strategy will entail a combination of new employee hires and relocation of existing employees.
3. The second wave of the Project coincides with the construction phase. During this phase an additional 10 NWMO staff are required along with 430 construction trades of which, 300 will be involved in surface works and 130 involved with works below ground.
4. Given the scale of the Regional labour shed, the requirement for 300 surface trades represents a small fraction of a percent of the potential supply. Furthermore, this supply is growing with an anticipated increase between now and 2046 of 42% (see Section 3.1, main text of the *Workforce Development Study*).
5. A further factor which needs to be considered in the labour supply/demand equation is the wind down of the MCR Project at the Bruce Nuclear

⁴ This appendix is sourced from Keir Corp. (2022a). *Labour Baseline Study: Southwestern Ontario Community Study*. Prepared for the Nuclear Waste Management Organization.

Generating Station. The MCR Project is scheduled for completion in 2033 thereby freeing up its on-site work force of approximately 1,600 trades people to work elsewhere, with one potential being the APM Project. At the present time the MCR Project is on schedule. Nevertheless, NWMO should consider monitoring the MCR Project going forward and tailor its workforce recruitment strategies accordingly.

6. The requirement for below ground trades will likely require contracts with appropriately skilled persons and companies in the Sudbury, Timmins, and Northwest Ontario areas to fulfill workforce requirements. However, as outlined in the *Workforce Development Study* (Keir Corp. 2022a) there are opportunities to fill some of these underground positions with area residents by providing them with appropriate training.
7. In the third wave of the Project which coincides with operations, the staffing requirements are for an additional 420 NWMO staff coupled with a downsizing of trade positions to 70. With respect to the NWMO workforce requirement there is ample capacity in the Regional Study Area to meet the need. Recruitment potential within the Local and Core Study Areas can be optimized with NWMO training provisions and local area recruitment strategies. Given that operations start in 2043, there is ample lead time to implement these measures.
8. For Project trade position requirements in the operations phase it seems probable that the desired long-term staff for these positions would be recruited from the trade contingents involved with construction.
9. In addition to the direct labour force requirements of the Project, additional employment is forecast for the Core Study Area municipalities because of Project staff living and working in them. Household and personal expenditures made by these workers are projected to create another 560 local jobs by 2046. South Bruce would like to capture 140 of these jobs with the remainder distributed across the other municipalities in the Core Area (metro-economics 2022). Given the projected base case growth occurring across the municipalities over the time frame both in terms of population and employment, staffing these jobs with local resources is feasible with the caveat being that consideration will need to be given to the availability of housing and/or transportation for low wage positions
10. From a labour force supply/demand perspective there appears to be good potential to accommodate the labour force needs of the Project drawing on the resource capabilities of the combined study areas. The one exception is for underground trades which may need to be recruited from other regions in Ontario. In all cases, proactive training of local talent synchronized with NWMO local area recruitment strategies will help optimize the potential for Project job opportunities to be netted by residents of the Local and Core Study Areas.
11. Figure 34 uses proportional squares to set out the Study Area workforce capabilities in occupational categories of interest to the NWMO relative to the direct labour force requirements of the Project. Quantitatively, the

Figure highlights the relative magnitude of capability across the Study Areas to meet the labour force needs of the Project.

Figure 34: Area Jobs in NWMO Identified Occupations & Project Direct Job Requirements

