

# REPORT ON SKILLS ISSUES IN THE MANUFACTURING SECTOR



PREPARED BY:

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**Canadian  
Manufacturers &  
Exporters**

Newfoundland &  
Labrador Division

FEBRUARY 10<sup>TH</sup>, 2003

## **CME BACKGROUND**

The CME represents small, medium and large companies from across the province. An elected board and strong executive govern the Division's activities. Members of the Provincial Board include:

<u>Board Member</u>	<u>Company</u>
John Patten (Chair)	Browning Harvey, St. John's
Dave Gill (Past-Chair)	Terra Footwear, Harbour Grace
Chris Hewitt (1st Vice-Chair)	Classic Woodworking, Paradise
Glenn Mifflin	North Atlantic Petroleum, Come-by-Chance
Bill Butler	Hi-Point Industries, Botwood
Rick Greenwood	Specialty Apparel, Mount Pearl
Dave Hiscock	J.W. Hiscock & Sons Limited, Brigus
Joan Hiscock	Hiscock Enterprises Limited, Brigus
Paul Griffin	Newtech Instruments, St. John's
Chris Hutton	East Coast Converters, Mount Pearl
Don Kennedy	ACAN Windows, Paradise
Howard Nash	Northstar Technical, St. John's
Bill Parsons	Steelfab, Paradise
Dave Thomas	Newfoundland Styro, Bishop's Falls
Annette Reichel	Neptune Leatherworks Inc., Carbonear
Bernard Sparrow	Brookfield Dairies, St. John's
Lainie Stewart	Mediwear Inc., Change Islands
George Yates	Yates Boatbuilding, Springdale

Canadian Manufacturers and Exporters (CME) is a national, non-partisan organization dedicated to promoting and preserving the interests of Canadian manufacturers and exporters. It represents 75% of manufacturing shipments and 90% exports across Canada. Over the past five years, the manufacturing sector has contributed 45% of Canada's economic and employment growth. CME is dedicated to maintaining a truly national orientation and improving the bottom line of Canada's manufacturers and exporters by:

- Ensuring the CME is a member driven organization that seeks and obtains the input of members regarding priorities, policy initiatives, programs, management, etc.
- Developing and delivering quality products and services that directly meet the needs of all our members.
- Preparing policy positions for our members and presenting those to the relevant areas of governance.

## **1. PURPOSE OF HUMAN RESOURCE RESEARCH**

In 2001, the goods producing sector in Newfoundland and Labrador employed 45,000 people. The industrial sector employed 37,000 of these. The industrial sector comprises manufacturing, construction, and natural resources, and all of these industries compete for the same talent. Growth of the manufacturing sector, anticipated growth of other sectors, such as oil and gas, and the demographic characteristics of the labour force induced concerns regarding a looming industrial human resource skills gap in Newfoundland and Labrador.

Provincial manufacturers expressed concerns to CME about the shrinking supply of workers with skilled trade and production line expertise. These concerns stimulated CME to conduct further research and analysis. This indicated a skills gap is developing in Newfoundland and Labrador - one that will grow over the next 10-15 years. Planning for the future skills gap is critical for the sustainability and growth of Newfoundland and Labrador's manufacturing sector and the province as a whole.

## 2. RESEARCH METHODOLOGY

CME conducted secondary research using Statistics Canada and Newfoundland Statistics data on demographics and employment. In addition, CME performed an analysis on graduate statistics, Canadian jobs trends, and perceptions of skilled trades and technologies. CME also administered a human resources survey to the manufacturing sector.

## 3. RESEARCH QUESTIONS/Framework

CME's research sought to answer the following:

1. Will an industrial skills gap exist within the province?
2. How will industry growth, employee retirement, and potential new projects (*i.e.* Voisey's, Lower Churchill, & White Rose) impact skill availability?
3. How will demographic changes affect industrial skill availability?
4. What is the current and future impact on firms of the potential skill gap?
5. How important are skills in investment/company attraction?
6. What has been the experience of past graduates?
7. Is the current industrial training capacity infrastructure adequate?
8. What role do perceptions (on the part of students, parents, gatekeepers) play in the potential skill gap?

The following represents CME's analysis and conclusions regarding each of these questions:

### 3.1. Will an industrial skills gap exist within the province?

According to CME's research, an expanding industrial skills gap is looming. Population decline, increasing retirees, a decreasing number of high school graduates, and growing demand for industrial jobs have jointly prompted the development of a skills gap.

#### Industry Growth, Retirement Rates, Potential New Projects

According to Newfoundland Statistics, the industrial sector is growing at an estimated rate of 2% per year (740 people), and the retirement rate is approximately 4% per year (1,480 people), introducing a 6% demand for human resources annually. Thus, sector growth and retirements create a demand for 2,100 positions per year in the industrial sector. Allowing technological advances to aid productivity improvements, this amount is reduced by 1.5% of the sector, or by 530. This nets to 1,700 person-years required annually.



Large-scale projects such as Voisey's Bay, Lower Churchill, and White Rose will potentially create 240 direct jobs per year and 480 indirect jobs annually, thereby further increasing human resource demand by another 720 positions per year.

***Given this, demand for industrially skilled labour will average 2,400 person years annually to 2015.***

### Demographic Changes

According to the Department of Finance's population projections, expected is a significant decrease of the working age population. By 2010, the working age population will decline by 14,000 people. By 2016, it will decline by 27,000. This means fewer people will be available to fill the demand outlined above as well as in the overall economy.

Currently secondary schools graduate 8,000 students per year, and the industrial sector attracts about 680. Thus, 8.5% of high school graduates enter industrial training programs. In 10 years, the number of high school graduates will fall to 6,000 per year because of declining birth rates. Meanwhile 2,300 will be required to enter industrial programs. Thus, 38% of high school graduates will be required to enter the industrial sector in 10 years.

If the current rate of 8.5% of high school graduates continues to enter industrial training programs in 10 years, only 510 graduates will have the skills necessary to supply the 2,300 jobs available – **a skills gap of nearly 1,800 people**. Additionally, when further analysis was compiled, of the 6,000 potential graduates, only 5,400 will graduate and then 4,300 will proceed to undertake post-secondary education. Furthermore, of these 4,300, a number will be lost as they will not have the proper training to match the province's economy and some will wish to move to opportunities outside the province. Thus, the challenge is imminent given the competition that will then exist for trained personnel in the service, health, education, governance, tourism, information technology, and other sectors.

### **3.2. What is the current and future impact on firms of the potential skills gap?**

CME's human resources survey indicated that the skills gap is beginning to impact companies. However, it will have a much greater impact in coming years as employees retire and job vacancies increase. Manufacturers are beginning to experience recruitment problems and higher turnover rates, which may result in declining job contracts due to the lack of access to skills. If this continues, the manufacturing sector will deteriorate.

Employees of many provincial manufacturers are nearing retirement age and have been working in their current positions for many years. The highest percentage of employees is in the 36-45 year age group, and the number of employees that are less than 25 years of age is very low in comparison. Thus in 10-15 years, employees who are now 36-45 years old will be retiring, and the outflow of employees will be much greater than the inflow if young people are not educated about the opportunities in the manufacturing sector. This will also affect the skills



within firms, as a large portion of the company's skill base will retire in a short timeframe. A specific example, using statistics for the number of certificates issued in construction trades, helps illustrate this. From 1970 to 1984 approximately eight thousand, four hundred people were issued certificates. From 1985 to 1999 this number declined to approximately six thousand, three hundred people<sup>1</sup>. Compounding the problem is that these employees will be replaced by an influx of inexperienced staff. As one employer put it, "In the next year, I will lose 900 years of experience only to be replaced with 30 new entrants."

Manufacturers have begun to experience recruitment difficulties. Skills they identified as having difficulty recruiting include finished carpentry, production line and plant workers, mechanical and production engineers, mechanics, production supervisors and managers, industrial sewers, millwrights, quality engineers, industrial electricians, machinists, and assemblers. The number of applications received for a job opening has decreased over the past few years, and the number of qualified people applying is often less than five for almost half of the companies surveyed. This indicates that people with the skills required for job openings are not seeking employment and/or people entering the workforce are not attracted to the sector. This will increase the allocation of management's time, a critical resource, to human resource issues.

The top reason identified by survey respondents for recruitment difficulties is lack of a skilled workforce. Lack of training infrastructure ranked a close second with perceived low wages third. Many companies must offer specialized training for new employees. However, training is not their area of expertise and is very costly, especially for an individual with no or minimal experience. This sometimes results in an inability to hire unless the individual already has the required skills for the job.

Adding to difficulties, identified were low basic math and literacy skills as issues for current and new employees, particularly for production line workers. Production line workers need to have basic math and literacy skills and, frequently, other technical knowledge to operate machinery. Typically, the level of education required for this type of position exceeds high school; however, companies are often not able to recruit even high school graduates with the necessary skills. Thus, reduced labour supply leads to reduced skills inherent within the manufacturing operation and lower productivity.

Low wages is the third reason identified for recruitment difficulties. From the survey, however, average starting wages for production workers are \$8.90/hour, average top wages for production workers are \$13.47/hour, average starting wages for certified workers are \$11.08/hour, and average top wages for certified workers are \$16.63/hour. Wages can be as high as nearly \$36/hour for production workers and \$28/hour for certified workers, and salaries can be as high as \$45,000/year for production workers and \$120,000/year for certified workers. The manufacturing sector offers good salaries but the perception is the opposite. Meanwhile, the industrial skill gap exists across Canada and within many provincial sub-sectors, which creates increased labour competition. As evidence, turnover rate has also been increasing over the last three years with the driving factor being other employment opportunities. This will place pressure on firms to pay higher salaries,

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<sup>1</sup> The Economic Review 2002



which will reduce their competitive position given rising input costs, transportation expenditures, infrastructure demands, and inability to pass costs to the customer.

The Management Issues Survey administered to manufacturers across Canada by CME indicates that lack of qualified personnel is one of the most critical constraints on performance improvement. This is another indicator that one of the most pressing issues in the manufacturing sector is the lack of required skills. As such, the current human resource challenges for the manufacturing sector will continue to increase if the issues go unaddressed.

### **3.3. How important are skills in investment/company attraction?**

CME's Management Issues Survey shows that the number one factor influencing location of new facilities is access to skilled labour. If the skills gap in the manufacturing sector continues to grow in Newfoundland and Labrador, not only will our existing businesses deteriorate, new manufacturers will not perceive this province as a good place to operate a manufacturing facility. Attention needs to be given to skills development in the manufacturing sector to remain competitive and grow the industry.

### **3.4. What has been the experience of past graduates?**

Preliminary research shows that graduation placement rates are very high in the skilled trades from CONA. There is also evidence that starting salaries for appropriately trained skilled trades are above average. In addition, anecdotal information has indicated that too many people are educated in areas where they cannot find employment, while companies cannot find expertise in skilled trades and industrial technologies. An overabundance of training has been available for certain sectors/skills within this province over the past ten years. This has caused a multitude of problems, including out-migration, under-valuation of skills, and reduced motivation towards higher value-added activities in sectors with overabundant labour supply. This indicates a poor matching system between demand and supply of skills. Needed, though, is further work to identify the experiences of past graduates.

### **3.5. Is the current industrial training capacity infrastructure adequate?**

The current industrial training capacity is unlikely to be able to meet future demand. In 2000, approximately 700 people<sup>2</sup> graduated with any level of industrial training. Over the past number of years, industrial training capacity has been reduced, and some required programs are not offered at all. Increasing from 700 to 2400 will require additional capacity. As well, due to various decisions, some delivery of training is now solely within union environments, which do not reflect the characteristics of the small industrial based company. This is not the fault of educational institutions, government, or influencers – but rather the result of reactions to short-term trends and fiscal realities. Needed is additional work with educational institutions to determine the requirements to build an educational infrastructure that will bridge the industrial skills gaps in the province.

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<sup>2</sup> This is the total of all 1-, 2-, & 3-year programs in both the public and private sector.



### **3.6. What role do perceptions (on the part of students, parents, gatekeepers) play in the potential skill gap?**

Perceptions of gatekeepers play a critical role in career decisions for youth. According to an attitudinal survey conducted by Skills Canada, parents are the number one influencer for students making career decisions, while teachers and peers also influence youth in their career decisions. These influencers are unlikely to encourage youth to choose a career path in the skilled trades.

According to this attitudinal survey, youth are unaware of the opportunities in the skilled trades and technologies and apprenticeship programs. They are more likely to choose university over trade school or college because university is thought to offer better career opportunities and be more challenging. Youth want jobs that give personal satisfaction, respect, and security, and they and their influencers perceive skilled trades as not being lucrative, challenging, interesting, or fun.

It is evident from the survey that young people make career decisions based on what their parents, teachers, and peers advise; however, these influencers are not necessarily giving accurate information about skilled trades. Skilled trades can be exciting, secure jobs with great earning potential and opportunities for advancement. Misperceptions need to be corrected and careers requiring industrial skills need to be promoted to close the skills gap.

## **4. CONCLUSION**

Research shows that a skills gap is looming in the manufacturing sector in Newfoundland and Labrador, education infrastructure required to bridge the gap is limited, an inadequate match between labour market demand and supply exists, and gatekeepers need to be educated on the real opportunities in the manufacturing and industrial sectors. The skills gap is also more readily apparent in rural areas of the province as the competition for its labour pool is provincial, national, and international. Skills are a critical resource for a healthy economy, but the people holding those skills are also essential to maintain our community and social networks.

This is a complex issue – one not easy to manage given how quickly economies and sectors can change, the personal preferences of students, and the multitude of influences that affect an individual's decision to pursue a specific career path. Given the demographic trends, though, the province must carefully manage this critical resource if it is to maintain economic growth and care must be imposed not to create an overreaction resulting in another large pendulum swing.

Newfoundland and Labrador needs to address industrial skills issues. Various initiatives are required to prepare the province for future human resource needs, and it is essential that these be placed high on the political agenda to give the issue the attention required for its success. Initiatives must include actions to improve infrastructure, perception, labour force capacity, and company capability.

#### Infrastructure

- The number of graduates with industrial skills is less than required with sector growth and demographic shifts, and this gap will grow over the next 10-15 years. The ability of educators to deliver solutions and the identification of areas where



interventions and investments are required must be determined. **A review of the training capacity that exists at the private and public college levels should take place within 60 days.**

- The educational infrastructure may require large investments to meet the capacity required for future industrial skills demand. To increase the infrastructure capacity for industrial skills, **a reinvestment budget must be developed to ensure training capacity is in place within three years.**
- For the educational system to work most effectively, duplication of efforts must be eliminated and strategic investments made. Thus, to aid this, **a college/industry body to oversee Industrial Training Capacity from an investment/duplication perspective should be created.**

### Perception

- A lack of awareness about the industrial sectors exists at the high school level, which only deters students from wanting to enter careers in these sectors. **It is critical to reintroduce industrial component into the high school system and build a greater awareness of opportunities in these sectors.**
- Guidance Counselors have many issues to deal with in the school system; however, a service for career coaching for students will help to match skills with aptitudes. It will also help guide individual students into more appropriate careers, foster awareness of the many different career options, and ultimately help to decrease unemployment because better aptitude-career matches will be made. To do this, the government needs to **reallocate resources to TRUE guidance counseling/career counseling.**
- The government holds tremendous influence for fostering awareness of specific sectors. To reach all gatekeepers and change their perceptions of the industrial sectors, government will need to **place a great political emphasis on the opportunities in the industrial sectors.**
- The preceding actions to improve perceptions will be the first steps towards change. A longer-term strategy is required to ensure positive perceptions are reinforced and maintained. To do this, **a joint industry/government/college communication plan/budget needs to be developed within 60 days.**

### Labour Force Capacity

- Newfoundland and Labrador's unemployment rate is high and a skills gap in the industrial sectors is approaching. The unemployed and underemployed need to be trained in skills that are in demand to effectively place these people in long-term careers. To utilize current resources, **a Provincial program to integrate underemployed/non-participants via a direct company/individual matching system needs to be developed within one year.**
- The underemployed/non-participants need to be guided into good career-aptitude fits. Without that fit, an individual may not last in a career for the long-term, which will result in a lost investment, further exacerbating the skills gap. To avoid this, **a testing and diagnostic tool for broad circulation needs to be developed to identify underemployed/non-participants who have aptitude/interest in the industrial sector.**
- Currently, no generic industrial skills program exists. The province's industrial sector is fragmented into many different smaller sub-sectors, and to offer programs specific to each job would be extremely costly and inefficient. However, many skills overlap, and training is required to ensure skills the companies are seeking to remain competitive are attained. **A generic industrial**



**training program with literacy, numeracy, safety, and quality components should be developed within two years.**

#### Company Capability

- Companies are continuously under pressure for competitive purposes to adopt and refine processes and improve productivity. This will only be heightened as the difficulty to secure human resources grows. To ensure companies are encouraged and supported in these efforts, **a review/modification of support programs to make certain capability to finance company efforts for process and productivity improvements should be undertaken with 90 days;** additionally, **productivity improvements/wealth creation rather than employment should become a prime factor when making company support decisions.**
- Multi-skilled employees and employees possessing hard & soft skills are those of most value to a company and can help a company achieve success. Soft skills and flexible skills, though, are often not built into industrial training programs nor are the traditionally supported when companies are embarking on training regimes. **Thus, programs must be modified to introduce/promote greater soft skills training with six months.**
- The skills required in the industrial sector are dynamic and varied in nature, and often only practitioners working in the field generally hold these skills. As well, “formal” programs are not practical given demand, investment required, geography, and other issues. **To address this, it is recommended that within one year certified, on-the-job entry-level training programs be developed and supported.**
- Given the impending shortage, it is critical that companies retain and get the best value from the staff that currently in their employment. Companies are not skilled in providing training, often can not afford to have critical staff on extended training, and risk losing people once upgraded. As well, most support programs do not aid skills upgrading of current staff. Thus, **within one year programs should be created/modified to support retraining and skills upgrading of existing staff.**

If the province is to continue its growth, increased emphasis on strengthening and expanding the goods producing sector is required. Training 700 people annually for a sector employing 37,000 people will not provide for this. If the current situation goes unchallenged, the gap will develop even while students are encouraged to go into training for positions they are not matched for or for positions where the opportunity lay outside our provincial boundaries. This is a challenge that business, educators, and government must meet if expansion is to continue.

