

Women in SETT (Science, Engineering, Trades and Technology) - Providing Resources for Industry and Post-Secondary Institutions

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Introduction

The anticipated retirement of the 'baby boom' generation, decreasing birth rates, and the significant growth of natural resource and construction sector projects has meant that there are increasing national labour shortfalls. There will be a skilled labour force deficit in Canada of 1.2 million by 2025.¹ With the numbers of immigrant and temporary workers not being sufficient to fill these gaps, employers are recognizing the importance of recruiting and retaining employees from currently under-represented groups such as women. In 2006, however, Canadian women while 47% of the labour force, were only 12% of professional engineers and 4% of the construction workforce.² Are there opportunities for employer needs to be met in a sustained way by more effective practices to increase the participation of women in the science, engineering, trades and technology (SETT) workforce?

Women in SETT Initiative

In 2003, the Canadian Coalition of Women in Engineering, Science, Trades and Technology (CCWESTT) embarked on the Women in SETT Initiative to effect change at the institutional level to increase the recruitment and retention of women in SETT fields. In earlier phases of the initiative, we consulted with women in SETT and stakeholders to identify issues and priorities, developed the business case for the benefits of increased participation of women³, and proposed the development of a Canadian Centre for the Advancement of Women in Science, Engineering, Trades and Technology.⁴ The WinSETT Centre will be the catalyst for the on-going and sustained employment and advancement of women in SETT fields. The Centre will achieve its mission by developing and disseminating, through collaboration and partnerships, the tools and expertise useful to industry, government, educational institutions and women in SETT organizations to recruit, retain, and promote women in SETT.

Delivery of Tools and Services

In 2007-08, as pilots of the services and resources to be provided by the national Centre, the WinSETT initiative developed and delivered tools and data to employers to strengthen the recruitment and retention of women in SETT fields. Initially, these resources were designed for four specific sectors - construction / trades; post-secondary; oil and gas; and information technology. The resources consisted of workshops, presentations, strategic plans, and publications for human resource specialists, managers, deans and directors, and professional women in SETT. Full details on these initiatives are being presented in separate presentations at the 12th CCWESTT Conference and appear in the Proceedings.^{5,6,7}

- a) Construction Sector / Trades. *Welcoming Women into Science, Engineering, Trades and Technology Workplaces: A Checklist of Strategies*⁸ was produced as a practical booklet for use in workshops for employers and associations in the construction sector to identify issues, examine the workplace, and take actions to create work environments welcoming to women in the skilled trades. The resource includes current research and effective practices spanning the topics of recruitment, selection orientation, retention, career development, training, and health and safety, and provides questions to help guide the employer in developing their own action plan. Two facilitated pilot workshops based on the Checklist were successfully delivered to company owners, human resource personnel and sector representatives in Saskatchewan (Regina and Saskatoon) and to union representatives from the building trades council in St. John's, Newfoundland and Labrador (the latter delivered in partnership with Women in Resource Development Committee). Evaluation was highly affirmative with participants agreeing that the information was accurate and relevant and will have a positive impact on their workplaces.
- b) Post-Secondary Sector. *Project Catalyst* resources including facilitator's discussion notes have been developed to advance effective strategies to increase the recruitment and retention of female university faculty in science and engineering in Canadian universities. The project has been disseminated through presentations and discussions with administrators, hiring committees and faculty in universities and colleges in Canada and at meetings internationally. Results at the University of Alberta have been very encouraging with significant increases in the numbers of new women faculty hired in their science faculty departments. For example, there has been a 50% increase in the percentage of women in the Department of Physics and a 66% increase in the Department of Mathematics and Statistics.
- c) Oil and Gas Sector. While this sector has shown strong growth in both western and eastern Canada, the retention of women scientists and engineers has been noted as an issue. The *WinSETT / Becoming Leaders Career Success Workshop* was designed for presentation to early to mid-career women scientists and engineers in the oil and gas industry with the objective of increasing their retention and strengthening leadership potential. Participants are informed about the factors that influence career success and learn about high value skills to ensure recognition for their achievements and improve access to professional advancement. The initial pilot *Career Success: Skills and Strategies Workshop* is to be delivered to female engineers and scientists from two major petroleum companies in Calgary in late April. Dr. F. Mary Williams principal designer of the *Becoming Leaders*TM series of workshops will facilitate the event and outcomes will be presented at the CCWESTT Conference.

- d) Information Technology Sector. CCWESTT's member organization, Hypatia Association, is working with a major aerospace IT and communications client in Nova Scotia on a retention project for women technologists in their workforce. The project is in its fourth phase with Hypatia advising on the development of the company's strategic plan for increased recruitment and retention of women.

Advisory Panel

Providing strategic counsel in this phase of work of the WinSETT Initiative is a panel of eminent advisors:

- Barbara Byers, Executive VP of the Canadian Labour Congress
- Senator Lillian Dyck, prominent university scientist and aboriginal leader
- George Gritziotis, Executive Director of the Construction Sector Council
- Dr. Eric Newell, Chancellor, University of Alberta and former Chair and CEO of Syncrude Canada

Progress Toward a Canadian Centre for the Advancement of Women in SETT

The Working Committee has continued to advance the goal of establishing the Canadian Centre for the Advancement of Women in SETT through meetings with representatives of industry, post-secondary institutions, sector organizations and associations, and governments. Of particular note are the high level discussions with senior members and staff of the Alberta Government. Planning documents and a draft budget for the proposed Centre have been presented in response to requests for information. The outcomes of the delivery of tools and services are assisting in this process by generating endorsements and statements of support by industry stakeholders. Funding proposals are being drafted for obtaining the resources to complete the Centre business plan and begin implementation of its establishment.

Conference Panel Discussion

The panel will discuss the delivery and evaluation of the pilot resources and the plans for establishing the WinSETT Centre. The audience will be invited to present their perspectives and ideas on these major undertakings.

References

1. Conference Board of Canada (2005). The Skills Factor in Productivity and Competitiveness. p. 8 of 47 pp. <http://www.conferenceboard.ca>
2. Statistics Canada (2008). 2006 Census. Catalogue Number 97-559-XCB2006011. <http://www12.statcan.ca/english/census06/data/topics>
3. CCWESTT (2006). Increasing Women in SETT: The Business Case. 14 pp. <http://www.cwestt.org/sett.asp>

4. Emerson, C. J., Matsui, H. and Michael, L. (2006). Women in SETT (Science, Engineering, Trades and Technology) / Femmes en SGMT (Sciences, génie, métiers et technologie) Phase II - Progress Toward a National Model. 11th CCWESTT National Conference, Calgary AB. <http://www.ccwestt.org>
5. Overend, V., Emerson, C. J., and Hollett, S. (2008). Welcoming Women into Trades and Technology Workplaces - A Checklist of Strategies and Employer Workshops. 12th CCWESTT National Conference, Guelph, ON.
6. Emerson, C. J. and Williams, F. M. (2008). WinSETT / Becoming Leaders Workshop Initiative – Career Success: Skills and Strategies. 12th CCWESTT National Conference, Guelph, ON.
7. Armour, M. A. (2008). Building on Success: Increasing the Percentage of Women Faculty in the Sciences. 12th CCWESTT National Conference, Guelph, ON.
8. CCWESTT (2007). *Welcoming Women into Science, Engineering, Trades and Technology Workplaces: A Checklist of Strategies*. 81 pp. ISBN 978-0-9784609-0-7.

Biographical Information

Margaret-Ann Armour, Ph.D., Associate Dean of Science (Diversity), University of Alberta, is a distinguished scientist and celebrated leader in organizations and initiatives that advance the participation of women in science and engineering. She most recently received the Order of Canada and an Honourary D.Sc. from the University of British Columbia for her significant contributions.

Hiromi Matsui, M.Sc., Director of Diversity and Recruitment, Applied Sciences, Simon Fraser University, is a former President of CCWESTT and has been recognized by a number of organizations, including the Association of Professional Engineers and Geoscientists of BC, for her contributions to the advancement of women in SETT.

Carolyn Emerson, M.Sc., Project Coordinator of the WinSETT Initiative, has been a leader in science promotion activities with a focus on women in SETT. She is the recipient of several awards for excellence, leadership and public service, including from the Professional Engineers and Geoscientists of Newfoundland and Labrador, Memorial University and WISE Newfoundland and Labrador.