



**CANADIAN COALITION  
OF WOMEN IN ENGINEERING,  
SCIENCE, TRADES AND TECHNOLOGY**

# **Women in SETT**

**(Science, Engineering, Trades and Technology)**

## **Building Communities**

# **Phase I Final Report**

**November, 2004**

***[www.ccwestt.org](http://www.ccwestt.org)***



## ***About the Canadian Coalition of Women in Engineering, Science, Trades and Technology***

The Canadian Coalition of Women in Engineering, Science, Trades and Technology (CCWESTT), established in 1987, is a national coalition of groups that promotes the full participation of women in SETT to government, business, industry, and educational institutions, and applies new vision to these fields. CCWESTT consists of 24 member organizations across Canada who provide an extensive resource and support network, and disseminate critical information on the integration of women in SETT fields.

### **Women in SETT (Science, Engineering, Trades and Technology) – Building Communities**

The Women in SETT initiative undertakes work to engage organizations and influence policy to increase women's participation, retention, and leadership in science, engineering, trades and technology throughout Canada. This document summarizes key findings and identifies future areas of strategic action.

Women in SETT is supported by major grants from Status of Women Canada, and Science and Engineering Research Canada, and other contributions from industry, government, professional associations, community organizations, and universities.

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# Women in SETT (Science, Engineering, Trades and Technology) Building Communities

## I. CCWESTT Description

Mission: The Canadian Coalition of Women in Engineering, Science, Trades and Technology (CCWESTT)<sup>1</sup> was established in 1987 as a national coalition of groups that promotes women in science, engineering, mathematics, technology and trades, celebrates their contributions, and applies new vision to these fields. CCWESTT is comprised of 24 member organizations represented in most provinces of Canada (Appendix A).

Value Statement: Operating from a feminist perspective, CCWESTT strives for inclusion, cooperation, trust and integrity in its efforts to develop and maintain partnerships and collaborations with its members and affiliated groups who are working to support, and advocate for, women in science, engineering, trades and technology.

### Objectives:

- To develop and maintain a resource and support network to facilitate the exchange of information amongst member organizations,
- To promote the full participation of women in science, technology, engineering, mathematics and trades to government, business and industry, and educational institutions, and
- To research, measure, evaluate and disseminate information on the integration of women in science, engineering, technology, trades and mathematics at all levels.

CCWESTT has a Board of Directors comprised of a representative of each member group of the Coalition and an Executive (Appendix B) elected from member organizations at the Annual General Meeting. The Executive, Board and Coalition are supported by a strong committee base drawn from individuals in member organizations (Finance and Audit; Communications; Policies and Procedures; Membership and Nominations; Conference Planning; Measurement; Scholarship and Awards). The Women in SETT Initiative (see Section II) is a special *ad hoc* project of CCWESTT with its own Working Committee (Appendix C).

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<sup>1</sup> Note that at its Annual General Meeting on June 10, 2004, the Board of Directors approved a motion to re-incorporate the 'trades' sector in the organization's membership and audience, with the appropriate change in name.

## II. Women in SETT – Building Communities

In 2003, CCWESTT launched *Women in SETT (Science, Engineering, Trades and Technology) – Building Communities* to engage organizations and strengthen its advocacy role in partnering with government and other sectors to increase women's participation, retention, contributions and leadership in science, engineering, trades and technology throughout Canada. This initiative seeks to strengthen Canada's innovation and research capacity, and address skills shortages, and concurrently, increase women's economic well-being for themselves, their families and their communities.

### **A. Project Objectives**

- To engage organizations that share an interest in ensuring women's participation and retention in SETT fields,
- To collectively identify priorities, barriers and core issues to full participation and retention of women in SETT fields,
- To collectively identify and document best practices in ensuring the participation and retention of women in SETT fields,
- To form recommendations and an action plan for providing input to government and industry policy makers, and
- To communicate the recommendations devised to stakeholders and government policy makers.

### **B. Project Rationale**

Much has been done to encourage girls and young women to take science and mathematics in high school and to enter post-secondary SETT programs. CCWESTT member organizations deliver successful, award-winning programs in such outreach areas. CCWESTT and others are also focusing critically on the recruitment, retention and advancement of women in their careers.

Despite these efforts, research and statistical information document the continuing under-representation of women in the majority of SETT fields in Canada. And within individual disciplines and sectors, there are decreasing rates of participation for women in the progression from post-secondary and higher education to the retention and advancement of women in SETT careers. A substantial body of research reports on the factors influencing this situation.<sup>2</sup>

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<sup>2</sup> The Proceedings of the 12<sup>th</sup> International Conference of Women Engineers and Scientists, July 2002, Ottawa, feature relevant research papers. <http://www.inwes.org>

Over the last five years, the Federal Government has stressed that innovation is *the lifeblood of a successful 21<sup>st</sup> century economy* and that building human skills is a necessity.<sup>3</sup> Various strategies have focused on addressing labour force requirements and strengthening the country's science and research capacity in order to remain globally competitive. For the most part, however, these strategies have not acknowledged the important economic and social contributions of women in SETT to Canada currently and in the future.

The Women in SETT project was initiated to address this gap in recognition, and to actively partner to build the human resource capacity of women in SETT careers. The initiative has evolved in its strategies and actions in response to the current policies and undertakings of the Federal Government and other institutions, particularly as related to labour market issues.

## **C. Project Process**

### **1. Model**

The model for Women in SETT was built on a foundation of respectful collaboration and positive engagement at the grassroots level, expanding from CCWESTT organizations themselves. The Working Committee is comprised of experienced individuals who work directly in advancing women's status in SETT fields. The Working Committee structure and the effective guidance of its two Co-Chairs supported active participation of its members with decision-making by consensus. Several face-to-face meetings and monthly teleconferences facilitated the work of the Committee. A group of five distinguished advisors (see Appendix C) was available to help the work of the Committee, and to expand the communities of expertise and perspective.

Three Regional Consultations were the first major steps to gather information from as broad a spectrum as possible by sector and geography. Consultation participation was by invitation to women only to fully honour and enable the experience and knowledge of women to underpin and inform the direction of the initiative in its early stages. Information from these meetings and other research and input were then presented to a mixed-gender invited audience of leaders in two National Meetings.

Results and recommendations from these five meetings and from follow-up discussions are presented in this Final Report to be distributed in late 2004 as well as in 'domain papers' developed for specific audiences and events. The evaluation of the initiative was designed by a team of professional consultants with the input of the Working Committee, and adjustments to the process were made at each stage based on evaluation results.

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<sup>3</sup> *Moving Canada Forward*. 2004. p. 41. [http://www.liberal.ca/platform\\_e\\_4.aspx](http://www.liberal.ca/platform_e_4.aspx)

## **2. Regional Consultations**

Adding to the prior research and programs of CCWESTT organizations, key information was brought to the initiative by participants at three Regional Consultations: Eastern Canada (Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick) in St. John's on November 5, 2003; Central Canada (Ontario, Québec) in Toronto on December 4, 2003; and Western/Northern Canada (Manitoba, Alberta, British Columbia, Northwest Territories) in Vancouver on Jan. 29, 2004. The meetings were also designed to foster networking and alliance building.

Women from a comprehensive range of sectors and backgrounds attended the Consultations (34 in each of St. John's and Toronto, and 41 in Vancouver). Participants were experienced representatives from industry, government, small and medium sized enterprises, universities, colleges, professional organizations, the labour movement, and non-governmental organizations (NGOs), as well as members of the Working Committee (see Appendix D). Their disciplines spanned science, engineering, education, trades, technology, labour and business. These key agents of change reviewed issues, effective practices and regional considerations, and illuminated priorities and future action for CCWESTT and other important stakeholders identified to attend the National Meetings.

## **3. National Forum and Leaders' Meeting**

The important findings and recommendations from the Regional Consultations were brought to the National Forum, *Women in SETT: Human Resources to Build Canada's Economy*, April 6, 2004, and the Leaders' Breakfast, April 7, 2004, in Ottawa. Seventy leaders and policy strategists from government, industry, sector councils, post-secondary institutes, labour, professional associations and NGOs (Appendix D) met to explore actions to:

- Capitalize on the values of diversity,
- Understand the resource that women in SETT careers offer to strengthen Canada's innovation capacity, and
- Address skills shortages in building Canada's 21<sup>st</sup> century economy.

Interest in the findings presented at the national meetings was high among key stakeholders, and there has been follow-up exploratory contact with representatives from a number of government departments and agencies, and other organizations.

## **4. CCWESTT National Conference**

Progress and outcomes of the Women in SETT initiative were presented to the CCWESTT Board and in a workshop session to attendees at the 10<sup>th</sup> CCWESTT National Conference held at Brock University, St. Catherines ON, June 10-13, 2004. The presentation is published on the CCWESTT website ([www.ccwestt.org](http://www.ccwestt.org)).

## 5. Final Report

This Final Report summarizing the findings and recommendations of the first phased of the Women in SETT Initiative is being distributed to all meeting participants and to selected government, non-government organizations (NGOs), industry, education sectors and professional organizations in late 2004. It will also be available on the CCWESTT website. A series of 'domain papers' with specific recommendations for particular audiences will be derived from this Final Report and additional information. The first of these papers was released as the Briefing Paper for *Spotlight on Canada: 4<sup>th</sup> Roundtable on Women in Science, Technology and Trades* in Ottawa on Nov. 4<sup>th</sup>, 2004. Its Executive Summary and recommendations for the Federal Government appear in Appendix E and the full paper is available on the CCWESTT website.

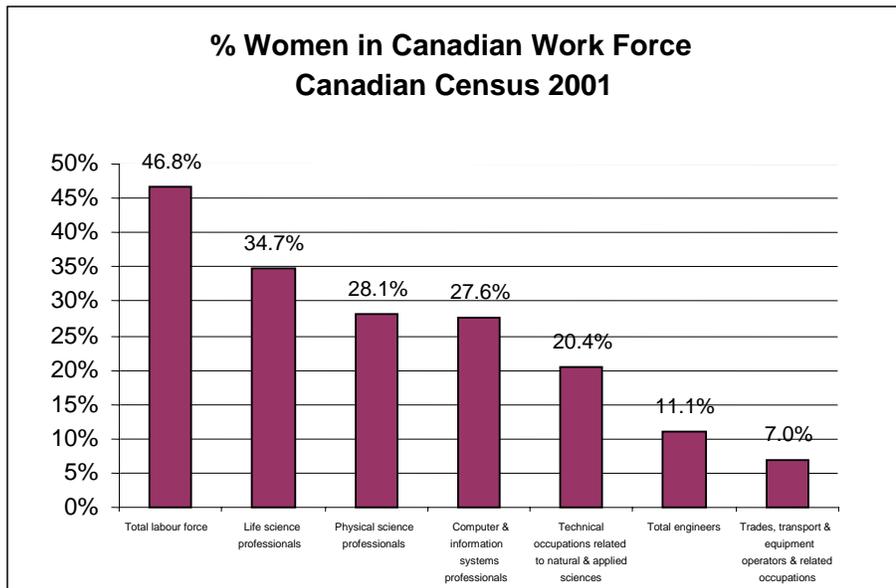
## III. Women in SETT Participation Indicators

To ground the work of the initiative, it was important to determine women's current status in SETT. A sample overview of women's participation in SETT fields is presented below.

### A. Work-Force

#### 1. Overall

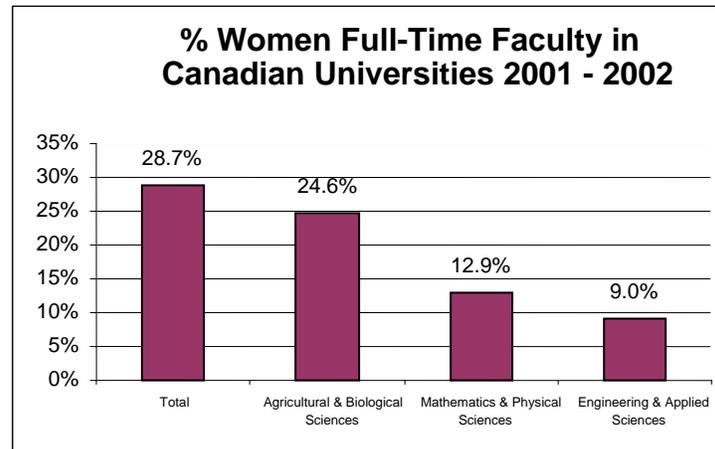
Statistics Canada data from the 2001 Census illustrate the under-representation of women in SETT occupations.<sup>4</sup>



<sup>4</sup> <http://www12.statcan.ca/english/census01/products/standard/themes/index.cfm>. 11: "Canada's Paid Workforce", 8<sup>th</sup> Product: "Occupation - 2001 National Occupational Classification for Statistics (720)".

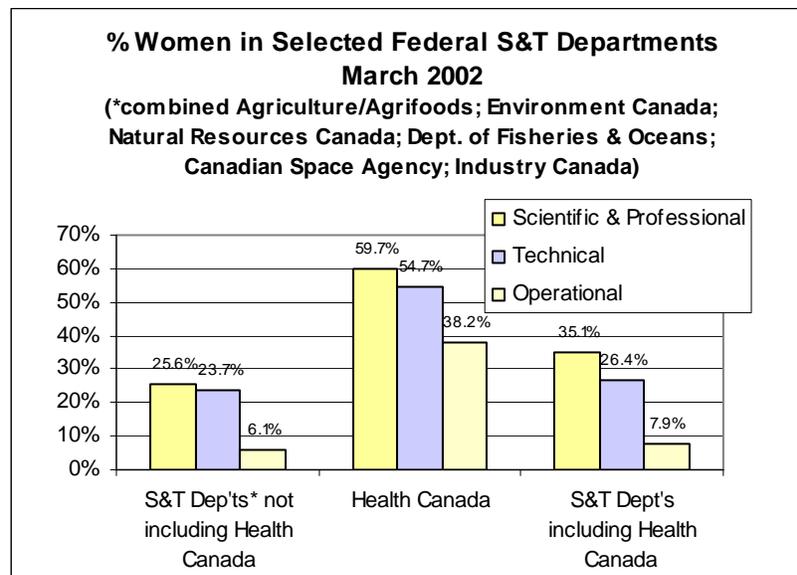
## 2. University Faculty

Women are similarly under-represented in academic careers in science and engineering disciplines.<sup>5</sup>



## 3. Federal Science and Technology

The following graph illustrates the participation of women in science and technology in the Federal Government.<sup>6</sup>

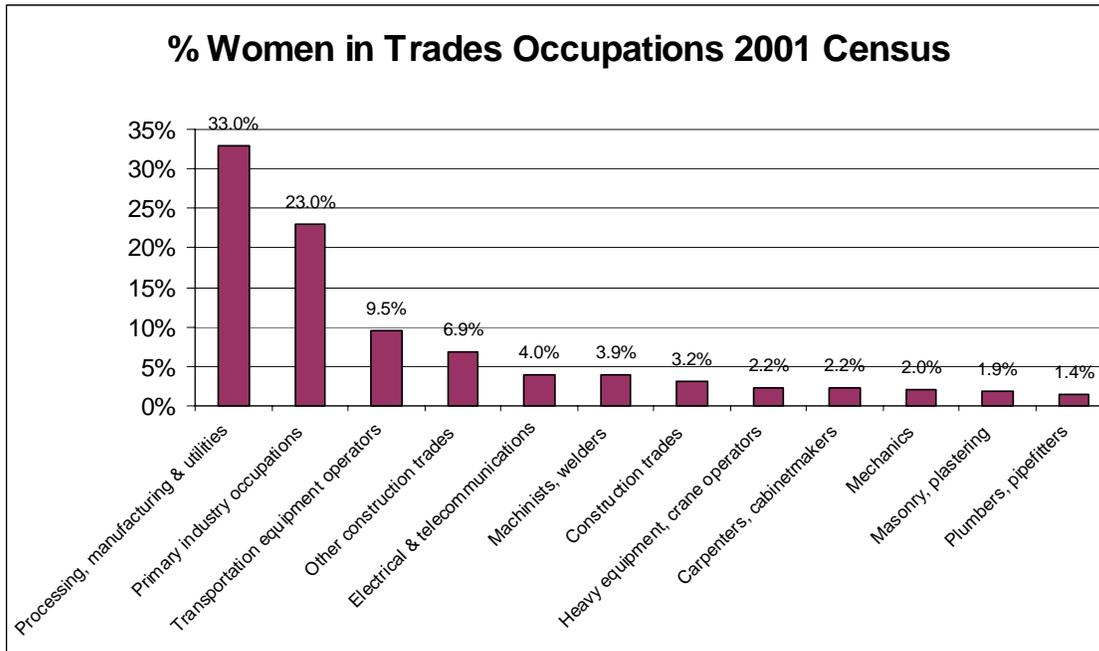


<sup>5</sup> CAUT Almanac of Post-Secondary Education in Canada. January, 2004. Chart 4.9. Derived from Statistics Canada *University and College Academic Staff Survey (UCASS) Special Tabulation*. <http://www.caut.ca/en/publications/almanac/default.asp>

<sup>6</sup> Data supplied by Treasury Board Secretariat. Where total employees and total men per category were given, total women per category were extrapolated.

## 4. Trades

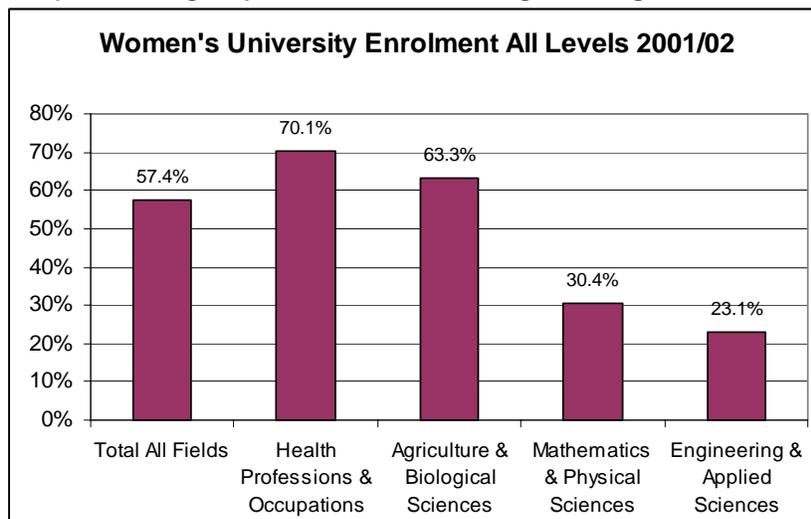
In trades occupations, women are critically under-represented, most notably in the building trades.



## B. Women Students in Post-Secondary Institutes

### 1. Universities

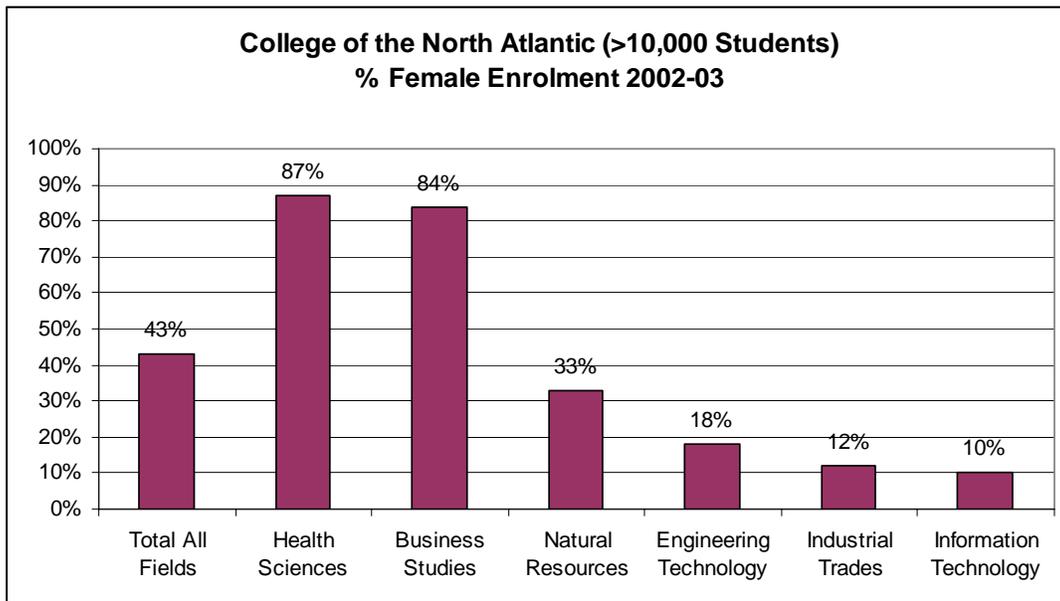
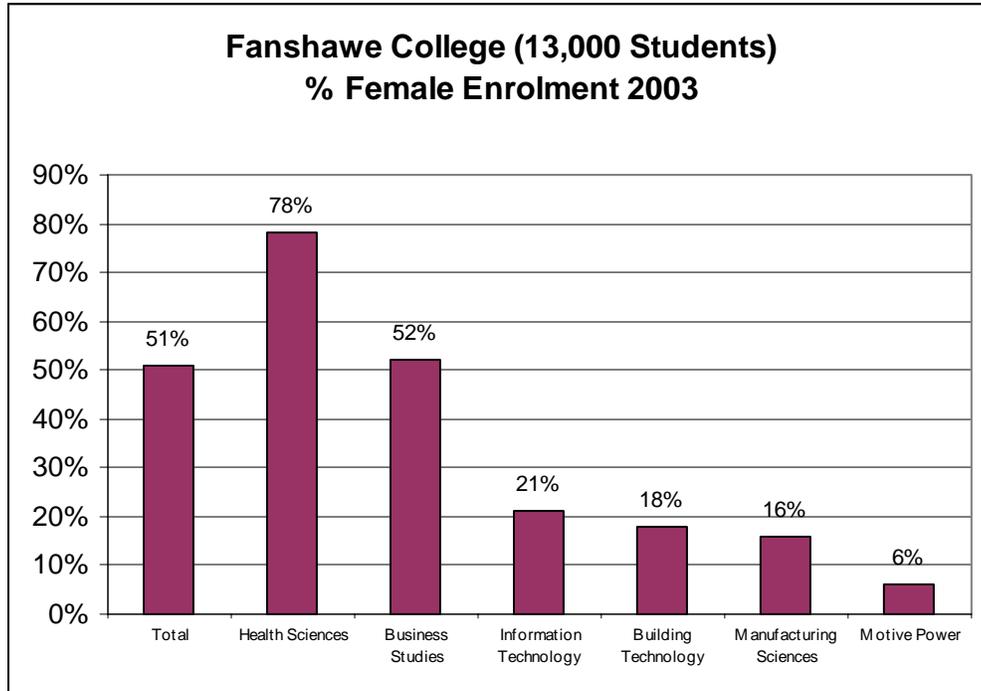
Statistics Canada also collects data on the participation by gender of students in Canadian Universities. While women make up over half of the university population and are well represented in the life sciences, they are lower in other science disciplines and plateauing at just over 20% in engineering.<sup>7</sup>



<sup>7</sup> <http://www.statcan.ca/Daily/English/030331/d030331b.htm>

## 2. Colleges

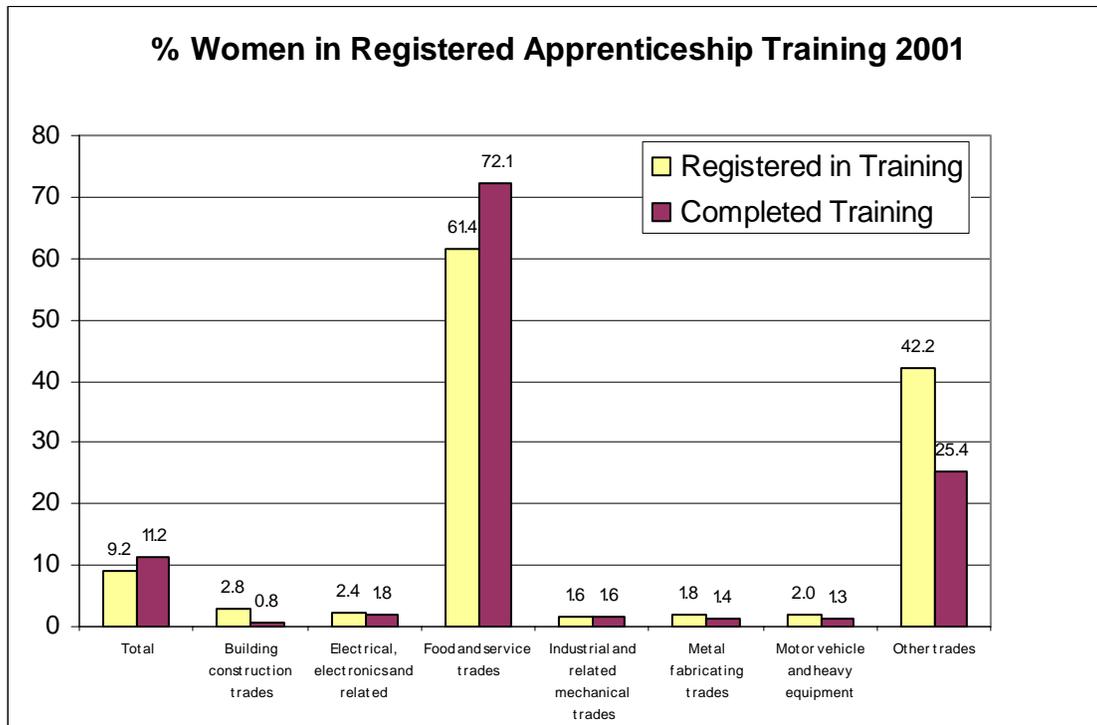
Data for enrolment in post-secondary trades and technology programs at selected colleges were presented at the Regional Consultations. Statistics for Fanshawe College and the College of the North Atlantic are figured below as examples and include enrolment in other disciplines for comparison purposes.<sup>8</sup>



<sup>8</sup> Data from Registrar's Offices: Fanshawe College <http://www.fanshawe.on.ca>;  
College of the North Atlantic <http://www.cna.nl.ca>

### 3. Apprenticeships

Statistics Canada also collects data on participation in trades/vocational apprenticeship training, some of which are disaggregated by gender.<sup>9</sup>



<sup>9</sup> 2001 Data from Registered Apprenticeship Information System <http://www.statcan.ca/Daily/English/031120/d031120b.htm>

## IV. Regional Consultation Theme Highlights

### A. Recruitment, Hiring and Returning to Work

**Career Information Outreach** – Initiatives, particularly hands-on opportunities, should be continued and expanded to engage more girls and women to explore SETT training and education, and enter SETT careers. There is a strong role for the federal government to continue and expand support to organizations for the effective delivery of such programming.

**Transition Strategies and Programs** – Experiential preparation is key to engaging more women in SETT fields. There is a particular need for orientation, pre-training and training programs designed to address women’s learning styles and experience, to transition into formal training programs, and then from post-secondary institutes into the workplace. Collaborations between post-secondary institutes, governments, industry and NGOs are the keys to success.

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Women in Resource Development Committee, a Newfoundland and Labrador NGO, delivers a 24 week Orientation to Trades and Technology program supported by HRSDC and the provincial government, in partnership with the College of the North Atlantic. The OTT Program provides a supportive environment for women to explore trades and technology training programs and careers. Its industry-supported mentorship program provides continuity and support as these women enter college programs and the workplace. <sup>10</sup>

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**Trades** – There is a critical need to counter the negative stereotypes of college vs. university education, and to promote the positive attributes and opportunities in trades careers to young women, educators and the general public. There was a strongly articulated recommendation for a pan-Canadian Apprenticeship Program with elimination of barriers to access and mobility across provinces and territories. Another suggestion was the requirement for companies to offer a proportion of apprenticeships based on the current number of employees in those trade categories. Expanded experiential pre-training and transition programs will encourage more women to enter the trades, as will a change in the policy that currently links training support to EI eligibility. Unions and employers are also encouraged to continue to work collaboratively to create respectful workplaces.

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“The shortage of skilled trades needs special attention – attitudes and systems need to change. Public policies should develop a more natural path from high school to apprenticeship programs, and employers must be more willing to train apprentices.” <sup>11</sup>

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<sup>10</sup> <http://www.wrdc.nf.ca/>

<sup>11</sup> Conference Board of Canada 2003. Performance and Potential 2002-03. p. 119

**Small and Medium Sized Business** – There are particular challenges for SMEs to fully implement some of the policies around parental leave, child- and elder-care and alternative work arrangements. Roles for the federal government and the Canadian Federation of Independent Business to expand provision or top-up of benefits for employees were suggested. Inter-company mentoring and sharing of effective practices would also assist SMEs to more effectively strengthen the diversity of their workplaces.

**Women Entrepreneurs** – Recommendations from the *Report of the Prime Minister's Task Force on Women Entrepreneurs* and from the Status of Women Report, *Self-Employment for Women: Policy Options that Promote Equality and Economic Opportunities*, especially in the areas of income protection and business development, are recognized as important steps in encouraging and supporting more small businesswomen in SETT fields.<sup>12</sup>

**Immigrant Women** – New systemic approaches and partnerships are needed between the federal government, provinces, professional associations and others working on labour market integration, to fast-track credential recognition of immigrant women, provide upgrading and retraining, and to bridge into jobs.

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Immigrating Women in Science, a project of the British Columbia based NGO, Society for Canadian Women in Science and Technology, offers services, an e-resource open line, mentorship, resource centre and newsletter, which are designed to help internationally trained women with the challenges and barriers they face in continuing and re-building careers in Canada.<sup>13</sup>

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**Effective Policies, Practices and Workplaces** – Models of success for inclusive recruitment and hiring should be publicly acknowledged and shared among organizations.

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The Federal Science and Technology Community has undertaken a number of activities to significantly increase the hiring and career progress of Women in S&T positions in federal organizations. The initiative is comprised of a network of departmental champions, and the Women in S&T Working Group.<sup>14</sup>

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**Labour Market Development Agreements** – The LMDAs were seen as an important mechanism to develop a skilled workforce, but there is a need for more jurisdictional cooperation and consistency in putting policies and intentions into action across all the provinces and territories.

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<sup>12</sup> [http://www.liberal.parl.gc.ca/entrepreneur/documents/031029\\_final\\_report\\_en.pdf](http://www.liberal.parl.gc.ca/entrepreneur/documents/031029_final_report_en.pdf)  
[http://www.swc-cfc.gc.ca/pubs/0662354303/index\\_e.html](http://www.swc-cfc.gc.ca/pubs/0662354303/index_e.html)

<sup>13</sup> <http://www.harbour.sfu.ca/scwist/IWIS/index.html>

<sup>14</sup> [http://www.sciencetech.gc.ca/WomeninS&T/womeninst\\_e.shtml](http://www.sciencetech.gc.ca/WomeninS&T/womeninst_e.shtml)

**Employment Equity Act** – Continued monitoring of compliance of the Act and more proactive assistance for employers in developing diversity plans within their organizations is needed.

## ***B. Retention, Promotion and Workplace Culture***

There are several common issues on this theme, regardless of workplace sector, that emerged from the Consultations. Strengthening the retention and advancement of women in SETT fields is also a primary recruitment tool for other women, increases the benefits of diversity for the organization, and gives the employer a competitive edge for access to talented workers.

**Family-Friendly Policies** - Such policies were highlighted as critical to promoting a healthy work/life balance with emphasis on their being available to and taken up by men as well. In a supportive workplace culture, policies should not become barriers to career continuity and advancement. Among the components of family-friendly initiatives are parental leave, child- and elder-care provisions, personal leave, recruitment with consideration of working partner, and workplace wellness. The importance of work/life balance to Canadians was topic of a recently released report.<sup>15</sup>

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The Canadian Auto Workers has negotiated contracts that provide a child-care contribution to employees.

IBM Canada offers employees a fixed amount of “flex dollars” with which to select areas of benefit coverage from a comprehensive plan to suit their personal situation. Employees can top-up or be rebated for additional or lesser coverage.

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**Flexible/Alternative Work Options** - Such options are working well in large organizations, although there are some limitations in public service providers and more significant challenges in SMEs. Adjustable work hours, telecommuting, part-time work and job sharing are among the options.

**Leadership, Commitment and Accountability** - Leadership is critical to effecting change in developing respectful workplaces and bringing the values of diversity for everyone in the organization. Existing policies and practices need to be implemented more effectively and new ones developed to create equitable workplaces. Clear guidelines, transparency, support from the top, and accountability are essential. Other suggested actions are increased communication between employees and management/employer and provision of education for managers on inclusive workplace environments.

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<sup>15</sup>Duxbury, L., Higgins, C & Coghill, D. 2003. *Voices of Canadians: Seeking Work-Life Balance*  
<http://www.hrsdc.gc.ca/en/gateways/topics/wnc-gxr.shtml>

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BIO-Hypatia is a collaboration of the community organization, Hypatia Project, with the Bedford Institute of Oceanography, a federal research laboratory within the Department of Fisheries and Oceans, to increase recruitment of women scientists, engineers and technologists. Their Open Spaces process empowers management and employees to collectively identify issues and action items, and to customize solutions.

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**Fair Evaluation and Equal Opportunity for Advancement** – Progressive organizations ensure that criteria for promotion are clearly communicated to all employees and that evaluation procedures are free from systemic bias and are transparent. Professional development initiatives, identification of women with managerial/leadership potential, and provision of lateral work experience are other ways to advance career success for women.

**Visibility of Women in the Organization** – The visible leadership of women is important for both younger women and for men. Support for women in highly visible projects and recognition of the full range of women’s contributions to the organization is important.

**Mentorship** – Mentorship can significantly advance women’s career success but attention needs to be given to effective implementation. Mentoring between longer serving and recent employees is also an effective way to deal with the loss of the knowledge of retiring employees.

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Jacques Whitford Environment Ltd., a large consulting company, combines informal and formal mentorship for its employees with flexible work options, training opportunities and career mapping.

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### ***C. Access to Funding***

There were two recurring themes on this topic arising at the Consultations.

#### **Volunteer Organizations**

Non-governmental organizations require significant resources to expand the successful delivery of outreach and career development initiatives, effectively capitalize on the broad ‘grassroots’ experience, and meaningfully establish partnerships across sectors for the public benefit. Financial support from many sectors including from Federal Government Departments is essential to bring the critical expertise and knowledge of Women in SETT organizations to policy creation and action at government and institutional levels.

## **Training / Education**

As indicated in other sections of this document, training and education were emphasized as areas needing stronger support for individuals (both entering and re-entering) and especially in relation to those entering trades fields. Consideration of the latter encompassed broad recommendations for support for nationally consistent apprenticeship programs, employer incentives to offer apprenticeships, and changing the EI eligibility requirement for individuals to receive training assistance.

### ***D. Regional Issues***

The Consultations highlighted that issues for women in SETT in northern, Atlantic and other rural regions of Canada are different in nature or more pronounced than in urban centres.

Many of these regions are less 'advantaged' than other parts of Canada, with economies that are less diversified, and industrial bases that are small. Small businesses in these areas are often operating in 'survival' mode, and there are also low numbers of women entrepreneurs with fewer opportunities for resources. Increasingly, the economy of much of rural Atlantic Canada is coming from employment in the public sector.

Rural areas generally experience higher levels of unemployment and seasonal work. Out-migration because of the collapse of resource-based industries, for example, in Atlantic Canada, has resulted in the demise of communities with diminished access to resources for education and training for women entering or returning to work. There is also the added persistence of the breadwinner mentality expressing that women may be 'taking jobs from men'. And feedback indicated that women may also face challenges from some unions that are not supportive of women's equal place in the workforce.

Rural areas also experience higher levels of poverty and illiteracy. Socialization continues to have a strong influence on the career choices and paths of women, and the attitudes and culture around women in SETT are not as positive as in urban settings.

In the Regional Issues discussions in all three Consultations, there was mention of training agreements being province-specific and affected by 'tension' between levels of government, thus creating challenges to broader and consistent implementation across the country. And the more comprehensive discussion around immigrant women in SETT in the Central and Western meetings than in the Eastern (Atlantic) Canada Consultation highlighted this issue as more strongly based in Ontario, Québec and British Columbia.

The rural experience also comprises many positive elements. Because of smaller community size, individuals and organizations know each other and can readily make connections and effect change locally. Rural Canadians are also used to significant change in their lives and have developed great strength and resiliency.

Also cited as a specific example on the positive side was the strong need for science professionals in the Northwest Territories, with significant opportunities and incentives for women entering and returning to these careers after family leave.

## V. Key Highlights from the Initiative

Several critical elements emerged from the Consultations as essential to advancing women in SETT careers. Several of these were then addressed as Exploration Topics at the National Forum to identify further action.

### A. Women Add Value to the Workplace

The Consultations and many current studies underscore the value that women bring to increasing diversity in organizations and to organizational performance – increased innovation capacity, added breadth of values and perspectives, enhanced team effectiveness with inclusive management styles, healthier emphasis on balanced work/personal lives, and strengthened market sensitivity.<sup>16</sup> These benefits are of particular importance in knowledge-based, innovation-driven SETT sectors.

The economic value of women's leadership in organizations was highlighted again recently with the release of a Catalyst study of 353 Fortune 500 companies in the US finding that -

*...companies with a higher representation of women in senior management positions financially outperform companies with proportionally fewer women at the top. These findings support the business case for diversity, which asserts companies that recruit, retain, and advance women will have a competitive advantage in the global marketplace.<sup>17</sup>*

The 'bottom-line' reasons to attract and retain women are also described in the 2003 report *Workplaces that Work*.<sup>18</sup> There is the additional positive outcome that

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<sup>16</sup> Thomas, D. A. & Ely, R. (1996). Making Differences Matter: A New Paradigm for Managing Diversity. *Harvard Business Review* (Sept. – Oct.): 79-90.

Brown, D.A.A., Brown, D.L. & Anastasopoulos, V. (2002). Women on Boards: Not Just the Right Thing ... But the "Bright" Thing. Conference Board of Canada. 17 pp.

Orser, B. (200). Creating High - Performance Organizations: Leveraging Women's Leadership. Conference Board of Canada. 39 pp.

<sup>17</sup> Catalyst (2004). The Bottom Line: Connecting Corporate Performance and Gender Diversity. 34 pp.  
[http://www.catalystwomen.org/publications/executive\\_summaries/financialperformance.pdf](http://www.catalystwomen.org/publications/executive_summaries/financialperformance.pdf)

<sup>18</sup> McLean, D. (2003). *Workplaces that Work: Creating a Workplace Culture that Attracts, Retains and Promotes Women*". Prepared for the Federal/Provincial/Territorial Ministers Responsible for the Status of Women. 18pp.  
<http://www.gov.on.ca/citizenship/owd/english/about/fpt-workplaces.pdf>

where workplaces support women in successful careers, they support everyone - women and men.

*All employees will benefit from workplaces that are known for inclusiveness, physical safety and good management practices. Importantly, in today's competitive economy, research shows that engaged and fully committed employees make a big difference to an organization's success.*

## **B. Women in SETT are a Key National Resource**

The backdrop for current priorities in human resource planning is the imminent shortage of skilled workers. While some sectors are already experiencing shortages, by 2010 with the retirement of the 'baby boom' generation and other factors, labour force growth will decline drastically. The skilled trades in particular will face a severe shortage estimated at 1 million workers.<sup>19</sup> Further, 70% of new jobs created over the next five years will require some form of post-secondary education.<sup>20</sup>

Universities similarly face critical shortages of faculty and will be in strong competition for new PhD graduates. At the same time, to reach Canada's knowledge performance target of *becoming one of the top five countries for R&D performance by 2010, we will need to at least double the number of research personnel in our current labour force.*<sup>21</sup>

Women in SETT careers are a highly skilled talent pool to help meet future workforce needs. The current low representation of women in many SETT post-secondary fields and careers, the plateauing of women's participation in some programs such as engineering and their declining participation in other programs such as computer studies, present both critical challenges and opportunities. Efforts need to be greatly amplified to attract, educate/train, retain and advance more women in SETT careers.

It is also important to recognize that women comprise 50% of the other identified groups whose increased engagement is sought in addressing skills shortages and increasing innovation – Aboriginal peoples, visible minorities, immigrants, the disabled, and youth.

## **C. Collaborations are Key to Building the Workforce**

Models of successful initiatives described at the Consultations emphasize the importance of organizations – government, industry, post-secondary institutes,

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<sup>19</sup> Conference Board of Canada (2000, 2003). Performance and Potential 2002-2001, 2003-2004.

<sup>20</sup> Applied Research Branch, HRDC. *Job Futures (200) World of Work: Overviews and Trends.*

<sup>21</sup> Government of Canada (2002) Achieving Excellence: Investing in People, Knowledge and Opportunity Executive Summary. p. 8

unions, sector councils and NGOs - working together to effect change and amplify results. Such collaborations and activities are also prescribed in previous Canadian reports.<sup>22,23</sup>

Strategies to build effective partnerships include finding the common ground across organizations and agendas, increasing public awareness of the issues, identifying key venues for access and input, and consistent communication of key messages and recommendations. The grassroots-inclusive example of the Women in SETT Initiative, and unusual partnerships that draw attention, were proposed as models that can help move collaboration to another level.

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The NSERC/Industry Chairs for Women in Science and Engineering at universities across Canada have the mandate to increase the participation of girls and women in science and engineering at all levels. The Chairs feature strong collaborations locally, regionally and nationally. Conferences, research, outreach programming, a handbook, workshops for career development, and strong influence in academia, education and industry are among the important outcomes of the Chairs.<sup>24</sup>

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#### ***D. Build on Successful Policies and Practices***

Many successful policies and practices to foster women's full participation in SETT fields are already in place and examples are spotlighted throughout this document.

Some aspects of a comprehensive diversity plan are illustrated by the example of Schlumberger Ltd., a leading international oilfields services company, which was a feature presenter in a workshop at the 8<sup>th</sup> CCWESTT National Conference.<sup>25</sup> The company identified their first steps in developing a diversity plan as commitment from the top with CEO's statement, top management objectives and committed board; diversity measurement in performance appraisals; and diversity in recruiters and trainers. Their gender diversity approach comprised recruitment goals; provision of development opportunities for identified high potential women; provision of tools to managers and other personnel to increase their knowledge; broadening and strengthening the network among women in their organization; and increasing organizational flexibility to accommodate a wider range of personal situations. In 2000 Schlumberger developed a Diversity Tool Kit that included a website, score

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<sup>22</sup> Frize, M. (1992) More Than Just Numbers - Report of the Canadian Committee on Women in Engineering. 148 pp.

<sup>23</sup> National Advisory Board on Science and Technology (1993) Winning with Women in Trades, Technology, Science, and Engineering. 277 pp,

<sup>24</sup> <http://www.mun.ca/cwse>

<sup>25</sup> Emerson, C.J., Williams, F.M. and Sherk, S. (2001) Best Practices for the Retention of Women Engineers and Scientists in the Oil and Gas Sector. CWSE-2001-01. <http://www.mun.ca/cwse/BestPractices.pdf>

card, training of managers and other personnel, and specific career development programs for their female employees.

'Family-friendly' initiatives were stressed by Schlumberger as essential to respond to the changing needs of their employees, to balance work and personal life and, further, to provide motivational impact. These initiatives were many and varied, location-specific, inclusive of men, and promoted as recruitment tools. They included:

- Flexible work arrangements
- Leave and child care assistance
- Parental benefits
- Family liaison programs
- Employee assistance and financial planning programs
- Dual career accommodation.

The latter has been found to be of critical importance for the retention of women in their organization and Schlumberger is developing new ways to be responsive to this need, including formation of the non-profit organization Partnerjob with seven other large companies to provide employment opportunities for employee partners.<sup>26</sup>

The example above is a brief description of how many forward-thinking organizations are working to increase the recruitment, retention and advancement of women in SETT fields. The fundamental elements of these progressive models include:

- The critical importance of leadership,
- Recognition of the key influence of managerial and workplace culture in the application of policies,
- Models which are based on consideration of the many facets of peoples' lives,
- Programs which address women's and men's needs across the career life cycle, and
- Transparency of policies and practices.

We need to share that information within and across sectors, identifying successful components and increasing broader implementation. The key to wider adoption is the economic impetus and recognition that what works for women, works for everyone.

### ***E. Address Policy / Practice Gaps***

While we can build positively on successes, there still remain gaps between policy and practice that most noticeably coincide with the key transition phases of women's career progression - high school to post-secondary, post-secondary to the workplace, returning to work after family leave. We need to address these gaps in part to ensure a 'return on the public investment' applied to increasing women's

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<sup>26</sup> <http://www.slb.com/press/inside/article.cfm?ArticleID=194>

participation in the SETT labour force. Linking policy to outcomes related to current priorities such as skills shortages, benefits of diversity, and economic prosperity is important. Further, the expanded use of gender-based analysis<sup>27</sup> in policy and program development, and regular review and accountability in policy implementation are essential to fully develop the women in SETT resource.

### ***F. CCWESTT is an Important Partner***

CCWESTT brings great value to the important task of building Canada's workforce in SETT fields. CCWESTT is a strong national coalition with a respected history of successful programming in career information outreach to young Canadians and career development programs for new professionals. CCWESTT has strengthened key links and partnerships across sectors and brings the valuable results and recommendations of its comprehensive national Women in SETT Initiative.

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*My experience at the Vancouver Consultation helped to reignite the flame of passion for my work... for equitable recruitment, training and retention of women in trades.*

*JudyLynn Archer, Executive Director, Women Building Futures*<sup>28</sup>

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## **VI. National Meetings Follow-up Activities**

The Regional Consultations and National Meetings have resulted in strengthened networks and alliances between CCWESTT and individuals, agencies and organizations. Subsequent communication has led to meetings and proposed interactions to support the objectives of the Women in SETT initiative in influencing policy development and implementation and other avenues of increasing women's participation in SETT. Follow-up communication and/or activities have involved the following stakeholders:

- Federal Science and Technology Community – see next page
- Institute of Gender and Health –see next page
- Human Resources and Skills Development Canada
- Alliance of Sector Councils
- Canadian Council of Professional Engineers
- Department of Foreign Affairs and International Trade (now International Trade Canada)
- Canadian Embassy in Japan
- Infrastructure Canada
- Women Building Futures Society
- Status of Women Canada / Prime Minister's Task Force on Women Entrepreneurs

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<sup>27</sup> [http://www.swc-cfc.gc.ca/resources/gba\\_e.html](http://www.swc-cfc.gc.ca/resources/gba_e.html)

<sup>28</sup> <http://www.womenbuildingfutures.com/>

- NSERC/Hewlett Packard Chair for Women in Science and Engineering for Ontario; Women in Science and Engineering (WISE) Research Network
- Women in Engineering Leadership Institute
- National Women's Reference Group
- Petroleum Human Resources Council of Canada
- Various post-secondary institutes

### ***A. Spotlight on Canada: 4<sup>th</sup> Women in Science, Technology and Trades Roundtable Nov. 4<sup>th</sup>, 2004***

CCWESTT was invited by the Canadian Institutes of Health Research and the Federal Science and Technology Community's Working Group on Women in S&T to jointly organize and be a featured contributor at *Spotlight on Canada: 4<sup>th</sup> Women in Science, Technology and Trades Roundtable* on Nov. 4, 2004 in Ottawa. Dr. Margaret-Ann Armour, Past President, CCWESTT, and member of the Women in SETT Working Committee, was a featured presenter with Dr. Arthur Carty, National Science Advisor to the Prime Minister and others. Other participants included Ministers, Senators, parliamentarians and senior decision makers in government science and technology departments, industry and academia. A Briefing Paper *Women in SETT: Human Resources to Build Canada's Economy* was released at the Roundtable and its Executive Summary and full recommendations are included as Appendix E with the full report available on the CCWESTT website (<http://www.cwestt.org>).

## **VII. CCWESTT as Lead Organization for Women in SETT**

### ***A. Value that CCWESTT Brings***

As the Project Evaluation confirmed (Section VIII below), the vast majority of participants in the Women in SETT Initiative acknowledge that CCWESTT is (or should further develop as) the lead organization for Women in SETT in Canada, and should build its resources to become more effective in that role. The value that CCWESTT brings encompasses:

- Broad membership base across the country
- Networks and alliances with grassroots organizations and individuals across sectors
- Proven record of award-winning program delivery by its membership organizations
- Expertise in a broad spectrum of sectors
- Experience and success of the Women in SETT Initiative

## ***B. Proposed Services***

- Provide information and expert consultants and nominees to committees, sector councils, advisory boards, and other agencies on issues related to women in SETT;
- Review and disseminate relevant research on factors affecting the participation and advancement of women in SETT from the published literature and other sources;
- Provide analysis, monitoring, and evaluation of statistical indicators, policies, and practices across sectors, and disseminate to stakeholders;
- Review and advise on the potential impact of government policy and legislation on women in SETT;
- Enhance communication among, and bridge communities of interest to develop partnerships among organizations with a stake in women's participation in SETT across Canada and internationally;
- Deliver outreach, recruitment, and professional development initiatives through CCWESTT member organizations in regions across Canada, and promote models of success for adoption in other settings and by other providers.
- Promote other actions to increase women's participation in SETT fields.

## ***C. Proposed Areas of Partnership***

Participants at the Regional Consultations, National Forum and Leaders' Breakfast together with Project Advisors and the Working Committee developed a list of partners and areas of potential influence and impact at the federal government, institutional and industry levels. Action has been initiated with some of them, listed in Section VI, and additional stakeholders continue to be identified.

## ***D. Strategic Plan***

The CCWESTT Executive and Board endorsed the development of a strategic plan for Phase II of the Women in SETT Initiative at their Annual General Meeting, June 10, 2004. Development of the plan including resource requirements and budget are taking place during late fall of 2004.

# **VIII. Evaluation, Outcomes and Future Action**

IHRD, an experienced Newfoundland and Labrador consulting organization associated with Goss Gilroy Inc., a national management consulting firm established in 1981, evaluated the project and prepared the material summarized below.

## **Summary of Evaluations of Women in SETT Regional Consultations**

### ***Introduction***

The Women in SETT project conducted Regional Consultations in St. John's, Toronto, and Vancouver, in late 2003 and early 2004, as part of its national initiative

to discuss and identify policy solutions and strategies to enhance women's participation in science, engineering, trades and technology in Canada. Some key findings from surveys done with session participants are described below.

There were a total of 112 women involved in the three Consultations (some in more than one meeting), of which survey interviews were completed with 64 persons. In-depth interviews were also held with 10 participants, so in all about 75% of persons attending the sessions provided feedback. Survey participants included: university professors, scientists, administrators, trades / technology college administrators and instructors, engineers, government managers / administrators, human resources personnel, leaders in community organizations, and senior private enterprise officials.

### **Effectiveness of the Sessions**

#### **Are the objectives of this project the right ones?**

	Atlantic	Central	Western / Northern	Total	%
Yes	17	15	19	51	85
No	0	5	4	9	15
Total	17	20	23	60	100

#### **Do you think you benefited from your participation at the regional meeting?**

	Atlantic	Central	Western / Northern	Total	%
Yes	17	13	24	54	93
No	0	4		4	7
Total	17	17	24	58	100

#### **Do you think the networking model being used by this project is effective?**

	Atlantic	Central	Western / Northern	Total	%
Yes	16	19	21	56	95
No	1	2	0	3	5
Total	17	21	21	59	100

### **Opinions of CCWESTT's Role, Commitment to Ongoing Involvement**

#### **Would you support CCWESTT in becoming a lead organization pertaining to women's participation in SETT?**

	Atlantic	Central	Western / Northern	Total	%
Yes	11	19	22	52	96
No	0	2		2	4
Total	11	21	22	54	100

#### **Would you be interested in ongoing involvement with CCWESTT on these issues?**

	Atlantic	Central	Western / Northern	Total	%
Yes	17	20	23	60	98
No	0	1	0	1	2
Total	17	21	23	61	100

## Summary of Evaluation of Women in SETT National Meetings

### Overall Effectiveness

The majority felt that the National Forum and Leaders' Breakfast were effective in a number of areas:

- Presentation of issues
- Profiling CCWESTT's expertise, credibility
- Enlisting support
- Identifying ways of moving forward

*... people's motivation was clear – they came together in a spirit of collaboration to address common issues...*

*... the National Forum exceeded expectations...*

*... very effective collection of people, particularly in decision-making positions within government and industry...*

A number noted that the success of this endeavour provides an excellent springboard for CCWESTT to seek the additional resources it needs to capitalize on gains made through the entire Project process, and, more specifically, to move forward with a targeted action plan. While overall representation of sectors and key individuals was good, the recognized gaps were: trades, Human Resource and Skills Development Canada, representation from Québec, and men.

### Overall Project Outcomes

The Project has resulted in strengthening and increasing CCWESTT's networks with ... enhanced awareness of issues; increased information sharing; and strong support for CCWESTT's activities. The strength of its connection to the grassroots was seen to provide a strong foundation for policy discussions with government as CCWESTT undertakes its national role of advocacy. Respondents articulated that tangible national initiatives depend on CCWESTT continuing to play a strong leadership role for women in SETT across the country and, in so doing, engage key stakeholders, produce a report with actionable items, and acquire the resources it needs to act as an expert advisor to government and support its regional networks.

### The Future

A number of respondents identified the need for CCWESTT to have permanent staff to undertake the numerous and varied activities necessary to move forward with the issues and recommendations emanating from the Final Report. Respondents emphasized that to further entrench its credibility with government as an informed source for consultation, CCWESTT has to have the capacity to respond to requests for information and participate in meetings effectively.

## **CCWESTT**

A number of CCWESTT member representatives identified the need for the organization to undergo an internal review to more effectively move the anticipated Final Report and Recommendations forward.

Note: At the CCWESTT Annual General Meeting in St. Catherines Ontario on June 10<sup>th</sup> 2004, the Board unanimously approved the proposed future directions of the Women in SETT Initiative. In a comprehensive planning session, CCWESTT reorganized its internal structure with its Executive and Board being supported by a strong committee base (finance, membership, communications, policies and procedures, measurement, scholarships and awards, and conference planning). The Women in SETT Working Committee continues in this specific *ad hoc* project. Also significantly, 'trades' was re-included as a sector of the organization's membership and audience, and is reflected in its new name.

### **Consultant's Summary**

The Women in SETT project was a successful endeavour in design and implementation. Its key strength would appear to be the clear links established among women across the country, and the encouraging support demonstrated by and towards women in SETT by government, community, trades and corporate leaders. The benefits of a strong staff presence, supported by a committed working group, are underlined in this project.

CCWESTT now faces the challenges of completing such a successful venture. Expectations are high among those who participated in this process, and opportunities currently appear to outnumber existing resources to a significant degree. There is a daunting character to this state of affairs, which cannot likely be separated from broader discussions of the emerging role of CCWESTT itself. Yet it is precisely due to its success in this venture that CCWESTT is now poised to envision and embark on an expanded leadership role. The energy, competence, collaborative spirit and dynamism demonstrated in this project certainly bode well for future success.

## **IX. Support**

CCWESTT is pleased to acknowledge the strong financial and in kind support for the Women in SETT Initiative. Major funding included a grant from Status of Women Canada, and a contribution from Science and Engineering Research Canada (NSERC) for the National Forum. Other financial support came from universities, professional organizations, industry and government agencies. We are also very grateful for the considerable contributions of volunteer time and logistical support from CCWESTT individuals and member organizations. Sponsor list appears in Appendix F.

## **Appendix A: CCWESTT Member Organizations**

### **British Columbia**

Division for the Advancement of Women in Engineering and Geoscience (DAWEG/APEGBC)  
Society for Canadian Women in Science and Technology (SCWIST)  
Immigrating Women in Science (IWIS)

### **Alberta**

Women in Scholarship, Engineering, Science and Technology (WISEST)  
Alberta Women's Science Network (AWSN)  
Women Building Futures Society (WBF)

### **Saskatchewan**

Saskatchewan Women in Trades and Technology (SaskWITT)

### **Manitoba**

Association of Professional Engineers and Geoscientists Manitoba (APEGM)  
Canadian Association of Women in Science, Manitoba (CAWIS Manitoba)

### **Ontario**

Women in Science and Engineering (WISE) Sudbury  
Women in Science and Engineering (WISE) Ottawa  
Women in Science and Engineering (WISE) Toronto  
Status of Women in Science, Brock University  
Women Inventors' Project (WIP)  
Professional Engineers Ontario, Women in Engineering Advisory Committee (PEO/WEAC)

### **Québec**

Ordre des Ingénieurs du Québec, Comité, femmes en génie

### **Newfoundland and Labrador**

Women in Science and Engineering (WISE) Newfoundland and Labrador  
Women in Resource Development Inc.

### **Canada**

Committee to Encourage Women in Physics (CEWIP)  
Let's Talk Science (LTS)  
Canadian Association for Girls in Science (CAGIS)  
Canadian Council for Professional Engineers (CCPE)  
Canadian Engineering Memorial Foundation  
Women in Mathematics Committee of the Canadian Mathematics Society  
Representatives of the NSERC/Industry Chairs for Women in Science and Engineering

## **Appendix B: CCWESTT Executive**

### **President**

Joy Brown (Director, Alberta Women's Science Network; Geoscientist, ConocoPhillips Canada) 403-233-4696; joy.a.brown@conocophillips.com

### **Vice President**

Helen Francis (Treasurer, WISE Sudbury; Frontline Supervisor, Creighton Mine, INCO Ltd.) 705-682-5885; hfrancis@inco.com

### **Past President**

Lisa Carter (Chair, Alberta Women's Science Network; Director, Arts and Science, Athabasca University) 780-675-6281; lisa.carter@athabascau.ca

### **Treasurer**

Catherine Hammond (Director, Finance and Operations, Let's Talk Science) 519-474-4081; chammond@letstalkscience.ca

### **Secretary**

Helen Loshny (Coordinator, Society for Canadian Women in Science and Technology) 604-895-5814; scwist@sfu.ca

### **Members at Large**

Lorraine Michael (Executive Director, Women in Resource Development Committee) 709-738-3713; lmichael@wrdc.nf.ca

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### **Executive Secretary**

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## **Appendix C: Women in SETT Project Management**

### **Working Committee:**

#### **Co-chairs:**

Hiromi Matsui (Member-at-Large, CCWESTT; Director of Diversity and Recruitment, Simon Fraser University) 604-291-4247; matsui@sfu.ca

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#### **Members:**

Margaret-Ann Armour (Member-at-Large, CCWESTT; Director, WISEST; Assistant Chair, Dept. of Chemistry, University of Alberta) 780-492-4969; margaret-ann.armour@ualberta.ca

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### **Project Coordinator:**

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### **Phase I Advisors:**

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NSERC/Alcan Chair for Women in Science and Engineering (Québec)

Lillian Dyck  
Associate Dean, University of Saskatchewan

Elizabeth McGregor  
Past Assistant Director, Institute of Gender and Health

Valerie Overend  
WITT Facilitator, Saskatchewan Inst. of Science and Technology

Nancy Riche  
Past Secretary-Treasurer, Canadian Labour Congress

## ***Appendix D: Participants Eastern Canada CCWESTT Consultation***

<b><i>Last Name</i></b>	<b><i>First Name</i></b>	<b><i>Title/Position</i></b>	<b><i>Organization</i></b>
Allan	Margaret	Manager, Public & Regulatory Affairs	Husky Energy
Armour	Nan	President	Armour & Associates
Armour	Margaret-Ann	Ass't Chair, Dept. of Chemistry	University of Alberta
Bartlett	Cheryl	Professor, Biology	University College of Cape Breton
Beaton	Ann	Professeure, École de Psychologie	Université de Moncton
Boon	Jenna	Programs Manager, Eng., Trades & Technology	Holland College
Bourden	Deborah	President	AppleCore Communications
Carter	Lisa	Assoc. Professor, Centre for Science	Athabasca University
El-Tahan	Mona	President	InCore Tec Inc.
Emerson	Carolyn	Project Coordinator	CCWESTT
Etkin	Nola	Assoc. Professor, Chemistry	University of Prince Edward Island
Forbes	Barbara	Former Director	WITT Newfoundland & Labrador
Gaudet	Jeanne D'Arc	Professor, Faculté des sciences de l'éducation	Université de Moncton
Grattan	Leslie	Deputy Minister, Environmental Planning	Gov't of Newfoundland & Labrador
Hollett	Susan	Facilitator & President	Hollett & Sons
Jellett	Joanne	President	Jellett Biotek
Koenig	Caroline	Ass't to NSERC/Petro-Canada Chair	Memorial University
Loshny	Helen	Coordinator	Society for Canadian Women in S&T
MacDonald	Sheree	Ass't Deputy Minister	Women's Policy Office
Manicom	Ann	Post-Secondary Coordinator	Hypatia Project
Matsui	Hiromi	Director, Diversity & Recruitment, Appl. Sci.	Simon Fraser University
McGee	Jackie	Human Resources Manager	Husky Energy
Michael	Lorraine	Executive Director	Women in Resource Development Cttee
Moloney	Cecilia	Preofessor, Engineering	Memorial University
Mooney	Michelle	Human Resources Advisor	Hibernia Management & Dev. Canada
Moran	Maria	Community Development Coordinator	Women in Resource Development Cttee
Muggeridge	Karen	Subsea Facilities Engineer	Petro-Canada
Neumann	Brigitte	Executive Director	NS Advisory Council on Status of Women
Niven	Sherry	Research Scientist & Policy Advisor	Bedford Institute of Oceanography
Nolan	Michelle	Manager, HR Information Systems	Aliant
Paull	Shauna	Coordinator	Immigrating Women in Science
Riche	Nancy	Past Secretary-Treasurer	Canadian Labour Congress
Rose	Gayla	Researcher	Hollett & Sons
Thomas	Karen	Past President	Professional Engineers & Geoscientists NL
White	Marie	Senior Evaluator	Inst. for Human Resource Development

## **Appendix D: Participants Central Canada CCWESTT Consultation**

<b>Last Name</b>	<b>First Name</b>	<b>Title/Position</b>	<b>Organization</b>
Anderson	Lisa	Coordinator, Women in Engineering	Ryerson University
Armour	Margaret-Ann	Ass't Chair, Dept. of Chemistry	University of Alberta
Barrington	Suzelle	Professor, McGill University; President	Canadian Engineering Memorial Foundation
Béland	Sylvie	Manager, International Relations	Canadian Space Agency
Best	Susan	Co-Director	Women Inventors Project
Chenoy	Rena	Manager, Women in Technology (K-12) Initiatives	IBM Canada
Cobb	Karen	Nat'l Representative, Work Reorganization & Training	Canadian Auto Workers
Cox	Shelley	President	WISE Toronto
Davidson	Valerie	NSERC/Hewlett Packard Chair	Guelph University
Eaton	Diane	Chair, 10th CCWEST Conference, Senior Lab. Instructor	Brock University
Ecsedi	Márta	Advisor to the Dean of Engineering, Women's Issues	University of Toronto
Emerson	Carolyn	Project Coordinator	CCWESTT
Fich	Faith	Professor, Computer Science	University of Toronto
Francis	Helen	Vice-President	CCWESTT
Gilbride	Kimberley	Professor, Chair of Women in Engineering	Ryerson University
Gow	Marlene	Staff Representative, Education & Equality	United Steel Workers of America
Gratton	Misa	President	WISE Ottawa
Hammond	Catherine	Treasurer, CCWESTT; Director, Finance & Operations	Let's Talk Science
Holmes	Ann	Principal	Ann Holmes & Associates
Huyer	Sophia	Executive Director	Women in Global Science & Technology
Lior	Karen	National Representative, Training	Canadian Labour Congress
Manwaring	Margaret	Member, Big 3 Joint Apprenticeship Committee	Canadian Auto Workers
Martinson	Karen	Manager, Research & Evaluation	Canadian Council of Professional Engineers
Matsui	Hironi	Director, Diversity & Recruitment, Applied Sciences	Simon Fraser University
Neff	Gail	Chair, Status of Women Committee	Brock University
Peoples	Akela	CEO	Women in Motion
Schmidt	Bonnie	President	Let's Talk Science
Shortreed	Sarah	Media & Entertainment Industry Lead	IBM Canada
Smith	Sandra	Partnership Development Specialist	Ontario Women's Directorate
Straka	Vera	Associate Professor	Ryerson University
Vingilis-Jaremko	Larissa	President	Canadian Assoc. for Girls in Science
Wagner	Rebecca	Senior Advisor to Reg. Director General	Environment Canada
Warkentin	Joy	Vice President, Academics	Fanshawe College
Wilson	Jane	Resource Developer	Community MicroSkills Development Centre

## **Appendix D: Participants Western/Northern Canada CCWESTT Consultation**

<b>Last Name</b>	<b>First Name</b>	<b>Title/Position</b>	<b>Organization</b>
Archer	JudyLynn	Executive Director	Women Building Futures
Armour	Margaret-Ann	Ass't Chair, Dept. of Chemistry	University of Alberta
Bazo	Fabiola	Senior Industry Officer	Industry Canada
Braundy	Marcia	Doctoral Candidate - Technology Studies	Faculty of Education, UBC
Bremsak	Irene	Biologist, Organic Residue Laboratory	Health Canada
Cameron	Lorraine	Regional Director, BC/Yukon	Status of Women Canada
Cardillo	Jacqui	Representative, Employment Equity	Canadian Auto Workers
Carter	Lisa	President, CCWEST; Assoc. Professor	Athabasca University
Chan	Elaine	Regional Consultant	Human Res. & Skills Dev. Canada
Ching	Hilda	Scientist, Past President	Society of Canadian Women in S&T
Chouinard	Rebecca	Pollution Control Specialist - Mining	Indian & Northern Affairs Canada
Côté	Shannon	Consultant, Community Initiatives & Policy	HRSDC Regional Office
Croft	Elizabeth	Assoc. Professor, Mechanical Engineering	University of British Columbia
Emerson	Carolyn	Project Coordinator, Women in SETT	CCWESTT
Fowler	Nancy	Secretary Treasurer	Appl. Sci. Technologists/Technicians BC
Frisken	Barbara	Associate Professor, Physics	Simon Fraser University
Galvin	Claire	Manager, Facilities Engineering & Projects	Husky Energy, Inc.
Latham	Marg	VP, Knowledge Management	UMA Group
LeCouteur	Penny	Dean, Arts & Sciences	Capilano College
Lefsrud	Lianne	Assistant Director, Professional Practice	APEGGA
Loshny	Helen	Coordinator	Society of Canadian Women in S&T
Macpherson	Alice	PD & PLA Coordinator	Kwantlen University College
Mah	Sang	CEO	Credo Interactive
Marr	Cathy	Natural Gas Transportation Consultant	
Matsui	Hiromi	Director, Diversity & Recruitment, Appl. Sci.	Simon Fraser University
McCarron	Tamara	Coord., Women in Science & Engineering	University of Calgary
Meglis	Irene	Researcher & Educator	
Myers	Judith	Professor, Agricultural Sciences/Zoology	University of British Columbia
Overend	Valerie	WITT Facilitator	Saskatchewan Institute of Appl'd S&T
Paull	Shauna	Coordinator	Immigrating Women in Science
Pongracz	Tamara	Instructor, Trades Discovery for Women	BC Institute of Technology
Roche	Colleen	Industrial Specialist (Mining)	Dep't Resources, NWT
Roome	Catherine	Director, Business Development	BC Hydro, Generation
Rouhi	Kyanoosh	Mechanical Engineer	
Savage	Karen	Principal	Horizon Engineering
Shtokalko	Trish	Mgr, Performance Goals & Measurement	BC Hydro, Generation
Sigola	Lynette Brenda	Researcher	
Smith	Stephanie	President	Society of Canadian Women in S&T
St. Laurent	Jennifer	Project Manager, MTS Communications	APEGM
Thornhill	Kristi	Engineer	Jacques Whitford
Wojtarowicz	Maggie	Chair	DAWEG

## ***Appendix D: Participants National Forum April 6, 2004***

<b><i>Last Name</i></b>	<b><i>First Name</i></b>	<b><i>Title/Position</i></b>	<b><i>Organization</i></b>
Armour	Nan	Principal	The Hypatia Project
Armour	Margaret-Ann	Ass't Chair, Dept. of Chemistry	University of Alberta
Beech	Lori	Director, Workforce Development	Installation, Maint. & Repair Sector Council
Béland	Sylvie	Manager, International Relations	Canadian Space Agency
Braithwaite	Leah	Manager	Science & Engineering Research Canada
Byers	Barb	Executive VP	Canadian Labour Congress
Carter	Lisa	President, CCWESTT; Assoc. Professor	Athabasca University
Cobb	Shannon	Corporate Communications Officer	Science & Engineering Research Canada
Davidson	Valerie	NSERC/Hewlett Packard Chair	Guelph University
Deschênes	Claire	NSERC/Alcan Chair	Université Laval
Dusyk	Nichole	S&T Policy Analyst, Science Policy Branch	Environment Canada
Dyck	Lillian	Professor; Associate Dean	University of Saskatchewan
Edwards	Peggy	Executive Director	Skills for Change
Emerson	Carolyn	Project Coordinator	CCWESTT
Facette	Jim	Executive Director	Can. Council of Technicians & Technologists
Fortier	Suzanne	Vice President Academic	Queens University
Francis	Helen	VP, CCWESTT; Frontline Supervisor	INCO Ltd.
Gaudet	Jeanne-d'Arc	Professeure, Sciences de l'éducation	Université de Moncton
Genge	Sue	Nat'l Rep., Women's & Human Rights Dep't	Canadian Labour Congress
Greenman	Gary	Executive Director	Alliance of Sector Councils
Hammond	Catherine	Treasurer, CCWEST; Director, Finance	Let's Talk Science
Hippola	Dilani	Science & Technology Policy Officer	International Trade Canada
Hollett	Susan	Facilitator; President	Hollett & Sons Ltd.
King	Sue	Representative	National Women's Reference Group
Loshny	Helen	Coordinator	Society of Canadian Women in S&T
Marsolais	Lorraine	Hydro-Québec; Représentative	Ordres des Ingénieurs du Québec
Martinson	Karen	Manager, Research & Evaluation	Canadian Council of Professional Engineers
Matsui	Hiromi	Director of Diversity and Recruitment	Simon Fraser University
McSweeney	Heidi	Communications Officer	Canadian Engineering Memorial Foundation
Michael	Lorraine	Executive Director	Women in Resource Development Committee
Montano	Gloria	Director and Past President	Society of Women Engineers
Morris	Rick	President	Inst. for Human Resource Development
Muir	Barbara	Director, Information & Communications	Science & Engineering Research Canada
Murray	Debbie	Senior Policy Analyst	Ass'n of Universities & Colleges of Canada

<b><i>Last Name</i></b>	<b><i>First Name</i></b>	<b><i>Title/Position</i></b>	<b><i>Organization</i></b>
Niven	Sherry	Res. Scientist & Policy Advisor	Bedford Inst. of Oceanography
Orser	Barbara	Assoc. Professor, Sprott School of Business	Carleton University
Overend	Valerie	WITT Facilitator	Saskatchewan Inst. Applied S & T
Pagel	Jane	Vice-President, Corporate & Gov't Affairs	Jacques Whitford Environment Ltd.
Paull	Shauna	Coordinator	Immigrating Women in Science
Riche	Nancy	Past Secretary-Treasurer	Canadian Labour Congress
Rougeau	Allison	Project Manager	Canadian Apprenticeship Forum
Saric	Sandra	Information Systems Manager	Software Human Resource Council
Wegner	Shelley	Director of Public Relations	Women Building Futures
White	Marie	Evaluator	Inst. for Human Resource Development
Wortzman	Arlene	Director, Labour	Canadian Labour and Business Centre

## **Appendix D: Participants Leaders' Breakfast April 7, 2004**

<b>Last Name</b>	<b>First Name</b>	<b>Title/Position</b>	<b>Organization</b>
Armour	Margaret-Ann	Ass't Chair, Dept. of Chemistry	University of Alberta
Brown	Karen	Assistant Deputy Minister	Environment Canada
Byers	Barb	Executive VP	Canadian Labour Congress
Carter	Lisa	President, CCWESTT; Assoc. Professor	Athabasca University
Cl��roux	C��cile	Ass't Deputy Minister, Operations Branch	Infrastructure Canada
C��t��	Caroline	Agente de programme /Program Officer	Status of Women Canada
Dyck	Lillian	Professor; Associate Dean	University of Saskatchewan
Emerson	Carolyn	Project Coordinator	CCWESTT
Francis	Helen	VP, CCWESTT; Frontline Supervisor	INCO Ltd.
Greenman	Gary	Executive Director	Alliance of Sector Councils
Hammond	Catherine	Treasurer	CCWESTT
Hollett	Susan	Facilitator; President	Hollett & Sons Ltd.
Ievers	Florence	Coordinator/Coordinatrice	Status of Women Canada
LeClerc	Huguette	Chef, d��veloppement et programme/Chief, program and development Condition f��minine	Status of Women Canada
Loshny	Helen	Coordinator	Society for Canadian Women in S&T
Marsolais	Lorraine	Women's Committee, OIQ	Hydro-Qu��bec Trans-��nergie
Martinson	Karen	Manager, Research & Evaluation	Can. Council of Professional Engineers
Matsui	Hiromi	Director of Diversity and Recruitment	Simon Fraser University
McGregor	Elizabeth	Assistant Director	Institute of Gender and Health
Michael	Lorraine	Executive Director	Women in Resource Development Cttee
Montano	Gloria	Director and Past President	Society of Women Engineers
Morris	Rick	President	Inst. for Human Resource Development
Muir	Barbara	Director, Information & Communications	Science & Engineering Res. Canada
Niven	Sherry	Res. Scientist & Policy Advisor	Bedford Inst. Of Oceanography
Overend	Valerie	WITT Facilitator	Saskatchewan Inst. Applied S &T
Paull	Shauna	Coordinator	Immigrating Women in Science
Riche	Nancy	Past Secretary-Treasurer	Canadian Labour Congress
Schmidt	Bonnie	President	Let's Talk Science
Wasylycia-Leis	Judy	MP, Winnipeg North Centre &Status of Women	Government of Canada
Westeinde	Shirley	Chair	Canadian Construction Association
White	Marie	Evaluator	Inst. for Human Resource Development

## Appendix E: Nov. 4<sup>th</sup> 2004 Roundtable Executive Summary

### CCWESTT Briefing Paper –

#### Women in SETT: Human Resources to Build Canada's Economy

The Federal Government has noted that innovation is the *lifeblood of a successful 21<sup>st</sup> century economy* and that building human skills is a necessity<sup>29</sup>. Strengthening women's representation in science, engineering, trades and technology (SETT) occupations addresses critical national imperatives to meet current and future skilled labour needs, build Canada's research and innovation capacity, and additionally, to increase women's economic well-being for themselves, their families and their communities.

The Canadian Coalition of Women in Engineering, Science, Trades and Technology (CCWESTT) has a strong history of national and regional initiatives and partnerships. CCWESTT is currently leading a significant initiative, *Women in SETT (Science, Engineering, Trades and Technology) – Building Communities*, to engage organizations and influence policy to increase women's participation, retention, and leadership in science, engineering, trades and technology throughout Canada.

Three Regional Consultations held across Canada were attended by experienced representatives from industry, government, small and medium sized enterprises, universities, colleges, the labour movement, and non-governmental organizations (NGOs). These invited stakeholders reviewed issues and effective practices, identified priorities, highlighted regional issues, and developed recommendations. Key information from the Regional Consultations was brought to a National Forum and Leaders' Meeting in Ottawa in April 2004.

Participants in both the regional and national meetings agreed unanimously on the benefits of increased diversity in the workplace, the important resource that women in SETT careers offer to strengthen Canada's research capacity, and on the need to increase the numbers of women in SETT as a way to address skills shortages in building Canada's 21<sup>st</sup> century economy. The following are recommendations to the Federal Government.

#### **Recommendation #1:**

**That the Federal Government commit funds to support a national Women in SETT Council of inclusive stakeholder representatives to:**

- **Enhance collaborations between, and perform an advisory role to, government, professional associations, sector councils, industry and post-secondary institutions, on issues related to women in SETT.**
- **Track and analyze data on women's enrolment and graduation in SETT fields in colleges, universities and apprenticeship programs.**
- **Consolidate and disseminate statistical data and research findings on women's recruitment, retention and advancement in SETT occupations.**
- **Review and advise on the potential impact of government legislation and policy on women in SETT.**
- **Disseminate examples of effective practices and policies to stakeholders.**
- **Promote action to increase women's participation in SETT.**

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<sup>29</sup> *Moving Canada Forward*. 2004. p. 41. [http://www.liberal.ca/platform\\_e\\_4.aspx](http://www.liberal.ca/platform_e_4.aspx)

### ***Recommendation #2:***

That the Federal Government undertake and support actions to increase women's access to SETT training, education and occupations.

- Fund orientation and training programs for women in trades and technology in partnership with post-secondary institutions, sector councils and non-government organizations (NGOs).
- Partner with industry, unions, sector councils and post-secondary institutions to standardize apprenticeship programs in the trades and reduce inter-provincial and territorial barriers to access and mobility.
- Institute gender-based analysis of the programs of Human Resources and Skills Development Canada, as well as the training and employment initiatives of Sector Councils.
- Address the specific needs of women in and re-entering the workforce, for example, by expanding post-secondary training support beyond that currently limited to Employment Insurance eligibility.
- Build and support initiatives in partnership with professional organizations and NGOs to recognize prior learning and work experience for women returning to the workforce and fast-tracking of credential recognition for immigrating women.

### ***Recommendation #3:***

That the Federal Government undertake initiatives to increase women's participation and contributions to scientific research and innovation.

- Utilize gender-based analysis in the evaluation of strategy and policy options in the office of the National Science Advisor.
- Support continuation of the Science and Engineering Research Canada (NSERC) University Faculty Awards, ensure full funding of the NSERC/Industry Chairs for Women in Science and Engineering, and monitor the numbers of the Canada Research Chairs awarded to women scholars.
- Support implementation of the Action Plan of the Working Group on Women in the Federal Science and Technology Community.
- Support initiatives that strengthen women's entrepreneurship in science and technology sectors, for example the Prime Minister's Task Force on Women Entrepreneurs.

### ***Recommendation #4:***

That the Federal Government act on Canada's commitments to women's equality in Canadian life by increasing the capacity of non-governmental feminist organizations and government agencies to advance the status of women in Canada's labour market.

- Consult with the national feminist organizations that have historically undertaken the work of enhancing women's equality to determine the resources required for continued work.
- Maximize government's implementation of a gender-based analysis (Cabinet decision, June 1995) in all studies, assessments and reports conducted by government departments and agencies.
- Monitor compliance of the Employment Equity Act and proactively provide assistance for employers in developing diversity plans within their organizations.

## Appendix F: Funding Partners

Major Project Funding Partner / Partenaire financier principal

- ❖ **Status of Women Canada / Condition féminine Canada**



National Forum Funding Partner /  
Partenaire financier du forum national

- ❖ **Science and Engineering Research Canada /  
Recherches en sciences et en génie Canada**



Project Sponsors / Commanditaires du projet

- ❖ **NSERC/Petro-Canada Chair for Women in Science and Engineering,  
Atlantic Region, Memorial University**



- ❖ **BC Hydro**



- ❖ **Western Economic Diversification Canada**



- ❖ Association of Professional Engineers & Geoscientists British Columbia



- ❖ Canadian Heritage / Patrimoine canadien



**Canadian  
Heritage**      **Patrimoine  
canadien**

- ❖ Applied Science Technologists & Technicians of BC

Applied Science  
Technologists & Technicians  
of British Columbia



- ❖ Association of Professional Engineers & Geoscientists Manitoba



- ❖ Division for Advancement of Women in Engineering & Geoscience (APEGBC)



- ❖ TELUS



- ❖ Professional Engineers & Geoscientists Newfoundland and Labrador



- ❖ Ryerson University

