

Women in Engineering Task Force Report

May 2009

It is the recommendation of the Task Force that Engineers Canada step up its commitment to increasing diversity in the engineering profession. The engineering profession is not representative of the proportion of women that makes up society as a whole, and efforts need to be made to address the barriers and impediments that are stifling the full participation of women; a resource that other professions are currently benefiting from in far greater numbers. With an understanding that strategies aimed at changing the gender balance in engineering need to begin in the early school years, the Task Force recommends that Engineers Canada consider supporting the following to meet its women in engineering outreach objectives to attract women to the engineering profession and retain them within the profession for longer periods of time. The number of women enrolled in undergraduate programs has declined from a high of approximately 20% to only 17% of the overall number. In comparison, from a workforce perspective, women currently comprise 9.5 percent of all professional engineers in Canada; a number which has seen moderate increases since 2004 when it was at 7.9 percent.

Recommended Strategy to Achieve the Broad Objective of Attracting Women into the Engineering Profession

1. Raise the profile and improve the image of the profession.

Research indicates that many young women do not have a good understanding of what engineering careers entail. The Task Force recommends concentrated efforts to increase the visibility of the engineering profession and identify the varied careers that engineering has to offer; promoting the limitless opportunity of the engineering degree with a specific focus on the important social and environmental components of engineering that are often overlooked. Examples to carry out this initiative could include:

- Partnering with universities and career sites to enhance the descriptions being used for engineering, thereby allowing them to more accurately reflect the exciting nature of engineering work.
- Supporting a national, coordinated effort to highlight engineering role models. While some constituent members have developed programs to showcase engineering role models within their respective province, each of these independent initiatives could benefit to all if gathered and shared nationally particularly if hosted in partnership with an existing successful engineering website such as "Generation E".

2. Explore how engineering curriculum and its delivery could, without compromising the high standards of the Canadian system, become more attractive to a greater diversity of students.

Recognizing that there has been a tendency towards increasing educational requirements over the years, Engineers Canada should work collaboratively with the National Council of Deans of Engineering and Applied Science as well as the Canadian Engineering Accreditation Board to discuss this issue with the aim of fostering greater flexibility in the delivery of the engineering curriculum in order to attract a greater diversity of students. A survey of the universities could be undertaken as a starting point to establish current opinions on this issue as well as innovative methods of program delivery.

Recommended Strategy to Achieve the Broad Objective of Retaining Women in the Engineering Profession

3. Demonstrate the value of diversity in engineering education and in the workplace.

Examples to achieve this initiative could include:

- Creating a “Corporate Diversity Champion Award” and a national awareness campaign to promote the business value of gender diversity.
- Employ survey methods as a starting point to build awareness and identify common hurdles that need to be overcome.

4. Help better prepare female engineers for the workforce.

Female engineers would gain in being better prepared to work in the male-dominated workforce. A first step could be to promote and facilitate the availability of existing training programs that may benefit or be of interest to the female engineering population. Rather than re-inventing programs that already exist, efforts should be made to publicize existing training programs and make them more accessible to female engineers. Examples of such training programs could include negotiation skills, communication skills, assertiveness training, gender/diversity awareness, etc.

5. Promote information-sharing on mentorship programs and the importance that mentors have in the attraction and retention of women in engineering.

Examples to carry out this initiative could include:

- Engineers Canada could showcase the existing mentorship programs that exist among its constituent members and encourage their use or emulation within industry.
- A set of best practices could be developed to assist those wishing to create their own mentorship program, and the use of methods to publicly recognize engineering accomplishments should be encouraged (e.g.: public press listing of employees who have just received their P.Eng., the

receipt of awards by a P.Eng., other major achievements by members of the engineering profession, etc).

6. Work with industry on methods to help improve the retention of female engineers in the workforce and diversity in general.

Examples of this include the following:

- Providing education to CEO's on effective methods to better attract and retain female engineer, and create an organizational culture that supports and values diversity in its workforce. CEO training programs could stress the value and benefits of workforce diversity, improving work-life balance, and encouraging/supporting mentorship programs and volunteerism within the profession.
- Encourage industry CEO's to sign pledges on behalf of their organizations to pursue a set of measures to increase the retention of women in the profession.

This has proven to be a very useful and effective strategy in other professions (e.g.: law) as it secures a commitment from the top and, when participating companies are showcased through visible recognition methods such as a website list and/or logo, it builds momentum among companies who want to be identified as one of the best places to work. Recommended measures to increase retention should focus on ways of improving work-life balance, such as parental leave and flex-time policies, as well as guidelines that facilitate re-entry into the workforce following a leave of absence (training, coaching, volunteering, mentoring, etc).