



ONTARIO  
SOCIETY  
OF PROFESSIONAL  
ENGINEERS

## ENGINEERING EMPLOYMENT IN ONTARIO: RESEARCH AND ANALYSIS

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### From Classroom to Career:

A Snapshot of Employment and Underemployment Among Ontario's Engineering Graduates

May 2014

### Report Summary

To read the full report, please visit: [http://www.ospe.on.ca/?page=adv\\_issue\\_elms](http://www.ospe.on.ca/?page=adv_issue_elms)



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## Report Summary

This report provides a snapshot of indicators based on the disconnect between what employers say – there is a shortage of workers with the specialized skills they need – and the ongoing reports of individuals with engineering degrees who cannot find relevant work. As such, this report concentrates on individuals with engineering degrees working in jobs not necessarily requiring a university degree. Although there is no universally agreed to definition, for the purposes of this report, the Ontario Society of Professional Engineers (OSPE) terms this as “underemployment” and defines it as a state of employment in which an individual with an engineering degree is employed in a job that does not necessarily require a university degree.

Information in the report is derived from the Canadian National Census 2011 National Household Survey (NHS). According to the 2011 NHS,<sup>1</sup> only 29.7 per cent (67,045 out of 225,490) of employed individuals in Ontario with a Bachelor's degree or higher in engineering were working as an engineer/engineering manager. A further 37.0 per cent (83,365 out of 225,490) worked in professional positions that normally require a university degree. Therefore, just over 65 per cent of employed Ontarians with engineering degrees were gainfully employed in a profession that requires or benefits from having a university degree. Those not working as an engineer or in a position not necessarily requiring a degree represent 33.3 per cent (75,090 out of 225,490), a proportion that OSPE considers high and that indicates significant underemployment in the engineering profession.

In comparing engineering with other regulated professions, data indicate that by a wide margin, employed individuals with a Bachelor's degree or higher in engineering do not work in their field of study as compared to other professions.

Looking at other provinces, almost 46 per cent of individuals with engineering degrees work as engineers/engineering managers in Alberta versus 29.7 per cent in Ontario, the lowest percentage of all five provinces that were compared as well as Canada as a whole.

Analyzing data based on age groups demonstrates that at 34.3 per cent, employed individuals 25 to 34 years of age with a Bachelor's degree or higher in engineering work as engineers/engineering managers, the highest percentage of any working age bracket. At 27.3 and 27.8 per cents, the age groups with the lowest percentage working as an engineer are 35 to 44 and 45 to 54 year olds, respectively. Correspondingly, the 25 to 34 year old group has the lowest per cent of individuals working in jobs not necessarily requiring a degree, at 25.2 per cent, and the 45 to 54 year old group the highest at 36.3 per cent, a higher level than any other age bracket or provincial average.

The stated 2011 NHS number of 75,090 employed individuals living in Ontario at the time of the 2011 census with a degree in engineering but not working as engineers/engineering managers nor in jobs typically requiring a degree could be indicative of a wide variety of issues and generates a variety of questions. Any one, all or a combination of the following questions can be asked based on the snapshots outlined in this report:

<sup>1</sup> Statistics Canada, 2011 National Household Survey: Data Tables, 99-012-X2011056, Ottawa, Ont.: Statistics Canada, 2013.

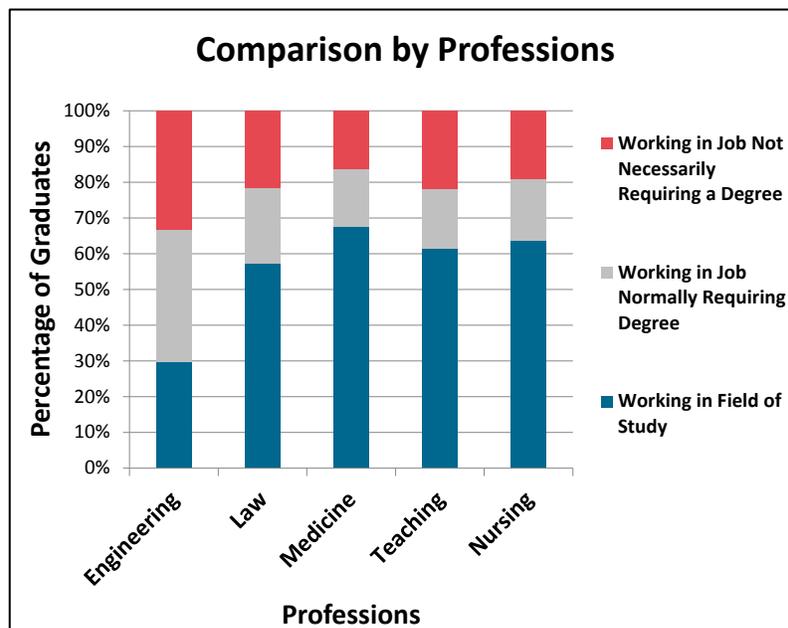
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1. Are too many engineering degree holders entering the workforce either through immigration or Canada's university system?
2. Are a lack of co-op positions a primary reason why many engineering graduates cannot find work as engineers?
3. Are employers doing their part to generate entry level positions and to train engineers in-house to develop the skills industry needs or providing co-op positions to engineering students?
4. Are university programs educating engineering students in the skills industry needs?
5. Can the Ontario and global economies grow and strengthen to expand opportunities in order to generate more jobs for engineers?
6. Are some of the 33.3 per cent of the underemployed simply not going to find work as engineers or in professions requiring a degree because of reasons other than demonstrable skills?
7. Are some of the 33.3 per cent of underemployed and/or the 37 per cent working in positions requiring a degree but not as engineers/engineering managers satisfied with their career paths and have no desire to work in engineering?
8. Does Canada's immigration system contribute to the underemployment situation? Will recent changes to the system improve the rate of engineering and professional employment among immigrants with engineering degrees?

Figure 1

Comparison of Ontario Employed Holders of a Bachelor's Degree or Higher and Type of Job in Selected Regulated Professions Requiring a Degree



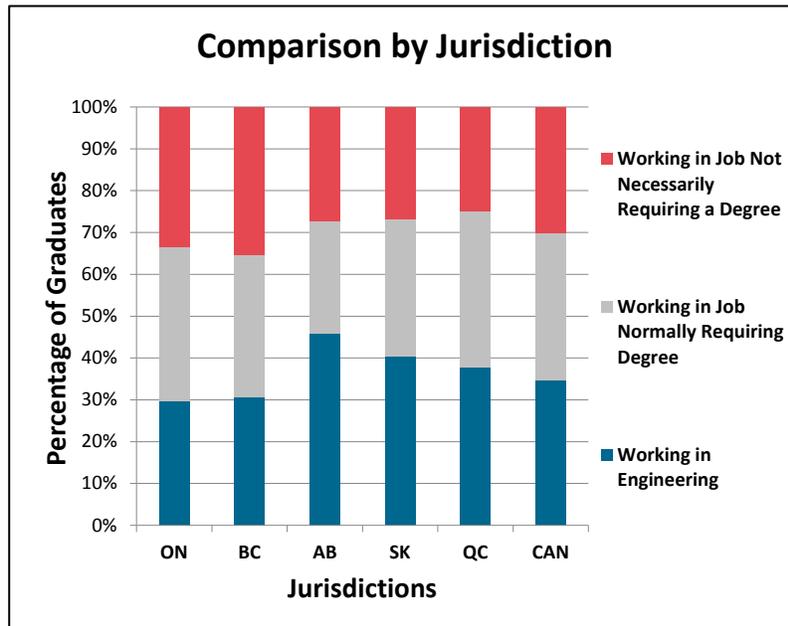
Source: Statistic Canada, 2011 National Household Survey

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**Figure 2**

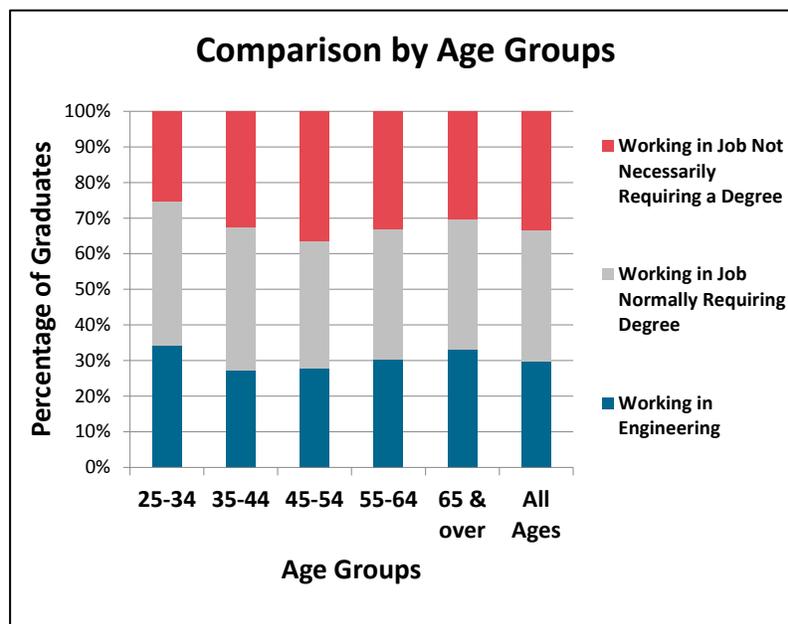
Comparison of Employed Holders of Bachelor's Degrees and Higher in Engineering by Jurisdiction



Source: Statistic Canada, 2011 National Household Survey

**Figure 3**

Comparison of Ontario Employed Holders of Bachelor's Degree and Higher in Engineering by Age Group



Source: Statistic Canada, 2011 National Household Survey



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