



Office of the
National Science Advisor

Bureau du
Conseiller national des sciences

Opening Remarks: Spotlight on Women in Science, Technology and Trades

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Senior Women in Science
4th Roundtable Breakfast

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Canada

Thank you Dr. Stewart (or Dr. McGregor) for your kind introduction. It's a pleasure to join such an outstanding gathering of dedicated women and men for this roundtable -- your expertise and experience are a tremendous resource for this country. I would particularly like to express my appreciation to the CIHR and Betsy McGregor for giving me this opportunity to say a few words here.

The Government of Canada has made a very strong commitment to science and technology by investing \$13 B of incremental funding over the last 6-7 years – in recognition of the fact that investments in knowledge and innovation are fundamental to building a globally competitive economy and achieving many of Canada's social goals.

As National Science Advisor my mandate is a broad one, and covers the full spectrum of the sciences to provide sound, unbiased, non-partisan advice to the Prime Minister on science issues, directions and priorities. I've also been asked to help ensure that the government's investments in this area are strategic, focused and delivering results. Of course with a small office I have had to set some priorities.

The overall goal is to develop a vision and a long term plan for S&T which will build on the strong research base and the pursuit of excellence while ensuring economic and social benefits to Canada.

The Prime Minister himself has articulated the need to improve our capacity to transform new ideas and discoveries, through commercialization and innovation, into competitive products and businesses for the global marketplace. This is a challenge which is being taken up by universities and labs across the country.

The Minister of Industry and the NSA have been charged with developing a comprehensive commercialization strategy.

Another goal is to explore how we can mobilize Canada's scientific and technical expertise to address the pressing challenges facing the developing world.

A fourth priority is strengthening horizontal collaborations across the innovation system and finding ways to achieve a

fuller integration of the federal government's in-house science and technology activity. And finally, improving our science culture in Canada and acting as an ambassador for Canadian Science abroad is also a task I am taking on.

To this end, I am heartened by the dialogue you have initiated with these roundtables. I understand you have had guests from the United Kingdom, the United States and the European Union. This kind of exchange and networking is vital to developing a strong S&T community.

Needless to say, if Canada is to excel in the global knowledge based economy, we have to call up all of our strengths to build and maintain a strong, entrepreneurial science culture that maximizes all of our human resources.

But Canada, like many developed nations, faces a looming demographic crunch in science, technology and the trades. Our economy is increasingly thirsty for highly qualified workers, and yet more and more researchers and skilled people are getting set to retire.

According to the Public Service Commission, in the federal public service alone, over 5,000 scientists have departed since 2001. And the trend is increasing.¹

Attracting and retaining the best and the brightest into science, technology and the trades -- from all elements of society, including women, visible minorities, new Canadians, aboriginal people and the disabled – is rapidly becoming a key policy challenge for Canada.

Not only do we need the numbers; we need the diversity of perspectives at all levels that a more inclusive S&T community can provide.

In the U.K., this point was emphasized in the Greenfield Report on Women in Science, Engineering and Technology, released in 2002, with the authors writing that:

“{Science, engineering and technology} companies with few women employees are drawing on only half the talent pool and risk addressing only half the marketplace.”²

¹ Public Service Commission Research Directorate, 2002.

² *SET Fair: A Report on Women in Science, Engineering and Technology from The Baroness Greenfield CBE to the Secretary of State for Trade and Industry*, November 2002, p. 34.

For Canada, increasing the participation of women in science, technology and the trades is not only an equality of access issue; it is also a competitiveness issue for our nation as a whole.

And as I'm sure the numbers our speakers are about to show us will indicate – we have a ways to go.

In fact, a recent conversation I had with executives at IBM highlighted the fact that the proportion of women enrolled in undergrad computer science and computer engineering programs in Canada's universities is actually dropping! – at an alarming rate.

Down from a peak of about 50% in 1999-2000, the enrolment of women in computer science in many universities has nosedived to around 15%. And in some cases, it is down into the single digits!

Yet this is a discipline which is enabling – the information technologies have an impact on many sectors and many

disciplines so it is not surprising that key industrial players are very worried.

It is imperative that we find out why young women have turned off careers in computer science and find solutions. Is it because the collapse of the dot com/telecom bubble has convinced women that there are now fewer job opportunities in computer science? Is it because young women are turned off by the image of computer “geeks” programming at all hours of the night? Is it that there are not enough role models for young women who have exciting and enjoyable careers in these fields? Or is it because high school teaching of Computer Science is boring and disappointing? Is the solution to put more emphasis on interdisciplinary training in areas where CS/IT is essential but which offer exciting new opportunities for women e.g. CS/Forensic Science, CS/Life Sciences?

While I have focused specifically on computer science, it is clear that there are issues about women and their careers in other areas.

The message is clear: we simply have to do a better job of attracting young women to careers in S&T and the trades, in all sectors of activity and all regions of the country.

And that's not the only challenge we have. We also have to do a better job of supporting and motivating women to remain and excel in these careers throughout their working lives. In industry, government and academia we need more women in senior and decision-making roles.

Fortunately, we do have a base to build on. I needn't remind you of the leadership provided by the CIHR Institute of Gender and Health in this area. The CIHR's recognition of the gender specific nature of health research goes to the very heart of issues that we are discussing here today.

Some excellent education, mentoring and support programs are underway across the country – thanks to our NGOs and specific efforts within industry, government and many of our universities.

Personally, I consider myself lucky to have had the pleasure of seeing first-hand the excitement generated by the Deep

River Science Academy. And there are other award-winning groups -- such as Shad Valley and the Canadian Association for Girls in Science -- that are doing a terrific job of shining the spotlight on scientific and technical careers for girls.

Many are also leading the way in fostering the entrepreneurial, communication and leadership skills these girls will need to bring their talents and ideas to the fore.

Further up the pipeline, the NSERC Chairs program of Women in Science and Engineering is making important contributions in our universities and communities, supporting research and providing outstanding role models for women active in or considering studies in science and engineering.

At the career level, many of the groups represented here today – such as the Canadian Coalition of Women in Engineering, Science and Technology (CCWEST), the Women in Research Committee and the Women in Federal S&T Working Group – are providing valuable networking opportunities for women in S&T and the Trades and working to raise awareness among decision-makers.

Still we have to ask ourselves if we can't be doing more.

Other countries are moving ahead on this. For example, in the U.K., in response to the Greenfield Report, the national government is implementing a Strategy for Women in Science, Engineering and Technology. A key initiative under the strategy is the creation of a national resource centre to support activities aimed at increasing the number of women who start, stay and succeed in scientific and technical careers.

In the U.S., the Committee on Equal Opportunity in Science and Engineering (CEOSE) is advising the National Science Foundation (NSF) on how to promote women's participation in S&T. Recently the NSF awarded \$3.25 M to establish a National Center for Women and Information Technology. In this case, the goal is to help foster the equal participation of women and men in IT careers, both in academia and industry.

And in the EU, high-level groups of experts are also developing sex-disaggregated indicators and focusing on how to strengthen women's participation across a range of S&T disciplines in industry, academia and government.

To my mind, we have to ask ourselves where we want to be on this issue in Canada and make it part of the mainstream of S&T policy development.

What is our vision for women in science, technology and the trades? What will it take to move the culture forward? How can we build effective partnerships between industry, government, academia, NGOs and other parts of society? We need answers to these questions and more.

I also believe we should be thinking about how we can contribute internationally. Canada has shown real leadership on this issue in the past – through APEC, UNESCO, the OAS and other international organizations. Indeed, the International Research and Development Centre (IDRC) recently supported a report on Gender, Science and Technology in the Western Hemisphere that will be mentioned at next week's meeting of the Science Ministers of the Western Hemisphere.

Are there other opportunities where we could be helping to lead the way?

Certainly, with respect to my own mandate to help connect Canadian science and international development, I see the active engagement of women as vital if we are going to ensure that our actions are appropriate, effective and sustainable.

In closing let me just say that, there is tremendous strength in diverse and innovative minds coming together. As Woodrow Wilson once said and I quote, “We should not only use all the brains we have, but all that we can borrow.”

So I applaud your active engagement in building a science culture in Canada that represents the diversity of our society. And I encourage you to bring to my attention any opportunities you see for government to play a strong role in this area.